

*Personal Systems Reference
Lenovo ThinkCentre Desktops
2005 to present - withdrawn*

January 2009 - Version 350



Lenovo ThinkCentre A61e with
ThinkVision widescreen monitor

ThinkCentre® E50 Small Desktop (8294) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-mod	Slot x bay	Processor	GHz	L2 cache	EM64T	Memory ⁸	Diskette drive	SATA disk	EIDE optical	Graphics	Chip-set	PCI ethernet	Modem	Preload warranty ¹	Avail date
E50	8294-D1U	3x3	Pentium®4 630	3.00	2MB	EM64T	512MB	None	80GB ²	CD-RW	GMA 900	915GV	10/100	No	XP Pro	1-yr Oct 05
E50	8294-E1U	3x3	Pentium 4 640	3.20	2MB	EM64T	512MB	None	80GB	Combo	GMA 900	915GV	10/100	No	XP Pro	1-yr Oct 05

These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning Processor	<i>Essential business features, exceptional value</i> Intel® Pentium 4 Processor 630 (3.00GHz) or 640 (3.20GHz) with single-core, EM64T, Hyper-Threading technology, Execute Disable Bit, EIST and 800MHz system bus										Small Desktop			
L2 cache Implementation	2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket										<ul style="list-style-type: none"> Business black color with silver accents 12.8"W X 16.14"D X 4.21"H 325mm W X 410mm D X 107mm H 18 to 23lb (8.2 to 10.4kg) 		<ul style="list-style-type: none"> Bay ① 5.25", 1.6" high, access, std optical Bay ② 3.5", 1" high, access, optional diskette Bay ③ 3.5", 1" high, no access, std disk 	
Memory - std/max ⁸ Memory	512MB std / 4GB max Four 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable										<ul style="list-style-type: none"> Slot 1: Low Profile, 32-bit PCI 2.3 Slot 2: Low Profile, 32-bit PCI 2.3 Slot 3: Low Profile, 32-bit PCI 2.3 			
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915GV GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector													
SATA disk	80GB / SATA300 7200 rpm													
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6													
SATA cables	One SATA cable (one 1-drop to disk) / 4 SATA connectors on planar													
EIDE CD-RW	<i>Some:</i> 48X/32X/48X Max ⁴ CD-RW													
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo													
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)													
EIDE cables	One 2-drop EIDE cable to optical / one EIDE connector on planar													
Diskette drive	None													
Chipset	Intel 915GV Express Chipset / 82915GV Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O for serial, parallel, diskette, keyboard, mouse, auto-thermal controls													
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)													
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)													
Rear audio ports	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm]													
Audio	Integrated digital audio / AC '97 interface / Realtek ALC655 codec													
Beeper	One internal beeper													
Ethernet	10/100 ethernet on systemboard / Realtek 8100C controller (MAC/PHY) / PCI 2.3 / Wake on LAN® / PXE 2.0 and RPL remote boot													
Modem	None													
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black													
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black													
Power supply	180 watts / universal / manual switch													
Preload with Windows XP Professional⁵	Accessories													
Microsoft® Windows® XP Professional with Service Pack 2	256MB PC2-4200 CL4 NP DDR2 UDIMM										73P4970			
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-4200 CL4 NP DDR2 UDIMM										73P4971			
Preloaded	1GB PC2-4200 CL4 NP DDR2 UDIMM										73P4972			
• Rescue and Recovery™	160GB Serial ATA300 Disk (7200 rpm)										09N4254			
• Access Program	250GB Serial ATA300 Disk (7200 rpm)										41N3015			
• Adobe Reader	Super Multi-Burner DL DVD±RW Drive										41N5581			
• Norton AntiVirus (OEM version)	USB 2.0/Analog Headset by Sennheiser										40Y8518			
• PC-Doctor™ (diagnostics)	USB 2.0 Memory Key 1GB										40Y7421			
• Multimedia Center for Think Offerings (CD-RW, combo)	USB 2.0 CD-RW/DVD-ROM Combo II Drive										40Y8637			
• Sonic RecordNow and Drive Letter Access (CD-RW, combo)	USB 2.0 Portable 80GB Hard Disk										40Y8726			
• InterVideo WinDVD (combo)	USB 2.0 Super Multi-Burner Drive										41N5565			
Downloadable	Lenovo L191 19" Monitor (black)										6135AB1			
• Software Delivery Assistant	Lenovo D221 Wide 22" Monitor (black)										6622HB2			
• System Migration Assistant	ThinkVision® L171p 17" Monitor (black)										9417HC2			
• IBM Director Agent	ThinkVision L192p 19" Monitor (black)										9419HC2			
License - CD not included	ThinkVision L201p 20.1" Monitor (black)										9220HB1			
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	PRO/1000T Desktop Adapter by Intel										22P6501			
	Preferred Pro USB Keyboard										73P5220			
	Optical 3-Button ScrollPoint® Mouse										31P7405			
	Optical 3-Button ScrollPoint Pro Mouse										31P8700			
	USB Optical Wheel Mouse										06P4069			
	Lenovo Laser Mouse (USB, PS/2)										41U3074			
	Other options at lenovo.com/options													
												SECURITY		
												<ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) No security slot (in rear for optional Kensington Microsaver cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette Unattended start mode Hard disk I/O control Serial port I/O control Parallel port I/O control 		
												• DMI 2.0-compliant		
												ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage		
												LIMITED WARRANTY¹		
												<ul style="list-style-type: none"> 1-year parts and labor International Warranty Service⁶ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) Post-warranty maintenance services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 		

See footnotes for important warranty information
US models announced October 18, 2005
US models withdrawn effective November 2006

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(CL1-3) February 2007

ThinkCentre® E50 Small Desktop (8773) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-mod	Slot x bay	Processor	L2 cache	Hyper-Threading	Memory ⁸	Dis-kette	SATA disk	EIDE optical	Graphics	Chip-set	PCI ethernet	Mo-dem	Pre-load	Limited warranty ¹	Avail date
E50	8773-AAU	4x3	Celeron® D336	2.80	256KB	512MB	None	80GB ²	CD	SiS Mirage	661FX	10/100	No	XP Pro	1-year	Apr 06
E50	8773-33U	4x3	Pentium® 4 521	2.80	1MB	512MB	None	80GB	CD	SiS Mirage	661FX	10/100	No	XP Pro	1-year	Apr 06

These small and medium business (SMB) models are part of the US TopSeller™ Program

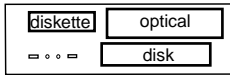
Positioning	<i>Essential business features, exceptional value</i>										Small Desktop			
Processor	Intel® Celeron D Processor 336 with single-core, EM64T, Execute Disable Bit and 533MHz system bus or Intel Pentium 4 Processor 521 with single-core, EM64T, Hyper-Threading (HT) technology, and Execute Disable Bit, and 800MHz system bus										<ul style="list-style-type: none"> • Business black color with silver accents • 13.0"W X 15.9"D X 4.3"H • 331mm W X 405mm D X 108mm H • 18 to 18.2lb (8.2 to 8.3kg) 			
L2 cache	256KB or 1MB std and max / ECC / full speed										Bay ① 5.25", 1.6" high, access, std optical Bay ② 3.5", 1" high, access, optional diskette Bay ③ 3.5", 1" high, no access, std disk			
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket										Slot 1: Low Profile, 32-bit AGP 8X Slot 2: Low Profile, 32-bit PCI 2.3 Slot 3: Low Profile, 32-bit PCI 2.3 Slot 4: Low Profile, 32-bit PCI 2.3			
Memory - std/max ⁸	512MB std / 2GB max													
Memory	Two 184-pin DIMM sockets / one socket used / PC3200 400MHz DDR1 / non-parity / CAS latency 3 (CL3) / unbuffered / dual-channel capable													
Graphics	SiS® Mirage Graphic Engine (SiS Mirage) / integrated graphics in north bridge / uses main memory (32 to 64MB) / 200MHz / one 15-pin analog D-sub connector / upgradable AGP 8X slot													
SATA disk	80GB / SATA300 7200 rpm										SECURITY <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - No security slot (in rear for optional Kensington Microsaver cable) - No keylock • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Unattended start mode • Hard disk I/O control • Serial port I/O control • Parallel port I/O control 			
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in SiS964 southbridge													
SATA cables	One SATA cable (one 1-drop to disk) / two SATA connectors on planar													
EIDE controller	Enhanced IDE / ATA-133 / integrated in SiS964 south bridge													
EIDE cables	One 1-drop EIDE cable to optical / two EIDE connectors on planar													
EIDE CD	48X-20X ⁴ CD-ROM													
Diskette drive	None													
Chipset	SiS 661FX chipset / SiS661FX graphics memory controller in north bridge with AGP 8X support / SiS964 south bridge for SATA150 / ATA-100/133 EIDE, PCI 2.3 bus, USB, Low Pin Count Interface / ITE Tech® 8705GX Super I/O for serial, parallel, diskette, keyboard, and mouse													
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)													
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)													
Rear audio ports	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm]													
Audio	Integrated digital audio / AC '97 interface / Realtek® ALC655 codec													
Beeper	One internal beeper													
Ethernet	10/100 ethernet on systemboard / Realtek 8100C controller (MAC/PHY) / PCI 2.3 / Wake on LAN® / PXE 2.0 and RPL remote boot													
Modem	None										<ul style="list-style-type: none"> • RoHS-compliant • DMI 2.0-compliant 			
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black										ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage			
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black													
Power supply	180 watts / universal / manual switch													
Preload with Windows XP Professional⁵	Accessories										LIMITED WARRANTY¹			
Microsoft® Windows® XP Professional	256MB PC3200 CL3 NP DDR1 UDIMM										↪ 1-year parts and labor			
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC3200 CL3 NP DDR1 UDIMM										↪ International Warranty Service⁹			
Preloaded	1GB PC3200 CL3 NP DDR1 UDIMM										↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)			
• Rescue and Recovery™	160GB Serial ATA300 Disk (7200 rpm)										↪ Onsite service upgrade options (in eligible locations):⁷			
• Access Connections™	250GB Serial ATA300 Disk (7200 rpm)										<ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) • 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) • 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) 			
• Client Security Solution™	Super Multi-Burner DL DVD±RW Drive										↪ Post-warranty maintenance services at lenovo.com/thinkplus/warranty			
• ThinkVantage Productivity Center with Away Manager	USB Gemplus GemPC Smart Card Reader										↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)			
• ThinkVantage System Update	USB 2.0 Lenovo Webcam													
• Symantec® Client Security™	USB 2.0 Memory Key 1GB													
• Diskeeper Lite	USB 2.0 CD-RW/DVD-ROM Combo II Drive													
• PC-Doctor™ (diagnostics)	USB 2.0 Portable 80GB Hard Disk													
• Adobe® Reader	E74 17" FST CRT Monitor (16.0" vis)(black)													
• Google Toolbar	Lenovo L191 19" Monitor (black)													
• Google Desktop	Lenovo L192 Wide 19" Monitor (black)													
• Picasa from Google	ThinkVision® C170 17" (16.0" vis) (black)													
License - CD not included	ThinkVision L151 15" Monitor (black)													
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	ThinkVision L171p 17" Monitor (black)													
	ThinkVision L192p 19" Monitor (black)													
	ThinkVision L201p 20.1" Monitor (black)													
	PRO/1000T Desktop Adapter by Intel													
	Preferred Pro USB Keyboard													
	Optical 3-Button ScrollPoint® Mouse													
	Optical 3-Button ScrollPoint Pro Mouse													
	USB Optical Wheel Mouse													
	Other options at lenovo.com/options													

See footnotes for important warranty information
US models announced April 25, 2006
US models withdrawn effective December 2006

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(CL2-4) December 2006

ThinkCentre® E50 Small Desktop (8778) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-mod	Slot x bay	Processor	GHz	L2 cache	EM64T	Memory ⁸	Diskette drive	SATA disk	EIDE optical	Graphics	Chip-set	PCI ethernet	Mod-ern	Preload	Limited warranty ¹	Avail date
E50	8778-31U	3x3	Pentium®4 521	2.80	1MB	EM64T	512MB		80GB ²	CD	GMA 950	945GZ	10/100	No	XP Pro	1-yr	May 06
E50	8778-D1U	3x3	Pentium 4 631	3.00	2MB	EM64T	512MB	Diskete	80GB	Combo	GMA 950	945GZ	10/100	No	XP Pro	1-yr	May 06
These small and medium business (SMB) models are part of the US TopSeller™ Program																	
Positioning Processor <i>Essential business features, exceptional value</i> Intel® Pentium 4 Processor 521 or 631 with single-core, EM64T, Hyper-Threading technology, Execute Disable Bit, and 800MHz system bus L2 cache Implementation 1MB or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket Memory - std/max⁸ Memory 512MB std / 2GB max Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable Graphics Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945GZ GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector / 945GZ does not support dual independent display												Small Desktop  <ul style="list-style-type: none"> Business black color with silver accents 13.0"W X 15.9"D X 4.3"H 331mm W X 405mm D X 108mm H 18 to 18.2lb (8.2 to 8.3kg) Bay ① 5.25", 1.6" high, access, std optical Bay ② 3.5", 1" high, access, optional diskette Bay ③ 3.5", 1" high, no access, std disk Slot 1: Low Profile, 32-bit PCI 2.3 Slot 2: Low Profile, 32-bit PCI 2.3 Slot 3: Low Profile, 32-bit PCI 2.3 					
SATA disk 80GB / SATA300 7200 rpm SATA controller Serial ATA / 300 MB/sec SATA300 / integrated in ICH7 SATA cables One SATA cable (one 1-drop to disk) / 4 SATA connectors on planar EIDE CD <i>Some:</i> 48X/20X ⁴ CD-ROM EIDE Combo <i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo EIDE controller Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7) EIDE cables One 1-drop EIDE cable to optical / one EIDE connector on planar Diskette drive <i>Some:</i> 3.5" 1.44MB diskette drive												SECURITY <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) No security slot (in rear for optional Kensington Microsaver cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette Unattended start mode Hard disk I/O control Serial port I/O control Parallel port I/O control 					
Chipset Intel 945GZ Express Chipset / 82945GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, JX Express x1), PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F/JX Super I/O for serial, parallel, diskette, keyboard, mouse, auto-thermal controls												<ul style="list-style-type: none"> RoHS-compliant DMI 2.0-compliant 					
Front ports Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm) Rear ports Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15) Rear audio ports Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm] Audio Integrated digital audio / AC '97 interface / Realtek® ALC655 codec Beeper One internal beeper Ethernet 10/100 ethernet on systemboard / Realtek 8100C controller (MAC/PHY) / PCI 2.3 / Wake on LAN® / PXE 2.0 and RPL remote boot Modem None												ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage					
Keyboard 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black Mouse Optical Wheel Mouse (USB only), 400 dpi, black Power supply 180 watts / universal / manual switch												LIMITED WARRANTY¹ ⇨ 1-year parts and labor ⇨ International Warranty Service ⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts ³ , 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations): ⁷ <ul style="list-style-type: none"> 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) ⇨ Post-warranty maintenance services at lenovo.com/thinkplus/warranty ⇨ 24x7 ¹⁴ toll-free support for warranty issues during the warranty period ¹ via 800-IBM-SERV (426-7378)					
Preload with Windows XP Professional⁵ Microsoft® Windows® XP Professional - Disk-to-Disk Recovery (in hidden protected area) Preloaded <ul style="list-style-type: none"> Rescue and Recovery™ Access Connections™ Client Security Solution™ ThinkVantage Productivity Center with Away Manager ThinkVantage System Update Symantec® Client Security™ Diskeeper Lite PC-Doctor™ (diagnostics) Adobe® Reader Google Toolbar Google Desktop Picasa from Google Multimedia Center for Think Offerings (combo) Sonic RecordNow and Drive Letter Access (combo) License - CD not included - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client												Accessories 256MB PC2-4200 CL4 NP DDR2 UDIMM 73P4970 512MB PC2-4200 CL4 NP DDR2 UDIMM 73P4971 1GB PC2-4200 CL4 NP DDR2 UDIMM 73P4972 160GB Serial ATA300 Disk (7200 rpm) 09N4254 250GB Serial ATA300 Disk (7200 rpm) 41N3015 Super Multi-Burner DL DVD±RW Drive 41N5581 USB Gemplus GemPC Smart Card Reader 41N3040 USB 2.0/Analog Headset by Sennheiser 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 USB 2.0 Portable 80GB Hard Disk 40Y8726 Lenovo L191 19" Monitor (black) 6135AB1 Lenovo L192 Wide 19" Monitor (black) 6920AB1 ThinkVision® C170 17" (16.0" vis) (black) 6737P6N ThinkVision C190 19" (18.0" vis) (black) 6739P0N ThinkVision L151 15" Monitor (black) 9205AB6 ThinkVision L171p 17" Monitor (black) 9417HC2 ThinkVision L192p 19" Monitor (black) 9419HC2 ThinkVision L201p 20.1" Monitor (black) 9220HB1 PRO/1000T Desktop Adapter by Intel 22P6501 Optical 3-Button ScrollPoint® Mouse 31P7405 Optical 3-Button ScrollPoint Pro Mouse 31P8700 USB Optical Wheel Mouse 06P4069 Other options at lenovo.com/options					

See footnotes for important warranty information
US models announced April 25, 2006
US models withdrawn effective December 2006

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(CL2-3) December 2006

ThinkCentre® E50 Small Desktop (9217, 9218) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-mod	Slot x bay	Processor	GHz	L2 cache	EM64T Memory [®]	Dis-kette	EIDE disk	EIDE optical	Graphics	Chip-set	PCI ethernet	Mo-dem	Pre-load	Limited warranty ¹	Avail date	
E50	9217-A1U	4x3	Celeron® 331	2.66	256KB	EM64T 256MB		40GB ²	CD	SiS Mirage	661FX	10/100	No	XP Home	90-day	Oct 05	
E50	9217-11U	4x3	Pentium® 4 516	2.93	1MB	EM64T 256MB		40GB	CD	SiS Mirage	661FX	10/100	No	XP Home	90-day	Oct 05	
E50	9218-12U	4x3	Pentium 4 516	2.93	1MB	EM64T 512MB		40GB	CD	SiS Mirage	661FX	10/100	No	XP Pro	1-year	Oct 05	
E50	9218-D1U	4x3	Pentium 4 630	3.00	2MB	EM64T 512MB		80GB	Combo	SiS Mirage	661FX	10/100	No	XP Pro	1-year	Oct 05	
E50	9218-31U	4x3	Pentium 4 521	2.80	1MB	EM64T 256MB	Dsktte	80GB	CD	SiS Mirage	661FX	10/100	No	XP Pro	1-year	Mar 06	
Positioning	<i>Essential business features, exceptional value</i>										Small Desktop						
Processor	Intel® Celeron D Processor 331 (2.66GHz) with single core, EM64T, Execute Disable bit and 533MHz system bus or Intel Pentium 4 Processor 516, 521, or 630 , with single core, EM64T, Hyper-Threading (HT) technology (521 and 630), and EIST (630 only), Execute Disable Bit (521 and 630), and 533MHz (516 only) or 800MHz (520 and 630) system bus										<ul style="list-style-type: none"> • Business black color with silver accents • 12.8"W X 16.14"D X 4.21"H • 325mm W X 410mm D X 107mm H • 18 to 23lb (8.2 to 10.4kg) 		<ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - No security slot (in rear for optional Kensington Microsaver cable) - No keylock • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Unattended start mode • Hard disk I/O control • Serial port I/O control • Parallel port I/O control 				
L2 cache Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket										Bay ① 5.25", 1.6" high, access, std optical Bay ② 3.5", 1" high, access, optional diskette Bay ③ 3.5", 1" high, no access, std disk						
Memory - std/max ²	256 or 512MB std / 2GB max Two 184-pin DIMM sockets / one socket used /										Slot 1: Low Profile, 32-bit AGP 8X Slot 2: Low Profile, 32-bit PCI 2.3 Slot 3: Low Profile, 32-bit PCI 2.3 Slot 4: Low Profile, 32-bit PCI 2.3						
Memory	PC3200 400MHz DDR1 / non-parity / CAS latency 3 (CL3) / unbuffered / dual-channel capable																
Graphics	SiS® Mirage Graphic Engine (SiS Mirage) / integrated graphics in north bridge / uses main memory (32 to 64MB) / 200MHz / one 15-pin analog D-sub connector / upgradable AGP 8X slot																
EIDE disk	40, 80GB / ATA-100 7200 rpm																
EIDE controller	Enhanced IDE / ATA-100 / integrated in SiS 964 south bridge																
EIDE cables	Two 1-drop EIDE cables to optical and disk / Two EIDE connectors on planar																
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM																
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo																
SATA controller	None / no SATA150 connectors on systemboard																
Diskette drive	<i>Some:</i> 3.5" 1.44MB diskette drive																
Chipset	SiS 661FX chipset / SiS661FX graphics memory controller in north bridge with AGP 8X support / SiS964L south bridge for ATA-100/133 EIDE, PCI 2.3 bus, USB, Low Pin Count Interface / ITE Tech® IT8712 Super I/O for serial, parallel, diskette, keyboard, and mouse																
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)																
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)																
Rear audio ports	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm]																
Audio	Integrated digital audio / AC '97 interface / Realtek ALC655 codec																
Beeper	One internal beeper																
Ethernet	10/100 ethernet on systemboard / Realtek 8100C controller (MAC/PHY) / PCI 2.3 / Wake on LAN [®] / PXE 2.0 and RPL remote boot																
Modem	None																
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black																
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black																
Power supply	180 watts / universal / manual switch																
Preload with Windows XP Home⁵		Accessories															
Microsoft® Windows® XP Home Edition with Service Pack 2		256MB PC3200 CL3 NP DDR1 UDIMM		73P2685													
- Disk-to-Disk Recovery		512MB PC3200 CL3 NP DDR1 UDIMM		73P2686													
Preload with Windows XP Professional		1GB PC3200 CL3 NP DDR1 UDIMM		22P9272													
Microsoft Windows XP Professional with Service Pack 2		80GB EIDE Disk ATA-100 (7200 rpm)		09N4248													
- Disk-to-Disk Recovery		120GB EIDE Disk ATA-100 (7200 rpm)		09N4249													
Preloaded (all)		Super Multi-Burner DL DVD±RW Drive		41N5581													
• Rescue and Recovery™		USB 2.0/Analog Headset by Sennheiser		40Y8518													
• Access Program		USB 2.0 Lenovo Webcam		40Y8519													
• Adobe Reader		USB 2.0 Memory Key 1GB		40Y7421													
• Norton AntiVirus (OEM version)		USB 2.0 CD-RW/DVD-ROM Combo II Drive		40Y8637													
• PC-Doctor™ (diagnostics)		USB 2.0 Portable Multi-Burner Drive		22P9163													
• Multimedia Center for Think Offerings (CD-RW, combo)		USB 2.0 Portable 80GB Hard Disk		40Y8726													
• Sonic RecordNow and Drive Letter Access (CD-RW, combo)		USB 2.0 Super Multi-Burner Drive		41N5565													
• InterVideo WinDVD (combo)		Lenovo L171 17" Monitor (black)		9227AC1													
License - CD not included (all)		Lenovo L191 19" Monitor (black)		6135AB1													
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client (Notes client not supported on XP Home)		Lenovo D221 Wide 22" Monitor (black)		6622HB2													
		ThinkVision® L171p 17" Monitor (black)		9417HC2													
		ThinkVision L192p 19" Monitor (black)		9419HC2													
		ThinkVision L201p 20.1" Monitor (black)		9220HB1													
		Lenovo M500 Projector		0037A05													
		Lenovo C500 Projector		0039A05													
		PRO/1000T Desktop Adapter by Intel		22P6501													
		Optical 3-Button ScrollPoint® Mouse		31P7405													
		Optical 3-Button ScrollPoint Pro Mouse		31P8700													
		Lenovo Laser Mouse (USB, PS/2)		41U3074													
		Other options at lenovo.com/options															
LIMITED WARRANTY¹ ⇨ 9217: 90-day parts and labor ⇨ 9218: 1-year parts and labor ⇨ International Warranty Service⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations)⁷ <ul style="list-style-type: none"> • 9217: 1-year LOR 9x5, Next Business Day (ThinkPlus™ part number 41E9799) • 9217: 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41E9800) • 9218: 1-year LOR 9x5, 4 hr response (ThinkPlus part number 41C9189) • 9218: 2-year LOR 9x5, 4 hr response (ThinkPlus part number 41C9190) • 9218: 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) • 9218: 3-year LOR 9x5, 4 hr response (ThinkPlus part number 41C9191) • 9218: 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) ⇨ Post-warranty maintenance services at lenovo.com/thinkplus/warranty ⇨ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)																	

See footnotes for important warranty information
US models announced October 18, 2005 or February 21, 2006
US models withdrawn effective November 2006

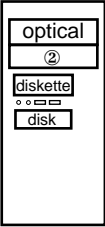
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ThinkCentre® E50 Tower (8291) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-mod	Slot x bay	Processor	L2 GHz cache	EM64T	Memory	Diskette drive	SATA disk	EIDE optical	Graphics	PCI ethernet	Mo-dem	FireWire adapter	Pre-Load	Limited warranty ¹²	Avail date
E50	8291-41U	3x4	Pentium® 4 531	3.00	1MB	EM64T 512MB	None	40GB ²	CD	GMA 900	10/100	No		XP Pro	1-yr	Oct 05
E50	8291-D1U	3x4	Pentium 4 630	3.00	2MB	EM64T 512MB	None	80GB	CD-RW	GMA 900	10/100	No		XP Pro	1-yr	Oct 05
E50	8291-E1U	3x4	Pentium 4 640	3.20	2MB	EM64T 512MB	None	80GB	Combo	GMA 900	10/100	No		XP Pro	1-yr	Oct 05
E50	8291-E2U	3x4	Pentium 4 640	3.20	2MB	EM64T 512MB	None	160GB	DVD±RW ⁶	GMA 900	10/100	No		XP Pro	1-yr	Oct 05
E50	8291-01U	3x4	Pentium 4 640	3.20	2MB	EM64T 1GB	None	160GB	Combo	GMA 900	10/100	No	1394	XP Pro	1-yr	Jan 06
E50	8291-02U	3x4	Celeron® D 336	2.80	256K	EM64T 512MB	None	80GB	Combo	GMA 900	10/100	Modem		XP Home	1-yr	Mar 06
E50	8291-03U	3x4	Pentium 4 521	2.80	1MB	EM64T 512MB	None	160GB	Combo	GMA 900	10/100	Modem		XP Home	1-yr	Mar 06

These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning	<i>Essential business features, exceptional value</i>										Tower		
Processor	Intel® Celeron D Processor 336 with single core, EM64T, Execute Disable Bit, and 533MHz bus or Intel Pentium 4 Processor 521, 531, 630, or 640 with single-core, EM64T, Hyper-Threading technology, Execute Disable Bit, and 800MHz system bus / 630 and 640 have EIST										<ul style="list-style-type: none"> Business black color with silver accents 7.09"W X 18.03" D X 14.72"H 180mm W X 458mm D X 374mm H 20.01 to 20.3 lb (9.1 to 9.2 kg) Handle on top front Thumbscrew for removal of side covers Toolless entry 		
L2 cache Implementation	256KB, 1MB, or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket										<ul style="list-style-type: none"> Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, optional diskette Bay ④ 3.5", 1" high, no access, std disk 		
Memory - std/max ⁸	512MB or 1GB std / 4GB max										<ul style="list-style-type: none"> Slot 1: half-length, full-height, 32-bit PCI 2.3 - used* Slot 2: half-length, full-height, 32-bit PCI 2.3 Slot 3: half-length, full-height, 32-bit PCI 2.3 		
Memory	Four 240-pin DIMM sockets / model 01U: two sockets used (512MB per socket); other models: one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable										*FireWire or modem adapter in slot on some models		
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915GV GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector										SECURITY		
SATA disk	40, 80, or 160GB / SATA150 7200 rpm										<ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) No security slot (in rear for optional Kensington Microsaver cable) No keylock 		
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6										<ul style="list-style-type: none"> Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette Unattended start mode Hard disk I/O control Serial port I/O control Parallel port I/O control 		
SATA cables	One SATA cable (one 1-drop to disk) / 4 SATA connectors on planar										<ul style="list-style-type: none"> DMI 2.0-compliant 		
EIDE CD	Some: 48X-20X ⁴ CD-ROM										<p>ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage</p>		
EIDE CD-RW	Some: 48X/32X/48X Max ⁴ CD-RW										LIMITED WARRANTY¹		
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo										<ul style="list-style-type: none"> 1-year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) 		
EIDE DVD±RW	Some: DVD and CD burner / double-layer / Multi-Burner Plus (part 73P3370)										<ul style="list-style-type: none"> Post-warranty maintenance services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)												
EIDE cables	One 2-drop EIDE cable to optical / one EIDE connector on planar												
Diskette drive	None												
Chipset	Intel 915GV Express Chipset / 82915GV Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O for serial, parallel, diskette, keyboard, mouse, auto-thermal controls												
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)												
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)												
Rear audio ports	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm]												
Audio	Integrated digital audio / AC '97 interface / Realtek ALC655 codec												
Beeper	One internal beeper												
IEEE 1394	Some: FireWire PCI adapter / 1394A, 400Mbps, dual 6-pin ports on rear, one 6-pin port on front of system, no external cables included												
Ethernet	10/100 ethernet on systemboard / Realtek 8100C controller (MAC/PHY) / PCI 2.3 / Wake on LAN® / PXE 2.0 and RPL remote boot												
Modem	Some: 56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter												
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black												
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black												
Power supply	250 watts / universal / manual switch												
Preload with Windows XP Home⁵		Accessories											
Microsoft® Windows® XP Home Edition		256MB PC2-4200 CL4 NP DDR2 UDIMM 73P4970											
- Disk-to-Disk Recovery		512MB PC2-4200 CL4 NP DDR2 UDIMM 73P4971											
Preload with Windows XP Professional⁵		1GB PC2-4200 CL4 NP DDR2 UDIMM 73P4972											
Microsoft Windows XP Professional		160GB Serial ATA300 Disk (7200 rpm) 09N4254											
- Disk-to-Disk Recovery		250GB Serial ATA300 Disk (7200 rpm) 41N3015											
Preloaded (all; only some listed)		Super Multi-Burner DL DVD±RW Drive 41N5581											
• Rescue and Recovery™		USB Gemplus GemPC Smart Card Reader 41N3040											
• Norton AntiVirus (OEM version)		USB 2.0 Memory Key 1GB 40Y7421											
• PC-Doctor™ (diagnostics)		USB 2.0/Analog Headset by Sennheiser 40Y8518											
• Multimedia Center for Think Offerings (CD-RW, combo, DVD±RW)		USB 2.0 Lenovo Webcam 40Y8519											
• Sonic RecordNow and Drive Letter Access (CD-RW, combo, DVD±RW)		USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637											
• InterVideo WinDVD (combo, DVD±RW)		USB 2.0 Portable 80GB Hard Disk 40Y8726											
• InterVideo WinDVD Creator (DVD±RW)		USB 2.0 Super Multi-Burner Drive 41N5565											
License - CD not included		Lenovo L191 19" Monitor (black) 6135AB1											
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client		Lenovo D221 Wide 22" Monitor (black) 6622HB2											
		ThinkVision® L171p 17" Monitor (black) 9417HC2											
		ThinkVision L192p 19" Monitor (black) 9419HC2											
		ThinkVision L201p 20.1" Monitor (black) 9220HB1											
		PRO/1000T Desktop Adapter by Intel 22P6501											
		Lenovo Laser Mouse (USB, PS/2) 41U3074											
		Other options at lenovo.com/options											

See footnotes for important warranty information
US models announced October 18, 2005, January 24, 2006, or February 27, 2006
US models withdrawn effective November 2006

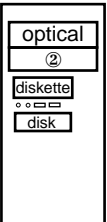
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ThinkCentre® E50 Tower (8771) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-mod	Slot x bay	Processor	L2 cache	Hyper-Threading	Memory ⁶	Disk-ette	SATA disk	EIDE optical	Graphics	Chip-set	PCI ethernet	Mo-dem	Pre-load	Limited warranty ¹	Avail date
E50 8771-ACU	4x4	Celeron® D 336	2.80	256KB		512MB	None	80GB ²	CD	SiS Mirage	661FX	10/100	No XP	Pro	1-year	Apr 06
E50 8771-24U	4x4	Pentium® 4 521	2.80	1MB	HT	512MB	None	80GB	CD-RW	SiS Mirage	661FX	10/100	No XP	Pro	1-year	Apr 06
E50 8771-33U	4x4	Pentium 4 521	2.80	1MB	HT	512MB	None	80GB	CD	SiS Mirage	661FX	10/100	No XP	Pro	1-year	Apr 06

These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning Processor	<i>Essential business features, exceptional value</i> Intel® Celeron D Processor 336 with single-core, EM64T, Execute Disable Bit, and 533MHz system bus or Intel Pentium 4 Processor 521 with single-core, EM64T, Hyper-Threading technology, Execute Disable Bit, and 800MHz system bus										Tower																																																	
L2 cache Implementation	256KB or 1MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket										<ul style="list-style-type: none"> Business black color with silver accents 7.1"W X 17.5" D X 15.4"H 180mm W X 445mm D X 392mm H 20.01 to 20.3 lb (9.1 to 9.2 kg) Handle on top front Thumbscrew for removal of side covers Toolless entry 																																																	
Memory - std/max ⁸ Memory	512MB std / 2GB max Two 184-pin DIMM sockets / one socket used / PC3200 400MHz DDR1 / non-parity / CAS latency 3 (CL3) / unbuffered / dual-channel capable										Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, optional diskette Bay ④ 3.5", 1" high, no access, std disk																																																	
Graphics	SiS® Mirage Graphic Engine (SiS Mirage) / integrated graphics in north bridge / uses main memory (32 to 64MB) / 200MHz / one 15-pin analog D-sub connector / upgradable AGP 8X slot										Slot 1: half-length, full-height, 32-bit AGP 8X Slot 2: half-length, full-height, 32-bit PCI 2.3 Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3																																																	
SATA disk	80GB / SATA300 / 7200 rpm										SECURITY <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) No security slot (in rear for optional Kensington Microsaver cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette Unattended start mode Hard disk I/O control Serial port I/O control Parallel port I/O control 																																																	
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in SiS964																																																											
SATA cables	One SATA cable (one 1-drop to disk) / two SATA connectors on planar																																																											
EIDE controller	Enhanced IDE / ATA-133 / integrated in SiS964 south bridge																																																											
EIDE cables	One 2-drop EIDE cable to optical / two EIDE connectors on planar																																																											
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM										<ul style="list-style-type: none"> RoHS-compliant DMI 2.0-compliant ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage																																																	
EIDE CD-RW	<i>Some:</i> 48X/32X/48X Max ⁴ CD-RW																																																											
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo																																																											
EIDE DVD±RW	<i>Some:</i> DVD and CD burner / double-layer / Multi-Burner Plus (part 73P3370)																																																											
Diskette drive	None																																																											
Chipset	SiS661FX chipset / SiS661FX graphics memory controller in north bridge with AGP 8X support / SiS964 south bridge for SATA150 / ATA-100/133 EIDE, PCI 2.3 bus, USB, Low Pin Count Interface / ITE Tech® 8705GX Super I/O for serial, parallel, diskette, keyboard, and mouse										LIMITED WARRANTY¹ <ul style="list-style-type: none"> ↔ 1-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) ↔ Post-warranty maintenance services at lenovo.com/thinkplus/warranty ↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 																																																	
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)																																																											
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)																																																											
Rear audio ports	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm]																																																											
Audio	Integrated digital audio / AC '97 interface / Realtek® ALC655 codec																																																											
Beeper	One internal beeper										Microsoft® Windows® XP Professional - Disk-to-Disk Recovery (in hidden protected area)																																																	
Ethernet	10/100 ethernet on systemboard / Realtek 8100C controller (MAC/PHY) / PCI 2.3 / Wake on LAN® / PXE 2.0 and RPL remote boot																																																											
Modem	None																																																											
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black																																																											
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black																																																											
Power supply	250 watts / universal / manual switch										Accessories <table border="0"> <tr><td>256MB PC3200 CL3 NP DDR1 UDIMM</td><td>73P2685</td></tr> <tr><td>512MB PC3200 CL3 NP DDR1 UDIMM</td><td>73P2686</td></tr> <tr><td>1GB PC3200 CL3 NP DDR1 UDIMM</td><td>22P9272</td></tr> <tr><td>160GB Serial ATA300 Disk (7200 rpm)</td><td>09N4254</td></tr> <tr><td>250GB Serial ATA300 Disk (7200 rpm)</td><td>41N3015</td></tr> <tr><td>Super Multi-Burner DL DVD±RW Drive</td><td>41N5581</td></tr> <tr><td>USB Gemplus GemPC Smart Card Reader</td><td>41N3040</td></tr> <tr><td>USB 2.0/Analog Headset by Sennheiser</td><td>40Y8518</td></tr> <tr><td>USB 2.0 Lenovo Webcam</td><td>40Y8519</td></tr> <tr><td>USB 2.0 Memory Key 1GB</td><td>40Y7421</td></tr> <tr><td>USB 2.0 CD-RW/DVD-ROM Combo II Drive</td><td>40Y8637</td></tr> <tr><td>USB 2.0 Portable 80GB Hard Disk</td><td>40Y8726</td></tr> <tr><td>Lenovo L191 19" Monitor (black)</td><td>6135AB1</td></tr> <tr><td>ThinkVision® C170 17" (16.0" vis) (black)</td><td>6737P6N</td></tr> <tr><td>ThinkVision L151 15" Monitor (black)</td><td>9205AB6</td></tr> <tr><td>ThinkVision L171p 17" Monitor (black)</td><td>9417HC2</td></tr> <tr><td>ThinkVision L192p 19" Monitor (black)</td><td>9419HC2</td></tr> <tr><td>ThinkVision L201p 20.1" Monitor (black)</td><td>9220HB1</td></tr> <tr><td>ThinkVision C400 Wireless Projector</td><td>0039WA1</td></tr> <tr><td>PRO/1000T Desktop Adapter by Intel</td><td>22P6501</td></tr> <tr><td>Preferred Pro USB Keyboard</td><td>73P5220</td></tr> <tr><td>Optical 3-Button ScrollPoint® Mouse</td><td>31P7405</td></tr> <tr><td>Optical 3-Button ScrollPoint Pro Mouse</td><td>31P8700</td></tr> <tr><td>USB Optical Wheel Mouse</td><td>06P4069</td></tr> </table> Other options at lenovo.com/options		256MB PC3200 CL3 NP DDR1 UDIMM	73P2685	512MB PC3200 CL3 NP DDR1 UDIMM	73P2686	1GB PC3200 CL3 NP DDR1 UDIMM	22P9272	160GB Serial ATA300 Disk (7200 rpm)	09N4254	250GB Serial ATA300 Disk (7200 rpm)	41N3015	Super Multi-Burner DL DVD±RW Drive	41N5581	USB Gemplus GemPC Smart Card Reader	41N3040	USB 2.0/Analog Headset by Sennheiser	40Y8518	USB 2.0 Lenovo Webcam	40Y8519	USB 2.0 Memory Key 1GB	40Y7421	USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637	USB 2.0 Portable 80GB Hard Disk	40Y8726	Lenovo L191 19" Monitor (black)	6135AB1	ThinkVision® C170 17" (16.0" vis) (black)	6737P6N	ThinkVision L151 15" Monitor (black)	9205AB6	ThinkVision L171p 17" Monitor (black)	9417HC2	ThinkVision L192p 19" Monitor (black)	9419HC2	ThinkVision L201p 20.1" Monitor (black)	9220HB1	ThinkVision C400 Wireless Projector	0039WA1	PRO/1000T Desktop Adapter by Intel	22P6501	Preferred Pro USB Keyboard	73P5220	Optical 3-Button ScrollPoint® Mouse	31P7405	Optical 3-Button ScrollPoint Pro Mouse	31P8700	USB Optical Wheel Mouse	06P4069
256MB PC3200 CL3 NP DDR1 UDIMM	73P2685																																																											
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USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637																																																											
USB 2.0 Portable 80GB Hard Disk	40Y8726																																																											
Lenovo L191 19" Monitor (black)	6135AB1																																																											
ThinkVision® C170 17" (16.0" vis) (black)	6737P6N																																																											
ThinkVision L151 15" Monitor (black)	9205AB6																																																											
ThinkVision L171p 17" Monitor (black)	9417HC2																																																											
ThinkVision L192p 19" Monitor (black)	9419HC2																																																											
ThinkVision L201p 20.1" Monitor (black)	9220HB1																																																											
ThinkVision C400 Wireless Projector	0039WA1																																																											
PRO/1000T Desktop Adapter by Intel	22P6501																																																											
Preferred Pro USB Keyboard	73P5220																																																											
Optical 3-Button ScrollPoint® Mouse	31P7405																																																											
Optical 3-Button ScrollPoint Pro Mouse	31P8700																																																											
USB Optical Wheel Mouse	06P4069																																																											
Preload with Windows XP Professional ⁵																																																												
Preloaded	<ul style="list-style-type: none"> Rescue and Recovery™ Access Connections™ Client Security Solution™ ThinkVantage Productivity Center with Away Manager ThinkVantage System Update Symantec® Client Security™ Diskeeper Lite PC-Doctor™ (diagnostics) Adobe® Reader Google Toolbar Google Desktop Picasa from Google Multimedia Center for Think Offerings (CD-RW, combo) Sonic RecordNow and Drive LetterAccess (CD-RW, combo) 																																																											
License - CD not included	<ul style="list-style-type: none"> Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client 																																																											

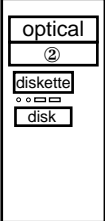
See footnotes for important warranty information
US models announced April 25, 2006
US models withdrawn effective December 2006

ThinkCentre® E50 Tower (8776) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-mod	Slot x bay	Processor	L2 GHz cache	EM64T	Memory	Diskette drive	SATA disk	EIDE optical	Graphics	PCI ethernet	Mo-dem	FireWire adapter	Pre-Load	Limited warranty ¹²	Avail date
E50	8776-31U	4x4	Pentium® 4 521	2.80	1MB	EM64T 512MB	None	80GB ²	CD	GMA 950	10/100	No		XP Pro	1-yr	May 06
E50	8776-D1U	4x4	Pentium 4 630	3.00	2MB	EM64T 512MB	None	80GB	CD-RW	GMA 950	10/100	No		XP Pro	1-yr	May 06
E50	8776-E1U	4x4	Pentium 4 640	3.20	2MB	EM64T 1GB	None	160GB	Combo	GMA 950	10/100	No	1394	XP Pro	1-yr	May 06

These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning Processor	<i>Essential business features, exceptional value</i> Intel® Pentium 4 Processor 521, 630 or 640 with single-core, EM64T, Hyper-Threading technology, Execute Disable Bit, and 800MHz system bus / 630 and 640 have EIST										Tower		
L2 cache Implementation	1MB or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket										<ul style="list-style-type: none"> Business black color with silver accents 7.1"W X 17.5" D X 15.4"H 180mm W X 445mm D X 392mm H 20.01 to 20.3 lb (9.1 to 9.2 kg) Handle on top front Thumbscrew for removal of side covers Toolless entry 		
Memory - std/max ⁸ Memory	512MB / 4GB max Four 240-pin DIMM sockets / <i>model E1U</i> : two sockets used (512MB per socket); <i>other models</i> : one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable										Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, optional diskette Bay ④ 3.5", 1" high, no access, std disk Slot 1: half-length, full-height, PCI Express x16 (75w max) Slot 2: half-length, full-height, 32-bit PCI 2.3 - used* Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3 *FireWire adapter in slot on some models		
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G / 400MHz												SECURITY <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) No security slot (in rear for optional Kensington Microsaver cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette Unattended start mode Hard disk I/O control Serial port I/O control Parallel port I/O control
SATA disk	80 or 160GB / SATA300 7200 rpm												
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7												
SATA cables	One SATA cable (one 1-drop to disk) / 4 SATA connectors on planar												
EIDE CD	<i>Some</i> : 48X-20X ⁴ CD-ROM												
EIDE CD-RW	<i>Some</i> : 48X/32X/48X Max ⁴ CD-RW												
EIDE Combo	<i>Some</i> : 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo												
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)												
EIDE cables	One 2-drop EIDE cable to optical / one EIDE connector on planar												
Diskette drive	None												
Chipset	Intel 945G Express Chipset / 82945G Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x16, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F/JX Super I/O for serial, parallel, diskette, keyboard, mouse, auto-thermal controls												
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)												
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)												
Rear audio ports	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm]												
Audio	Integrated digital audio / AC '97 interface / Realtek® ALC655 codec												
Beeper	One internal beeper												
IEEE 1394	<i>Some</i> : FireWire PCI adapter / 1394A, 400Mbps, dual 6-pin ports on rear, one 6-pin port on front of system, no external cables included												
Ethernet	10/100 ethernet on systemboard / Realtek 8100C controller (MAC/PHY) / PCI 2.3 / Wake on LAN® / PXE 2.0 and RPL remote boot												
Modem	None										<ul style="list-style-type: none"> RoHS-compliant DMI 2.0-compliant 		
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black										ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black												
Power supply	250 watts / universal / manual switch												
Preload with Windows XP Professional⁵	Accessories										LIMITED WARRANTY¹		
Microsoft® Windows® XP Professional	256MB PC2-4200 CL4 NP DDR2 UDIMM										⇨ 1-year parts and labor		
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-4200 CL4 NP DDR2 UDIMM										⇨ International Warranty Service⁹		
	1GB PC2-4200 CL4 NP DDR2 UDIMM										⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)		
Preloaded	160GB Serial ATA300 Disk (7200 rpm)										⇨ Onsite service upgrade options (in eligible locations):⁷		
• Rescue and Recovery™	250GB Serial ATA300 Disk (7200 rpm)										• 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189)		
• Access Connections™	Super Multi-Burner DL DVD±RW Drive										• 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190)		
• Client Security Solution™	USB Gemplus GemPC Smart Card Reader										• 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187)		
• ThinkVantage Productivity Center with Away Manager	USB 2.0 Memory Key 1GB										• 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191)		
• ThinkVantage System Update	USB 2.0 CD-RW/DVD-ROM Combo II Drive										• 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188)		
• Symantec® Client Security™	USB 2.0 Portable 80GB Hard Disk										⇨ Post-warranty maintenance services at lenovo.com/thinkplus/warranty		
• Diskkeeper Lite	Maxtor One Touch II 300GB USB 2.0 Drive										⇨ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)		
• PC-Doctor™ (diagnostics)	Lenovo L191 19" Monitor (black)												
• Adobe® Reader	ThinkVision® C170 17" (16.0" vis) (black)												
• Google Toolbar	ThinkVision L171p 17" Monitor (black)												
• Google Desktop	ThinkVision L192p 19" Monitor (black)												
• Picasa from Google	ThinkVision L201p 20.1" Monitor (black)												
• Multimedia Center for Think Offerings (CD-RW, combo)	Lenovo M500 Projector												
• Sonic RecordNow and Drive Letter Access (CD-RW, combo)	ThinkVision C400 Wireless Projector												
License - CD not included	PRO/1000T Desktop Adapter by Intel												
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	Optical 3-Button ScrollPoint Pro Mouse												
	DVI-I PCIe Connection Adapter (ADD2)												
	NVIDIA® GeForce 6200 64MB Dual Head												
	ATI® RADEON® X300 SE 128MB Dual Head												
	ATI RADEON X700 128MB Dual Head												
	Other options at lenovo.com/options												

See footnotes for important warranty information
US models announced April 25, 2006
US models withdrawn effective December 2006

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(CL2-2) December 2006

ThinkCentre® E50 Tower (9214, 9215) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-mod	Slot x bay	Processor	GHz	L2 cache	EM64T	Memory ⁸	Dis-kette	EIDE disk	EIDE optical	Graphics	Chip-set	PCI ethernet	Mo-dem	Pre-load	Limited warranty ¹	Avail date
E50	9214-A1U	4x4	Celeron® 331	2.66	256KB	EM64T	256MB	None	40GB ²	CD	SiS Mirage 661FX	10/100	No	Home	90-day	Oct 05	
E50	9214-11U	4x4	Pentium® 4 516	2.93	1MB	EM64T	256MB	None	40GB	CD	SiS Mirage 661FX	10/100	No	Home	90-day	Oct 05	
E50	9215-A1U	4x4	Celeron 331	2.66	256KB	EM64T	256MB	None	40GB	CD	SiS Mirage 661FX	10/100	No	XP Pro	1-year	Oct 05	
E50	9215-21U	4x4	Pentium 4 516	2.93	1MB	EM64T	256MB	None	40GB	CD	SiS Mirage 661FX	10/100	No	XP Pro	1-year	Oct 05	
E50	9215-24U	4x4	Pentium 4 519K	3.06	1MB	EM64T	512MB	None	40GB	CD	SiS Mirage 661FX	10/100	No	XP Pro	1-year	Oct 05	
E50	9215-25U	4x4	Pentium 4 519K	3.06	1MB	EM64T	512MB	None	80GB	CD-RW	SiS Mirage 661FX	10/100	No	XP Pro	1-year	Oct 05	
E50	9215-D2U	4x4	Pentium 4 630	3.00	2MB	EM64T	512MB	None	80GB	Combo	SiS Mirage 661FX	10/100	No	XP Pro	1-year	Oct 05	
E50	9215-D3U	4x4	Pentium 4 630	3.00	2MB	EM64T	512MB	None	120GB	DVD±RW ⁶	SiS Mirage 661FX	10/100	No	XP Pro	1-year	Oct 05	
E50	9215-E1U	4x4	Pentium 4 640	3.20	2MB	EM64T	512MB	None	80GB	Combo	SiS Mirage 661FX	10/100	No	XP Pro	1-year	Oct 05	
E50	9215-36U	4x4	Pentium 4 521	2.80	1MB	EM64T	256MB	None	80GB	CD	SiS Mirage 661FX	10/100	No	XP Pro	1-year	Mar06	
E50	9215-38U	4x4	Pentium 4 521	2.80	1MB	EM64T	512MB	None	80GB	Combo	SiS Mirage 661FX	10/100	No	XP Pro	1-year	Mar06	

Positioning	<i>Essential business features, exceptional value</i>	Tower
Processor	Intel® Celeron D Processor 331 (2.66GHz) with single core, EM64T, Execute Disable Bit and 533MHz system bus or Intel Pentium 4 Processor 516, 519K, 521, 630, 640 with single core, EM64T, Hyper-Threading technology (521 and 6xx), EIST (6xx only), Execute Disable Bit (except 516), and 533 or 800MHz (521 and 6xx) system bus	<ul style="list-style-type: none"> Business black color with silver accents 7.09"W X 18.03" D X 14.72"H 180mm W X 458mm D X 374mm H 20.01 to 20.3 lb (9.1 to 9.2 kg) Handle on top front Thumbscrew for removal of side covers Toolless entry
L2 cache Implementation	256KB, 1MB, or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket	
Memory - std/max ⁸ Memory	256 or 512MB std / 2GB max Two 184-pin DIMM sockets / one socket used / PC3200 400MHz DDR1 / non-parity / CAS latency 3 (CL3) / unbuffered / dual-channel capable	
Graphics	SiS® Mirage Graphic Engine (SiS Mirage) / integrated graphics in north bridge / uses main memory (32 to 64MB) / 200MHz / one 15-pin analog D-sub connector / upgradable AGP 8X slot	Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, optional diskette Bay ④ 3.5", 1" high, no access, std disk Slot 1: half-length, full-height, 32-bit AGP 8X Slot 2: half-length, full-height, 32-bit PCI 2.3 Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3
EIDE disk	40, 80, or 120GB / ATA-100 7200 rpm	SECURITY <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) No security slot (in rear for optional Kensington Microsaver cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette Unattended start mode Hard disk I/O control Serial port I/O control Parallel port I/O control LIMITED WARRANTY¹ <ul style="list-style-type: none"> ↪ 9214: 90-day parts and labor ↪ 9215: 1-year parts and labor ↪ International Warranty Service⁹ ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 9214: 1-year LOR 9x5, Next Business Day (ThinkPlus™ part number 41E9799) • 9214: 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41E9800) • 9215: 1-year LOR 9x5, 4 hr response (ThinkPlus part number 41C9189) • 9215: 2-year LOR 9x5, 4 hr response (ThinkPlus part number 41C9190) • 9215: 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) • 9215: 3-year LOR 9x5, 4 hr response (ThinkPlus part number 41C9191) • 9215: 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) ↪ Post-warranty maintenance services at lenovo.com/thinkplus/warranty ↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹
EIDE controller	Enhanced IDE / ATA-133 / integrated in SiS 964 south bridge	
EIDE cables	Two 1-drop EIDE cables to optical and disk / Two EIDE connectors on planar	
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM	
EIDE CD-RW	<i>Some:</i> 48X/32X/48X Max ⁴ CD-RW	
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo	
EIDE DVD±RW	<i>Some:</i> DVD and CD burner / double-layer / Multi-Burner Plus (part 73P3370)	
SATA controller	None / no SATA150 connectors on systemboard	
Diskette drive	None	
Chipset	SiS 661FX chipset / SiS661FX graphics memory controller in north bridge with AGP 8X support / SiS964L south bridge for ATA-100/133 EIDE, PCI 2.3 bus, USB, Low Pin Count Interface / ITE Tech® IT8712 Super I/O for serial, parallel, diskette, keyboard, and mouse	
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Rear audio ports	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm]	
Audio	Integrated digital audio / AC '97 interface / Realtek ALC655 codec	
Beeper	One internal beeper	
Ethernet	10/100 ethernet on systemboard / Realtek 8100C controller (MAC/PHY) / PCI 2.3 / Wake on LAN® / PXE 2.0 and RPL remote boot	
Modem	None	
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black	
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black	
Power supply	250 watts / universal / manual switch	

	Accessories	
Preload with Windows XP Home⁵		
Microsoft® Windows® XP Home Edition with Service Pack 2	256MB PC3200 CL3 NP DDR1 UDIMM	73P2685
- Disk-to-Disk Recovery	512MB PC3200 CL3 NP DDR1 UDIMM	73P2686
Preload with Windows XP Professional	1GB PC3200 CL3 NP DDR1 UDIMM	22P9272
Microsoft Windows XP Professional with Service Pack 2	80GB EIDE Disk ATA-100 (7200 rpm)	09N4248
- Disk-to-Disk Recovery	120GB EIDE Disk ATA-100 (7200 rpm)	09N4249
Preloaded (all; only some listed)	Super Multi-Burner DL DVD±RW Drive	41N5581
• Rescue and Recovery™	USB Gemplus GemPC Smart Card Reader	41N3040
• Access Program	USB 2.0 Lenovo Webcam	40Y8519
• Norton AntiVirus (OEM version)	USB 2.0 Memory Key 1GB	40Y7421
• PC-Doctor™ (diagnostics)	USB 2.0/Analog Headset by Sennheiser	40Y8518
• Multimedia Center for Think Offerings (CD-RW, combo, DVD±RW)	USB 2.0 Lenovo Webcam	40Y8519
• Sonic RecordNow and Drive Letter Access (CD-RW, combo, DVD±RW)	USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637
• InterVideo WinDVD (combo, DVD±RW)	USB 2.0 Portable 80GB Hard Disk	40Y8726
• InterVideo WinDVD Creator (DVD±RW)	USB 2.0 Super Multi-Burner Drive	41N5565
License - CD not included (all)	Lenovo L171 17" Monitor (black)	9227AC1
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client (Notes client not supported on XP Home)	Lenovo L191 19" Monitor (black)	6135AB1
	Lenovo D221 Wide 22" Monitor (black)	6622HB2
	ThinkVision® L171p 17" Monitor (black)	9417HC2
	ThinkVision L192p 19" Monitor (black)	9419HC2
	ThinkVision L201p 20.1" Monitor (black)	9220HB1
	Optical 3-Button ScrollPoint® Mouse	31P7405
	Lenovo Laser Mouse (USB, PS/2)	41U3074
	Other options at lenovo.com/options	

See footnotes for important warranty information
US models announced October 18, 2005 or February 21, 2006
US models withdrawn effective November 2006

Partial list of accessories supported on ThinkCentre E50 originally announced on October 18, 2005

Memory

SiS chipset types 9214, 9215, 9217, 9218 only:

256MB PC3200 CL3 NP DDR1 UDIMM	73P2685	
512MB PC3200 CL3 NP DDR1 UDIMM	73P2686	
1GB PC3200 CL3 NP DDR1 UDIMM	22P9272	

Intel chipset types 8291, 8294 only:

256MB PC2-4200 CL4 NP DDR2 UDIMM	73P4970	ann 04/19/05
512MB PC2-4200 CL4 NP DDR2 UDIMM	73P4971	ann 04/19/05
1GB PC2-4200 CL4 NP DDR2 UDIMM	73P4972	ann 04/19/05

Optical

48X-20X IDE CD-ROM (black)	10K3782	
16X Max ⁴ DVD-ROM (black)	22P6950	
48X/32X/48X Max ⁴ CD-RW (black)	22P7042	
48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo drive (black)	73P3300	ann 04/06/04
Super Multi-Burner DL DVD±RW Drive	41N5581	ann 05/30/06

Storage and removable storage

SiS chipset types 9214, 9215, 9217, 9218 only:

40GB EIDE Disk ATA-100 (7200 rpm)	22P7157	
80GB EIDE Disk ATA-100 (7200 rpm)	09N4248	
120GB EIDE Disk ATA-100 (7200 rpm)	09N4249	

Intel chipset types 8291, 8294, 8776, 8778

and SiS chipset types 8771, 8773 only:

40GB Serial ATA150 Disk (7200 rpm)	22P7185	
80GB Serial ATA300 Disk (7200 rpm)	09N4253	
160GB Serial ATA300 Disk (7200 rpm)	09N4254	
250GB Serial ATA300 Disk (7200 rpm)	41N3015	ann 01/24/06

All:

USB Portable Diskette Drive	05K9276	ann 06/05/00
USB 2.0 Memory Key 256MB	40Y8594	ann 03/21/06
USB 2.0 Memory Key 512MB	40Y8596	ann 03/21/06
USB 2.0 Memory Key 1GB	40Y7421	ann 12/13/05
USB 2.0 Essential Memory Key 1GB	41U4940	ann 01/23/07
USB 2.0 Essential Memory Key 2GB	41U4944	ann 01/23/07
USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637	
USB 2.0 Portable 80GB Hard Disk	40Y8726	ann 07/19/05
USB 2.0 Super Multi-Burner Drive	41N5565	ann 01/23/07

Graphics

8776 Tower with Intel 945G chipset only:

DVI-I PCIe Connection Adapter (ADD2)	73P2516	
ATI® RADEON® X300 SE 128MB Dual Head	41U4813	ann 10/24/06
ATI RADEON X700 128MB Dual Head	73P2518	ann 06/28/05

Keyboard

Preferred Pro USB Keyboard	73P5220	ann 06/21/05
Preferred Pro Full Size PS/2 Keyboard	31P7415	ann 06/04/02
Enhanced Performance USB Keyboard	73P2620	ann 03/23/04

Mouse

USB Optical Wheel Mouse	06P4069	
Optical 3-Button ScrollPoint® Mouse	31P7405	
Optical 3-Button ScrollPoint Pro Mouse	31P8700	
Lenovo Laser Mouse (USB, PS/2)	41U3074	ann 01/23/07

Multimedia

USB 2.0/Analog Headset by Sennheiser	40Y8518	ann 06/27/06
USB 2.0 Lenovo Webcam	40Y8519	ann 08/29/06

Power and Cables

Belkin 7-Outlet Surge Protector	31P7657
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Data/Video Projectors

ThinkVision® E500 Projector	0038A05	ann 07/19/05
Lenovo M500 Projector	0037A05	ann 02/28/06
Lenovo C500 Projector	0039A05	ann 07/11/06
ThinkVision C400 Wireless Projector	0039WA1	ann 09/20/05

Security

USB Gemplus GemPC Smart Card Reader	41N3040	ann 02/21/06
USB Fingerprint Reader	41U3167	ann 10/24/06

Monitors

Lenovo E75 17" CRT Monitor (16.0" vis) blk	6307BTN	ann 01/16/07
Lenovo L151 15" Monitor (black)	9165AB6	ann 02/28/06
Lenovo L171 17" Monitor (black)	9227AC1	ann 11/07/06
Lenovo L191 19" Monitor (black)	6135AB1	ann 06/27/06
Lenovo L192 Wide 19" Monitor (black)	6920AB1	ann 09/19/06
Lenovo D221 Wide 22" Monitor (black)	6622HB1	ann 11/21/06
ThinkVision L171p 17" Monitor (black)	9417HC2	ann 10/31/06
ThinkVision L192p 19" Monitor (black)	9419HC2	ann 10/31/06
ThinkVision L201p 20.1" Monitor (black)	9220HB1	ann 10/31/06

Monitor Accessories⁴⁶

ThinkVision Sound Bar	40Y7616	ann 08/23/05
Kensington® MicroSaver® Security Cable Lock	73P2582	
Radial Arm	19K4464	ann 05/05/00

⁴⁶ Compatible on selected Lenovo and ThinkVision monitors.

Other accessories at lenovo.com/accessories

Need to buy accessories no longer marketed by Lenovo? See www.itxchange.com/lenovo for the Options Continuation Program.

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	EIDE Memory ^a	EIDE disk	EIDE optical	Graphics	Security chip	Ethernet	Preload	Workhorse Global, Educ	Avail date
M50	8187-34U	4x4	Pentium® 4	2.8E	1MB	800	HT	256MB	40GB ²	CD	Extreme™ 2 GMCH		10/100	XP Pro ⁵	No	Feb 2004
M50	8187-37U	4x4	Pentium 4	2.8E	1MB	800	HT	512MB	40GB	CD	Extreme 2 GMCH		Gigabit	XP Pro	No	Feb 2004
M50	8187-38U	4x4	Pentium 4	2.8C	512K	800	HT	512MB	40GB	CD	Extreme 2 GMCH		Gigabit	XP Pro	Educ	Mar 2004
M50	8187-43U	4x4	Pentium 4	3.0E	1MB	800	HT	512MB	40GB	CD	Extreme 2 GMCH		Gigabit	XP Pro	W/G	Feb 2004
M50	8187-44U	4x4	Pentium 4	3.0E	1MB	800	HT	256MB	40GB	CD	Extreme 2 GMCH		10/100	XP Pro	No	Feb 2004
M50	8187-47U	4x4	Pentium 4	3.0E	1MB	800	HT	512MB	40GB	CD	Extreme 2 GMCH	Chip	Gigabit	XP Pro	No	Feb 2004
M50	8187-48U	4x4	Pentium 4	3.0E	1MB	800	HT	512MB	40GB	CD-RW	Extreme 2 GMCH		Gigabit	XP Pro	No	Feb 2004
M50	8187-49U	4x4	Pentium 4	3.0E	1MB	800	HT	512MB	40GB	CD	Extreme 2 GMCH		Gigabit	XP Pro	Educ	Feb 2004
M50	8187-3BU	4x4	Pentium 4	2.8A	1MB	533		512MB	40GB	CD	Extreme 2 GMCH		Gigabit	XP Pro	No	Aug 2004
M50	8187-3CU	4x4	Pentium 4	2.8A	1MB	533		256MB	40GB	CD	Extreme 2 GMCH		10/100	XP Pro	No	Aug 2004
M50	8187-4BU	4x4	Pentium 4	3.0E	1MB	800	HT	512MB	40GB	DVD	Extreme 2 GMCH		Gigabit	XP Pro	No	Aug 2004

Positioning *Stability and manageability for the enterprise*
 Processor **Intel® Pentium 4 at 2.8 or 3.0GHz** with 533 or 800MHz system bus
 Hyper-Threading *Some: Hyper-Threading (HT) technology*
 L2 cache **512KB or 1MB** std and max / ECC / full speed
 Implementation Processor and L2 cache in FC-PGA2 in mPGA478B socket

Memory - std/max^a **256 or 512MB std / 4GB max**
 Memory Four 184-pin gold plated DIMM sockets / one socket used (two used on F4U) / **PC2700 333MHz DDR1** / non-parity / ind std / unbuffered / CAS latency 2.5 (CL2.5) / dual channel capable

Graphics **Integrated Intel Extreme™ Graphics 2** / Direct AGP / in 865G GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector

EIDE disk **40GB**, ATA-100, 7200 rpm, rubber vibration dampening mounts
 EIDE controller Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5)
 EIDE cables Two EIDE 80-conductor cables (one 2-drop cable to optical, one 1-drop cable to disk) / two EIDE connectors on systemboard
 CD *Some: 48X-20X⁴ CD-ROM / EIDE*
 DVD *Some: 16X-48X Max⁴ DVD-ROM / single-layer / EIDE*
 CD-RW *Some: 48X/32X/48X Max⁴ CD-RW / EIDE*
 SATA controller Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5
 SATA cables No SATA cables / two SATA connectors on systemboard
 Diskette drive 3.5" 1.44MB diskette drive

Chipset **Intel 865G chipset** / 82865G Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMCSC[®] LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temp sensor

Ports *Front:* two USB (Version 2.0)
Back: six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)

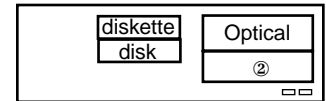
Audio Integrated digital audio / SoundMAX[®] Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec

Audio connectors *Back:* microphone-in (stereo), line-in (stereo), line-out (stereo) [all 3.5mm]
 Speaker One internal speaker for business audio
 Ethernet *Some:* 10/100 ethernet on planar / ICH5 (MAC layer) with Intel 82562 PHY (physical layer) / Intel Pro/100VE Network Connection / 32-bit PCI 2.3 / supports PXE and Wake on LAN[®]
Some: 10/100/1000 gigabit ethernet on planar / Intel 82541EI PHY (physical layer) and MAC / Intel Pro/1000MT Network Connection / 32-bit PCI 2.3 / supports PXE and Wake on LAN

Security chip *Some:* **Embedded Security Subsystem 2.0[®]** / hardware key storage / multi-factor authentication / local file encryption / Atmel[®] chip / TCG-compliant

Keyboard 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black
 Mouse Optical Wheel Mouse (USB only), 400 dpi, black
 Cooling fans Two or three variable speed fans (power supply, fansink, 3.0GHz+ have third fan)
 Power supply 230 watts with variable speed fan / universal / manual switch

Desktop



- Bay ① 5.25", HH 1.6", access, std optical
- Bay ② 5.25", HH 1.6" access, open
- Bay ③ 3.5", SL 1", access, std diskette
- Bay ④ 3.5", SL 1", no access, std disk
- Slot 1: full-length, full-height, 32-bit AGP 8X (1.5v)
- Slot 2: full-length, full-height, 32-bit PCI 2.3 (5v)
- Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)
- Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)
- Business black color; 25.2 liters
- 16.7" W X 16.3" D X 5.5" H
- 425mm W X 414mm D X 140mm H
- 22 to 25 lb (10.0 to 11.4 kg)
- Bay 1 and 2 in cage flips up (latched and pivoting)
- Bay 3 and 4 in cage flips up (latched and pivoting)
- Toolless rails for disk mounting
- Toolless cover removal; toolless AGP and PCI slots

SYSTEMS MANAGEMENT

- PC 2001-compliant
- Advanced Power Management 1.2
- Advanced Configuration and Power Interface (ACPI) 2.0b
- SMBIOS 2.3.1-compliant
- DMI 2.0-compliant
- *Security chip models:* Asset ID™¹⁹ (system-specific info in chip)

SECURITY

- U-bolt anchoring feature (U-bolt is optional; supports optional padlock)
- Security slot (for attachment of optional cable lock)
- Power-on password
- Administrator password
- Boot sequence control
- Diskette boot inhibit
- Boot without keyboard or mouse
- Diskette and disk I/O control
- Serial/parallel I/O control
- *Security chip models:* security chip providing C2 tamper switch, Asset ID¹⁹, keylock on chassis, and other features

Supports ThinkVantage™ technologies

LIMITED WARRANTY¹

- ⇒ 3 year parts and labor
- ⇒ International Warranty Service⁹
- ⇒ Limited onsite service, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time³
- ⇒ Onsite service upgrade options (in eligible locations):⁷
 - 3 year IOR 9x5, 4 hour response (ServicePac[®] part number 41L2734)
 - 3 year IOR 24x7, 4 hour response (ServicePac part number 41L2740)
- ⇒ Other ServicePac options at ibm.com/services/us/its/pdf/wamomxeu.pdf
- ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-3738)

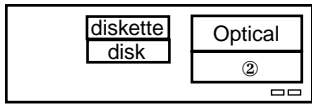
Preload with Windows XP Professional ⁵	Accessories
Microsoft® Windows® XP Professional	800MHz: 128MB PC3200 CL3 NP DDR1 22P9271
- Disk-to-Disk Recovery (in hidden protected area)	800MHz: 256MB PC3200 CL3 NP DDR1 73P2685
	800MHz: 512MB PC3200 CL3 NP DDR1 73P2686
Preloaded (only some listed)	800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272
• Model 38U/49U: contains additional module with a specialized education preload image in the base preload package**	120GB IDE Disk ATA-100 (7200 rpm) 09N4249
• Access IBM	160GB Serial ATA150 Disk (7200 rpm) 09N4254
• Access Support	Multi-Burner Plus [®] (DVD±RW; internal) 73P3370
• Rapid Restore™ Ultra	USB 2.0 Memory Key 512MB 22P9230
• Update Connector™-15	NVIDIA Quadro4 200NVS Dual Head 33L3543
• PC-Doctor™ (diagnostics)	ThinkVision L150 15" Monitor (black) 6636AC1
• Norton AntiVirus (OEM Version)	ThinkVision L170p 17" Monitor (black) 6734HBO
• RecordNow and DLA (CD-RW)	ThinkVision L191p 19" Monitor (black) 9419HB7
• InterVideo WinDVD (DVD models)	ThinkVision C220p 22" (20.0" vis) (black) 673560N
License - CD not included	Other options at lenovo.com/options
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	**Vital Source Technologies™ software used in educational institutions for electronic delivery of a variety of class materials including textbooks, rich media, and an existing library of published works

See footnotes for important warranty information
 US models announced February 10, March 30, or August 17, 2004
 US models withdrawn effective March or June 2005

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	EIDE Memory ⁵	EIDE disk	EIDE optical	Graphics in GMCH	Security chip	Ethernet	Preload	Workhorse Global, Educ	Avail date
M50	8187-14U	4x4	Celeron® D 330	2.66	256KB	533		256MB	40GB ²	CD	Extreme™ 2		Gigabit	XP Pro ⁵	No	Oct 2004
M50	8187-15U	4x4	Celeron D 335	2.80	256KB	533		512MB	40GB	CD	Extreme 2		Gigabit	XP Pro	No	Oct 2004
M50	8187-3DU	4x4	Pentium® 4	2.8A	1MB	533		512MB	40GB	DVD	Extreme 2		Gigabit	XP Pro	No	Oct 2004
M50	8187-3EU	4x4	Pentium 4	2.8A	1MB	533		512MB	40GB	Combo	Extreme 2		Gigabit	XP Pro	Educ	Oct 2004
M50	8187-56U	4x4	Pentium 4	3.2E	1MB	800	HT	512MB	40GB	CD	Extreme 2		Gigabit	XP Pro	No	Oct 2004
M50	8187-57U	4x4	Pentium 4	3.2E	1MB	800	HT	512MB	80GB	Combo	Extreme 2		Gigabit	XP Pro	No	Oct 2004
M50	8187-58U	4x4	Pentium 4	3.2E	1MB	800	HT	512MB	40GB	Combo	Extreme 2		Gigabit	XP Pro	Educ	Oct 2004
M50	8187-63U	4x4	Pentium 4	3.4E	1MB	800	HT	512MB	40GB	CD	Extreme 2		Gigabit	XP Pro	No	Oct 2004
M50	8187-64U	4x4	Pentium 4	3.4E	1MB	800	HT	512MB	80GB	Combo	Extreme 2		Gigabit	XP Pro	No	Oct 2004
M50	8187-4EU	4x4	Pentium 4	3.0E	1MB	800	HT	512MB	40GB	DVD	Extreme 2	Chip	Gigabit	XP Pro	No	Oct 2004
M50	8187-5BU	4x4	Pentium 4	3.2E	1MB	800	HT	512MB	40GB	CD	Extreme 2	Chip	Gigabit	XP Pro	No	Oct 2004
M50	8187-5AU	4x4	Pentium 4	3.2E	1MB	800	HT	512MB	40GB	DVD	Extreme 2	Chip	Gigabit	XP Pro	Global	Oct 2004

Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Celeron D Processor 330 (2.66GHz) or 335 (2.80GHz) with 533MHz system bus or Intel Pentium 4 at 2.8, 3.0, 3.2, or 3.4GHz with 533 or 800MHz bus
Hyper-Threading L2 cache Implementation	<i>Some:</i> Hyper-Threading (HT) technology 256KB or 1MB std and max / ECC / full speed Processor and L2 cache in FC-PGA2 in mPGA478B socket
Memory - std/max ⁵ Memory	256 or 512MB std / 4GB max Four 184-pin gold plated DIMM sockets / one socket used (two used on 5AU); <i>533MHz system bus:</i> PC2700 333MHz DDR1 (CL2.5); 800MHz system bus: PC3200 400MHz DDR1 (CAS latency 3); All: non-parity / industry standard / unbuffered / dual channel capable
Graphics	Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865G GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector
EIDE disk EIDE controller EIDE cables	40 or 80GB , ATA-100, 7200 rpm, rubber vibration dampening mounts Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5) Two EIDE 80-conductor cables (one 2-drop cable to optical, one 1-drop cable to disk) / two EIDE connectors on systemboard <i>Some:</i> 48X-20X ⁴ CD-ROM / EIDE
CD DVD Combo	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE <i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE
SATA controller SATA cables Diskette drive	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5 No SATA cables / two SATA connectors on systemboard 3.5" 1.44MB diskette drive
Chipset	Intel 865G chipset / 82865G Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temp sensor
Ports	<i>Front:</i> two USB (Version 2.0) <i>Back:</i> six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec
Audio connectors	<i>Back:</i> microphone-in (stereo), line-in (stereo), line-out (stereo) [all 3.5mm]
Speaker	One internal speaker for business audio
Ethernet	10/100/1000 gigabit ethernet on planar / Intel 82541Ei PHY (physical layer) and MAC / Intel Pro/1000MT Network Connection / 32-bit PCI 2.3 / supports PXE and Wake on LAN ⁸
Security chip	<i>Some:</i> Embedded Security Subsystem 2.0¹⁹ / hardware key storage / multi-factor authentication / local file encryption / Atmel® chip / TCG-compliant
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black
Cooling fans	Two or three variable speed fans (power supply, fansink, 3.0GHz+ have third fan)
Power supply	230 watts with variable speed fan / universal / manual switch

Desktop



Bay ① 5.25", HH 1.6", access, std optical
Bay ② 5.25", HH 1.6" access, open
Bay ③ 3.5", SL 1", access, std diskette
Bay ④ 3.5", SL 1", no access, std disk

Slot 1: full-length, full-height, 32-bit AGP 8X (1.5v)
Slot 2: full-length, full-height, 32-bit PCI 2.3 (5v)
Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)
Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)

- Business black color; 25.2 liters
- 16.7" W X 16.3"D X 5.5"H
- 425mm W X 414mm D X 140mm H
- 22 to 25 lb (10.0 to 11.4 kg)
- Bay 1 and 2 in cage flips up (latched and pivoting)
- Bay 3 and 4 in cage flips up (latched and pivoting)
- Toolless rails for disk mounting
- Toolless cover removal; toolless AGP and PCI slots

- SYSTEMS MANAGEMENT**
- PC 2001-compliant
 - Advanced Power Management 1.2
 - Advanced Configuration and Power Interface (ACPI) 2.0b
 - SMBIOS 2.3.1-compliant
 - DMI 2.0-compliant
 - *Security chip models:* Asset ID™¹⁹ (system-specific info in chip)

- SECURITY**
- U-bolt anchoring feature (U-bolt is optional; supports optional padlock)
 - Security slot (for attachment of optional cable lock)
 - Power-on password
 - Administrator password
 - Boot sequence control
 - Diskette boot inhibit
 - Boot without keyboard or mouse
 - Diskette and disk I/O control
 - Serial/parallel I/O control
 - *Security chip models:* security chip providing C2 tamper switch, Asset ID¹⁹, keylock on chassis, and other features

Preload with Windows XP Professional⁵ Microsoft® Windows® XP Professional - Disk-to-Disk Recovery (in hidden protected area)	Accessories 533MHz: 128MB PC2700 CL2.5 NP DDR 31P8854 533MHz: 256MB PC2700 CL2.5 NP DDR 31P8855 533MHz: 512MB PC2700 CL2.5 NP DDR 31P8856 533: 1GB PC2700 CL2.5 NP DDR UDIMM 31P8857 800MHz: 128MB PC3200 CL3 NP DDR1 22P9271 800MHz: 256MB PC3200 CL3 NP DDR1 73P2685 800MHz: 512MB PC3200 CL3 NP DDR1 73P2686 800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272 120GB IDE Disk ATA-100 (7200 rpm) 09N4249 160GB Serial ATA150 Disk (7200 rpm) 09N4254 Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370 ThinkVision L170p 17" Monitor (black) 6734HB0 ThinkVision C220p 22" (20.0" vis) (black) 673560N Other options at lenovo.com/options
Preloaded • <i>Models 3EU/58U:</i> contains additional module with a specialized education pre-load image in the base preload package** • Access IBM • Rapid Restore™ Ultra • Update Connector™ ¹⁵ • PC-Doctor™ (diagnostics) • Norton AntiVirus (OEM Version) • RecordNow and DLA (combo models) • InterVideo WinDVD (DVD, combo models)	**Vital Source Technologies™ software used in educational institutions for electronic delivery of a variety of class materials including textbooks, rich media, and an existing library of published works
License - CD not included - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	

- LIMITED WARRANTY¹**
- ↔ **3 year parts and labor**
 - ↔ **International Warranty Service⁹**
 - ↔ **Limited onsite service, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time³**
 - ↔ **Onsite service upgrade options (in eligible locations):⁷**
 - **3 year IOR 9x5, 4 hour response** (ServicePac® part number 41L2734)
 - **3 year IOR 24x7, 4 hour response** (ServicePac part number 41L2740)
 - ↔ **Other ServicePac options at ibm.com/services/us/its/pdf/wamomxeu.pdf**
 - ↔ **24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)**

See footnotes for important warranty information
US models announced September 21, 2004
US models withdrawn effective June 2005

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	EIDE Memory ⁶	EIDE disk	EIDE optical	Graphics	Security chip	Ethernet	Preload	Workhorse Global, Educ	Avail date
M50	8189-14U	4x5	Celeron®	2.6	128KB	400	512MB	40GB ²	CD	Extreme™ 2 GMCH	No	Gigabit XP Pro ⁵	Educ	Feb 2004	
M50	8189-3EU	4x5	Pentium® 4	2.8C	512KB	800	512MB	40GB		Extreme 2 GMCH	No	Gigabit XP Pro	Educ	Mar 2004	
M50	8189-3FU	4x5	Pentium 4	2.8C	512KB	800	512MB	40GB	Combo	Radeon 9600	No	Gigabit XP Pro	Educ	Mar 2004	
M50	8189-37U	4x5	Pentium 4	2.8E	1MB	800	256MB	40GB	CD	Extreme 2 GMCH	No	10/100 XP Pro	No	Feb 2004	
M50	8189-38U	4x5	Pentium 4	2.8E	1MB	800	512MB	40GB	CD	Extreme 2 GMCH	No	Gigabit XP Pro	No	Feb 2004	
M50	8189-46U	4x5	Pentium 4	3.0E	1MB	800	512MB	40GB	CD	Extreme 2 GMCH	No	Gigabit XP Pro	W G	Feb 2004	
M50	8189-47U	4x5	Pentium 4	3.0E	1MB	800	256MB	40GB	CD	Extreme 2 GMCH	No	10/100 XP Pro	No	Feb 2004	
M50	8189-49U	4x5	Pentium 4	3.0E	1MB	800	512MB	40GB	CD-RW	Extreme 2 GMCH	No	Gigabit XP Pro	No	Feb 2004	
M50	8189-4CU	4x5	Pentium 4	3.0E	1MB	800	512MB	40GB	CD	Extreme 2 GMCH	Chip	Gigabit XP Pro	No	Feb 2004	
M50	8189-4EU	4x5	Pentium 4	3.0E	1MB	800	512MB	40GB		Extreme 2 GMCH	No	Gigabit XP Pro	Educ	Feb 2004	
M50	8189-4FU	4x5	Pentium 4	3.0E	1MB	800	512MB	40GB	Combo	Radeon 9600	No	Gigabit XP Pro	Educ	Feb 2004	
M50	8189-56U	4x5	Pentium 4	3.2	512KB	800	512MB	80GB	DVD±RW ⁶	Radeon 9600	No	Gigabit XP Pro	Educ	Feb 2004	
M50	8189-3GU	4x5	Pentium 4	2.8A	1MB	533	512MB	40GB	CD	Extreme 2 GMCH	No	Gigabit XP Pro	No	Aug 2004	
M50	8189-3HU	4x5	Pentium 4	2.8A	1MB	533	256MB	40GB	CD	Extreme 2 GMCH	No	10/100 XP Pro	No	Aug 2004	
M50	8189-4JU	4x5	Pentium 4	3.0E	1MB	800	512MB	40GB	DVD	Extreme 2 GMCH	No	Gigabit XP Pro	No	Aug 2004	

Positioning	<i>Stability and manageability for the enterprise</i>	Tower <ul style="list-style-type: none"> • Business black color; 31.4 liters • 7.5" W X 16.0"D X 16.3"H • 191mm W X 406mm D X 413mm H • 20.0 to 22.5 lb (9.1 to 10.2 kg) • Handle on top front • Disk bay pivots forward • Toolless rails for disk mounting • Toolless cover removal • Toolless AGP and PCI slots 	
Processor	Intel® Celeron at 2.6GHz with 400MHz system bus or Intel Pentium 4 at 2.8, 3.0, or 3.2GHz with 533 or 800MHz bus <i>Some: Hyper-Threading (HT) technology</i>		
Hyper-Threading L2 cache Implementation	<i>Some: Hyper-Threading (HT) technology</i> 128KB, 512KB, or 1MB std and max / ECC / full speed Processor and L2 cache in FC-PGA2 in mPGA478B socket		
Memory - std/max ⁸ Memory	256 or 512MB std / 4GB max Four 184-pin gold plated DIMM sockets / one socket used / PC2700 333MHz DDR1 (DDR-SDRAM) / non-parity / industry std / unbuffered / CAS latency 2.5 (CL2.5) / dual channel capable		
Graphics (one of following)	<ul style="list-style-type: none"> • Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865G GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector • ATI® Radeon 9600 / AGP 8X adapter / Radeon GPU / 128MB std and max 500MHz DDR-SDRAM / 300MHz RAMDAC / three connectors: analog DB-15, digital DVI-I, S-Video out for TV-out / no dual head support 	Bay ① 5.25", HH 1.6", access, std or opt optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", access, std diskette Bay ⑤ 3.5", SL 1", no access, std disk	
EIDE disk	40 or 80GB , ATA-100, 7200 rpm, rubber vibration dampening mounts	Slot 1: 3/4-length, full-height, 32-bit AGP 8X (1.5v)-used	
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5)	Slot 2: 3/4-length, full-height, 32-bit PCI 2.3 (5v) in	
EIDE cables	Two EIDE 80-conductor cables (one 2-drop cable to optical, one 2-drop to disk) / two EIDE connectors on systemboard <i>Some: 48X-20X⁴ CD-ROM / EIDE</i>	Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v) some	
CD	<i>Some: 48X-20X⁴ CD-ROM / EIDE</i>	Slot 4: 3/4-length, full-height, 32-bit PCI 2.3 (5v)	
DVD	<i>Some: 16X-48X Max⁴ DVD-ROM / single-layer / EIDE</i>		
CD-RW	<i>Some: 48X/32X/48X Max⁴ CD-RW / EIDE</i>		
Combo	<i>Some: 48X/24X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo / EIDE</i>		
DVD±RW	<i>Some: DVD and CD burner / Multi-Burner Plus / writes DVD-RAM, DVD-R, DVD-RW, DVD+R, DVD+RW, CD-R, CD-RW / reads many DVD and CD formats / EIDE</i>		
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5		
SATA cables	No SATA cables / two SATA connectors on systemboard		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 865G chipset / 82865G Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temp sensor		
Ports	<i>Front:</i> two USB (Version 2.0) <i>Back:</i> six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec		
Audio connectors	<i>Back:</i> microphone-in (stereo), line-in (stereo), line-out (stereo) [all 3.5mm]		
Speaker	One internal speaker for business audio		
Ethernet	<i>Some:</i> 10/100 ethernet on planar / ICH5 (MAC layer) with Intel 82562 PHY (physical layer) / Intel Pro/100VE Network Connection / 32-bit PCI 2.3 <i>Some:</i> 10/100/1000 gigabit ethernet on planar / Intel 82541EI PHY (physical layer) and MAC / Intel Pro/1000MT Network Connection / 32-bit PCI 2.3		
Security chip	<i>Some: Embedded Security Subsystem 2.0¹⁸ / hardware key storage / multi-factor authentication / local file encryption / Atmel® chip / TCG-compliant</i>		
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Cooling fans	Two or three variable speed fans (power supply, fansink, 3.0GHz+ have third fan)		
Power supply	230 watts with variable speed fan / universal / manual switch		
Preload with Windows XP Professional⁵	Microsoft® Windows® XP Professional		
Preloaded (only some listed)	<ul style="list-style-type: none"> • <i>Some:</i> contains additional module with a specialized education preload image in the base preload package** • InterVideo WinDVD (combo model) • RecordNow and DLA (CD-RW, combo) • InterVideo WinDVD Creator (DVD, DVD±RW) • Simple Backup (for DVD±RW) 		
Accessories	800MHz: 128MB PC3200 CL3 NP DDR1 22P9271 800MHz: 256MB PC3200 CL3 NP DDR1 73P2685 800MHz: 512MB PC3200 CL3 NP DDR1 73P2686 800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272 Other options at lenovo.com/options		
	**Vital Source Technologies™ software used in educational institutions for electronic delivery of a variety of class materials including textbooks, rich media, and an existing library of published works		
			SYSTEMS MANAGEMENT <ul style="list-style-type: none"> • PC 2001-compliant • Advanced Power Management 1.2 • Advanced Configuration and Power Interface (ACPI) 2.0b • SMBIOS 2.3.1-compliant • DMI 2.0-compliant
			SECURITY <ul style="list-style-type: none"> • U-bolt anchoring feature (U-bolt is optional; supports optional padlock) • Security slot (for attachment of optional cable lock) • Power-on password • Administrator password • Boot sequence control • Diskette boot inhibit • Boot without keyboard or mouse • Diskette and disk I/O control • Serial/parallel I/O control • <i>Security chip models:</i> security chip providing C2 tamper switch, Asset ID¹⁹, keylock on chassis, and other features
			LIMITED WARRANTY¹ <ul style="list-style-type: none"> ↔ 3 year parts and labor ↔ International Warranty Service⁹ ↔ Limited onsite service, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time³ ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 4 year IOR 9x5, Next Business Day (ServicePac® part number 69P9161) • 4 year IOR 9x5, 4 hour response (ServicePac part number 69P9162) ↔ Other ServicePac options at ibm.com/services/us/its/pdf/wamomxeu.pdf ↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹

See footnotes for important warranty information
 US models announced February 10, March 30, or August 17, 2004
 US models withdrawn effective August 2004, March 2005, or June 2005

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	Memory*	EIDE disk	EIDE optical	Graphics in GMCH	Security chip	Ethernet	Preload	Workhorse Global, Educ	Avail date
M50	8189-15U	4x5	Celeron® D 330	2.66	256KB	533		256MB	40GB ²	CD	Extreme™ 2	No	Gigabit XP Pro ⁵	No	Oct 2004	
M50	8189-16U	4x5	Celeron D 335	2.80	256KB	533		512MB	40GB	CD	Extreme 2	No	Gigabit XP Pro	No	Oct 2004	
M50	8189-17U	4x5	Celeron D 335	2.80	256KB	533		512MB	40GB	CD	Extreme 2	No	Gigabit XP Pro	Educ	Oct 2004	
M50	8189-3JU	4x5	Pentium® 4	2.8A	1MB	533		512MB	40GB	DVD	Extreme 2	No	Gigabit XP Pro	No	Oct 2004	
M50	8189-3KU	4x5	Pentium 4	2.8A	1MB	533		512MB	40GB	Combo	Extreme 2	No	Gigabit XP Pro	No	Oct 2004	
M50	8189-58U	4x5	Pentium 4	3.2E	1MB	800	HT	512MB	40GB	CD	Extreme 2	No	Gigabit XP Pro	No	Oct 2004	
M50	8189-59U	4x5	Pentium 4	3.2E	1MB	800	HT	512MB	80GB	Combo	Extreme 2	No	Gigabit XP Pro	No	Oct 2004	
M50	8189-5AU	4x5	Pentium 4	3.2E	1MB	800	HT	512MB	40GB	Combo	Extreme 2	No	Gigabit XP Pro	Educ	Oct 2004	
M50	8189-63U	4x5	Pentium 4	3.4E	1MB	800	HT	512MB	40GB	CD	Extreme 2	No	Gigabit XP Pro	No	Oct 2004	
M50	8189-64U	4x5	Pentium 4	3.4E	1MB	800	HT	512MB	80GB	Combo	Extreme 2	No	Gigabit XP Pro	No	Oct 2004	
M50	8189-4MU	4x5	Pentium 4	3.0E	1MB	800	HT	512MB	40GB	DVD	Extreme 2	Chip	Gigabit XP Pro	No	Oct 2004	
M50	8189-5BU	4x5	Pentium 4	3.2E	1MB	800	HT	512MB	40GB	DVD	Extreme 2	Chip	Gigabit XP Pro	Global	Oct 2004	
M50	8189-5CU	4x5	Pentium 4	3.2E	1MB	800	HT	512MB	40GB	CD	Extreme 2	Chip	Gigabit XP Pro	No	Oct 2004	

Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Celeron D Processor 330 (2.66GHz) or 335 (2.80GHz) with 533MHz system bus or Intel Pentium 4 at 2.8, 3.0, 3.2, or 3.4GHz with 533 or 800MHz bus	Tower <ul style="list-style-type: none"> Business black color; 31.4 liters 7.5" W X 16.0"D X 16.3"H 191mm W X 406mm D X 413mm H 20.0 to 22.5 lb (9.1 to 10.2 kg) Handle on top front Disk bay pivots forward Toolless rails for disk mounting Toolless cover removal Toolless AGP and PCI slots 
Hyper-Threading L2 cache Implementation	<i>Some:</i> Hyper-Threading (HT) technology 256KB or 1MB std and max / ECC / full speed Processor and L2 cache in FC-PGA2 in mPGA478B socket	
Memory - std/max ² Memory	256 or 512MB std / 4GB max Four 184-pin gold plated DIMM sockets / one socket used (two used on 5BU); <i>533MHz system bus:</i> PC2700 333MHz DDR1 (CL2.5); <i>800MHz system bus:</i> PC3200 400MHz DDR1 (CAS latency 3); <i>All:</i> non-parity / industry standard / unbuffered / dual channel capable	<ul style="list-style-type: none"> Bay ① 5.25", HH 1.6", access, std or opt optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", access, std diskette Bay ⑤ 3.5", SL 1", no access, std disk Slot 1: 3/4-length, full-height, 32-bit AGP 8X (1.5v) Slot 2: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: 3/4-length, full-height, 32-bit PCI 2.3 (5v)
Graphics	Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865G GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector	
EIDE disk	40 or 80GB , ATA-100, 7200 rpm, rubber vibration dampening mounts	SYSTEMS MANAGEMENT <ul style="list-style-type: none"> PC 2001-compliant Advanced Power Management 1.2 Advanced Configuration and Power Interface (ACPI) 2.0b SMBIOS 2.3.1-compliant DMI 2.0-compliant
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5)	
EIDE cables	Two EIDE 80-conductor cables (one 2-drop cable to optical, one 2-drop to disk) / two EIDE connectors on systemboard	
CD	<i>Some:</i> 48X-20X ⁴ CD-ROM / EIDE	
DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE	
Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-Combo / EIDE	
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5	
SATA cables	No SATA cables / two SATA connectors on systemboard	
Diskette drive	3.5" 1.44MB diskette drive	
Chipset	Intel 865G chipset / 82865G Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temp sensor	
Ports	<i>Front:</i> two USB (Version 2.0) <i>Back:</i> six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	SECURITY <ul style="list-style-type: none"> U-bolt anchoring feature (U-bolt is optional; supports optional padlock) Security slot (for attachment of optional cable lock) Power-on password Administrator password Boot sequence control Diskette boot inhibit Boot without keyboard or mouse Diskette and disk I/O control Serial/parallel I/O control <i>Security chip models:</i> security chip providing C2 tamper switch, Asset ID¹⁹, keylock on chassis, and other features
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec	
Audio connectors	<i>Back:</i> microphone-in (stereo), line-in (stereo), line-out (stereo) [all 3.5mm]	
Speaker	One internal speaker for business audio	
Ethernet	10/100/1000 gigabit ethernet on planar / Intel 82541EI PHY (physical layer) and MAC / Intel Pro/1000MT Network Connection / 32-bit PCI 2.3 / Wake on LAN®	
Security chip	<i>Some:</i> Embedded Security Subsystem 2.0¹⁸ / hardware key storage / multi-factor authentication / local file encryption / Atmel® chip / TCG-compliant	
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black	LIMITED WARRANTY¹ <ul style="list-style-type: none"> 3 year parts and labor International Warranty Service⁹ Limited onsite service, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time³ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 4 year IOR 9x5, Next Business Day (ServicePac® part number 69P9161) 4 year IOR 9x5, 4 hour response (ServicePac part number 69P9162) Other ServicePac options at ibm.com/services/us/its/pdf/wamomxeu.pdf 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-3738)
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black	
Cooling fans	Two or three variable speed fans (power supply, fansink, 3.0GHz+ have third fan)	
Power supply	230 watts with variable speed fan / universal / manual switch	
Preload with Windows XP Professional⁵	Accessories	
Microsoft® Windows® XP Professional	533MHz: 256MB PC2700 CL2.5 NP DDR 31P8855	
- Disk-to-Disk Recovery (in hidden protected area)	533MHz: 512MB PC2700 CL2.5 NP DDR 31P8856	
Preloaded	533: 1GB PC2700 CL2.5 NP DDR UDIMM 31P8857	
• Models 17U/5AU: contains additional module with a specialized education preload image in the base preload package**	800MHz: 256MB PC3200 CL3 NP DDR1 73P2685	
• Access IBM	800MHz: 512MB PC3200 CL3 NP DDR1 73P2686	
• Rapid Restore™ Ultra	800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272	
• Update Connector™.15	120GB IDE Disk ATA-100 (7200 rpm) 09N4249	
• PC-Doctor™ (diagnostics)	160GB Serial ATA150 Disk (7200 rpm) 09N4254	
• Norton AntiVirus (OEM Version)	Multi-Burner Plus® (DVD±RW; internal) 73P3370	
• RecordNow and DLA (combo models)	USB 2.0 Memory Key 512MB 22P9230	
• InterVideo WinDVD (DVD, combo models)	NVIDIA Quadro4 200NVS Dual Head 33L3543	
License - CD not included	ThinkVision L170p 17" Monitor (black) 6734HB0	
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	Other options at lenovo.com/options	
	**Vital Source Technologies™ software used in educational institutions for electronic delivery of a variety of class materials including textbooks, rich media, and an existing library of published works	

See footnotes for important warranty information
US models announced September 21, 2004
US models withdrawn effective June 2005

ThinkCentre® M51 (8141) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	Memory ⁸	SATA disk	EIDE optical	Graphics	Security chip	Cover switch	Preload	Workhorse Global, Educ	Avail date
M51	8141-11U	4x4	Pentium® 4 520	2.8 1MB	800	HT	512MB	40GB ²	CD	GMA 900 GMCH	Sec	No	XP Pro ⁵	No	Aug 2004
M51	8141-23U	4x4	Pentium 4 530	3.0 1MB	800	HT	512MB	40GB	CD	GMA 900 GMCH	Sec	No	XP Pro	No	Aug 2004
M51	8141-31U	4x4	Pentium 4 540	3.2 1MB	800	HT	512MB	40GB	CD	GMA 900 GMCH	Sec	No	XP Pro	W G	Aug 2004
M51	8141-32U	4x4	Pentium 4 540	3.2 1MB	800	HT	512MB	40GB	CD	GMA 900 GMCH	Sec	Yes	XP Pro	No	Aug 2004

Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Pentium 4 Processor 520 (2.8GHz), 530 (3.0GHz), or 540 (3.2GHz) with 800MHz system bus	Desktop	
Hyper-Threading L2 cache Implementation	Hyper-Threading (HT) technology 1MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket		
Memory std/max ⁸ Memory	512MB std / 4GB max Four 184-pin gold plated DIMM sockets / two sockets used (256MB DIMM in each socket / PC3200 400MHz DDR1 / CAS latency 3 (CL3) / non-parity / ind standard / unbuffered / dual channel capable	Bay ① 3.5", SL 1", access, std diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 5.25", HH 1.6" access, open Bay ④ 3.5", SL 1", no access, std disk Slot 1: full-length, full-height, PCI Express x16 Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)	
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector	<ul style="list-style-type: none"> • Business black color • Supports up to 100 lb monitor on top of metal cover • 17.4" W X 15.7"D X 5.5"H • 442mm W X 400mm D X 140mm H • 24 to 31 lb (11 to 14 kg) • Bay 1, 2, 3, and 4 in cage flips up (latched and pivoting) • Toolless install and removal of disk, optical, diskette • Toolless install and removal of cover • Toolless install and remove of adapter cards 	
SATA disk	40GB / SATA150 7200 rpm / vibration dampening mounts	SYSTEMS MANAGEMENT <ul style="list-style-type: none"> • PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0b • SMBIOS 2.3.4-compliant • DMI 2.0-compliant • Asset ID¹⁹ (system specific info in chip accessed over network) 	
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6		
SATA cables	One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard	SECURITY <ul style="list-style-type: none"> • Security chip (see information on left) • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington Microsaver cable) - No keylock • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement • Some: cover intrusion switch 	
EIDE CD	48X-20X ⁴ CD-ROM / EIDE		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)	LIMITED WARRANTY¹ <ul style="list-style-type: none"> ⇒ 3 year parts and labor ⇒ International Warranty Service⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3 year LOR 9x5, Next Business Day (ThinkPlus™ part number 41C9197) • 3 year LOR 9x5, 4 hour response (ThinkPlus part number 41C9192) • 3 year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) ⇒ Other ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 	
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on systemboard		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 915G Express Chipset / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log		
Ports	<i>Front:</i> two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] <i>Back:</i> six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / AD11981B codec		
Audio connectors	<i>Back:</i> line-in (stereo), line-out (stereo) [both 3.5mm]		
Speaker	One internal speaker for business audio		
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3 / full duplex / Wake on LAN® / ACPI 1.1 / PXE 2.0 and RPL remote boot		
Security chip	Embedded Security Subsystem 2.0¹⁸ / hardware key storage / multi-factor authentication / local file encryption / in NS PC8375T chip / TCG-compliant		
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Cooling fans	Two variable speed fans (front and power supply)		
Power supply	310 watts with variable speed fan / universal / manual switch / two diagnostic LEDs		
Preload with Windows XP Professional⁵	Microsoft® Windows® XP Professional	Accessories	
- Disk-to-Disk Recovery (in hidden protected area)		128MB PC3200 CL3 NP DDR1 UDIMM	22P9271
Preloaded		256MB PC3200 CL3 NP DDR1 UDIMM	73P2685
• Access Program		512MB PC3200 CL3 NP DDR1 UDIMM	73P2686
• Rescue and Recovery™		1GB PC3200 CL3 NP DDR1 UDIMM	22P9272
• Update Connector™ ¹⁵		80GB Serial ATA150 Disk (7200 rpm)	09N4253
• Adobe Reader		160GB Serial ATA150 Disk (7200 rpm)	09N4254
• Norton AntiVirus (OEM version)		48X/32X/48X Max ⁴ CD-RW internal (black)	22P7042
• PC-Doctor™ (diagnostics)		Multi-Burner Plus ⁶ (DVD±RW; internal)	73P3370
Downloadable		USB Fingerprint Reader	73P4774
• Client Security Software		USB 2.0 Portable Multi-Burner Drive	22P9163
• Software Delivery Assistant		USB 2.0 Portable 80GB Hard Disk	40Y8726
• System Migration Assistant		USB 2.0 Memory Key 1GB	40Y7421
• IBM Director Agent		ThinkVision® L151 15" Monitor (black)	9205AB2
License - CD not included		ThinkVision L151p 15" Monitor (black)	9205HB2
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client		ThinkVision L171 17" Monitor (black)	9417AB1
		ThinkVision L171p 17" Monitor (black)	9417HB7
		ThinkVision L191p 19" Monitor (black)	9419HB7
		ThinkVision L200p 20.1" Monitor (black)	6736HC9
		ThinkVision C170 17" (16.0" vis) (black)	6737P6N
		ThinkVision C190 19" (18.0" vis) (black)	6739PON
		DVI-I PCIe Connection Graphic Adapter	73P2516
		NVIDIA® GeForce 6200 64MB Dual Head	73P2517
		ATI® RADEON® X700 128MB Dual Head	73P2518
		Kensington® MicroSaver® Desktop Lock	06P3839
		Enhanced Performance USB Keyboard	73P2620
		Enh Perf Wireless Keyboard and Mouse	73P4067
		Preferred Pro USB Fingerprint Keyboard	73P4730
		Other options at lenovo.com/options	

See footnotes for important warranty information
US models announced August 3, 2004
US models withdrawn effective August or December 2005

Name	Type-model	Slot x bay	Processor	L2 GHz	Bus cache	Hyper-MHz	Thread	Memory ⁸	SATA disk	EIDE optical	Graphics	Security chip	Cover switch	Preload	Workhorse Global, Educ	Avail date
M51	8141-A1U	4x4	Celeron® 330	2.66	256K	533		256MB	40GB ²	CD	GMA 900	Sec	No	XP Pro ⁵	No	Nov 2004
M51	8141-A2U	4x4	Celeron 335	2.80	256K	533		256MB	40GB	CD	GMA 900	Sec	No	XP Pro	No	Nov 2004
M51	8141-12U	4x4	Pentium® 4 515	2.93	1MB	533		256MB	40GB	CD	GMA 900	Sec	Yes	XP Pro	No	Jan 2005
M51	8141-14U	4x4	Pentium 4 515	2.93	1MB	533		512MB	40GB	CD	GMA 900	Sec	No	XP Pro	No	Jan 2005
M51	8141-15U	4x4	Pentium 4 515	2.93	1MB	533		512MB	40GB	CD-RW	GMA 900	Sec	No	XP Pro	No	Jan 2005
M51	8141-26U	4x4	Pentium 4 530	3.0	1MB	800	HT	512MB	40GB	DVD	GMA 900	Sec	No	XP Pro	No	Nov 2004
M51	8141-28U	4x4	Pentium 4 530	3.0	1MB	800	HT	512MB	80GB	Combo	GMA 900	Sec	No	XP Pro	No	Nov 2004
M51	8141-29U	4x4	Pentium 4 530	3.0	1MB	800	HT	512MB	80GB	Combo	X300 SE 64MB	Sec	No	XP Pro	No	Nov 2004
M51	8141-36U	4x4	Pentium 4 540	3.2	1MB	800	HT	512MB	40GB	CD	GMA 900	Sec	No	XP Pro	Educ	Nov 2004
M51	8141-37U	4x4	Pentium 4 540	3.2	1MB	800	HT	512MB	80GB	DVD	GMA 900	Sec	Yes	XP Pro	W G	Nov 2004
M51	8141-39U	4x4	Pentium 4 540	3.2	1MB	800	HT	512MB	80GB	Combo	X300 SE 64MB	Sec	No	XP Pro	No	Nov 2004
M51	8141-3AU	4x4	Pentium 4 540	3.2	1MB	800	HT	512MB	80GB	Combo	GMA 900	Sec	No	XP Pro	No	Nov 2004

Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Celeron Processor 330 (2.66GHz) or 335 (2.80GHz) with 533 system bus or Intel Pentium 4 Processor 515 (2.93GHz), 530 (3.0GHz), or 540 (3.2GHz) with 533 or 800MHz system bus										Desktop					
Hyper-Threading L2 cache	Some: Hyper-Threading (HT) technology 256KB or 1MB std and max / ECC / full speed															
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket										Bay ① 3.5", SL 1", access, std diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 5.25", HH 1.6" access, open Bay ④ 3.5", SL 1", no access, std disk Slot 1: full-length, full-height, PCI Express x16 - used in Slot 2: half-length, full-height, PCI Express x1 some Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)					
Memory std/max ⁸	256 or 512MB std / 4GB max										• Business black color • Supports up to 100 lb monitor on top of metal cover • 17.4" W X 15.7"D X 5.5"H • 442mm W X 400mm D X 140mm H • 24 to 31 lb (11 to 14 kg) • Bay 1, 2, 3, and 4 in cage flips up (latched and pivoting) • Toolless install and removal of disk, optical, diskette • Toolless install and removal of cover • Toolless install and remove of adapter cards					
Memory	Four 184-pin gold plated DIMM sockets / one or two sockets used (256MB DIMM in each socket) / PC3200 400MHz DDR1 / CAS latency 3 (CL3) / non-parity / ind standard / unbuffered / dual channel capable															
Graphics (one of following)	• Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector • ATI® RADEON® X300 SE / PCI Express x16 adapter / 64MB 400MHz DDR1 / 400MHz RAMDAC / two 15-pin analog D-sub connectors / dual head support															
SATA disk	40, 80, or 160GB / SATA150 7200 rpm / vibration dampening mounts															
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6															
SATA cables	One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard															
EIDE CD or DVD	Some: 48X-20X ⁴ CD-ROM / EIDE; Some: 16X-48X Max ⁴ DVD-ROM / EIDE															
EIDE CD-RW	Some: 48X/32X/48X Max ⁴ CD-RW / EIDE															
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE															
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)															
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on planar															
Diskette drive	3.5" 1.44MB diskette drive															
Chipset	Intel 915G Express Chipset / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, mouse, auto-thermal controls, hardware event log										SYSTEMS MANAGEMENT					
Ports	Front: two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] Back: six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0b • SMBIOS 2.3.4-compliant • DMI 2.0-compliant • Asset ID ¹⁹ (system specific info in chip accessed over network)					
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1981B codec										SECURITY					
Audio connectors	Back: line-in (stereo), line-out (stereo) [both 3.5mm]										• Security chip (see information on left) • One lock to secure both cover and entire system to fixed object: - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington Microsaver cable) - No keylock • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement • Some: cover intrusion switch					
Speaker	One internal speaker for business audio															
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3															
Security chip	Embedded Security Subsystem 2.0 ¹⁸ / hardware key storage / TCG-compliant															
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black															
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black															
Cooling fans	Two variable speed fans (front and power supply)															
Power supply	310 watts with variable speed fan / universal / manual switch / two diagnostic LEDs															
Preload with Windows XP Professional⁵	Accessories															
Microsoft® Windows® XP Professional with Service Pack 2	128MB PC3200 CL3 NP DDR1 UDIMM										22P9271					
- Disk-to-Disk Recovery (in hidden protected area)	256MB PC3200 CL3 NP DDR1 UDIMM										73P2685					
	512MB PC3200 CL3 NP DDR1 UDIMM										73P2686					
	1GB PC3200 CL3 NP DDR1 UDIMM										22P9272					
	160GB Serial ATA150 Disk (7200 rpm)										09N4254					
	Multi-Burner Plus ⁶ (DVD±RW; internal)										73P3370					
	USB 2.0 Portable Multi-Burner Drive										22P9163					
	USB 2.0 Memory Key 1GB										40Y7421					
	ThinkVision® L171p 17" Monitor (black)										9417HB7					
	ThinkVision L191p 19" Monitor (black)										9419HB7					
	ThinkVision C190 19" (18.0" vis) (black)										6739PON					
	Kensington® MicroSaver® Desktop Lock										06P3839					
	Enh Perf Wireless Keyboard and Mouse										73P4067					
	Other options at lenovo.com/options															
	Preloaded (only some listed)										LIMITED WARRANTY¹					
	• Some: contains additional module with a specialized education preload image in the base preload package										⇨ 3 year parts and labor ⇨ International Warranty Service⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)					
	• Access Program															
	• Rescue and Recovery™															
	• Update Connector™ ¹⁵															
	• Norton AntiVirus (OEM version)															
	• PC-Doctor™ (diagnostics)															

See footnotes for important warranty information
US models announced November 16, 2004
US models withdrawn effective June, August, or December 2005

ThinkCentre® M51 (8141) - February 2005 - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	EM64T	Memory ⁶	SATA disk	EIDE optical	Security Graphics chip	Cover switch	Key-board	Workhorse Preload	Avail Global, Educ	
M51	8141-A4U	4x4	Celeron® 345J	3.06	256K	533		512MB	40GB ²	CD	GMA 900	Sec No	Pref	XP Pro ⁵	No Feb 05	
M51	8141-4JU	4x4	Pentium® 4 550	3.40	1MB	800	HT	512MB	80GB	DVD	GMA 900	Sec No	Pref	XP Pro	No Feb 05	
M51	8141-4KU	4x4	Pentium 4 550	3.40	1MB	800	HT	512MB	80GB	Combo	GMA 900	Sec No	Pref	XP Pro	No Feb 05	
M51	8141-4LU	4x4	Pentium 4 550	3.40	1MB	800	HT	512MB	80GB	Combo	X300 SE	Sec No	Pref	XP Pro	No Feb 05	
M51	8141-4MU	4x4	Pentium 4 550	3.40	1MB	800	HT	512MB	40GB	CD	GMA 900	Sec No	Pref	XP Pro	No Feb 05	
M51	8141-B9U	4x4	Pentium 4 630	3.00	2MB	800	HT	EM64T	512MB	80GB	CD	GMA 900	Sec Yes	Pref	XP Pro	No Feb 05
M51	8141-D9U	4x4	Pentium 4 640	3.20	2MB	800	HT	EM64T	512MB	80GB	Combo	GMA 900	Sec Yes	Pref	XP Pro	No Feb 05
M51	8141-2AU	4x4	Pentium 4 530	3.00	1MB	800	HT	512MB	80GB	CD	GMA 900	Sec Yes	Finger	XP Pro	No May 05	
M51	8141-2CU	4x4	Pentium 4 530	3.00	1MB	800	HT	512MB	80GB	Combo	GMA 900	Sec No	Pref	XP Pro	Educ May 05	
M51	8141-3CU	4x4	Pentium 4 540	3.20	1MB	800	HT	512MB	80GB	CD	GMA 900	Sec Yes	Finger	XP Pro	No May 05	

Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Celeron Processor 345J (3.06GHz) with Execute Disable Bit and 533 system bus or Intel Pentium 4 Processor 530 (3.00GHz), 540 (3.40GHz), 550 (3.40GHz), 630 (3.00GHz), or 640 (3.2GHz) with 800MHz bus <i>Pentium 4 6xx: Extended Memory 64 Technology, Execute Disable Bit</i> <i>Some: Hyper-Threading (HT) Technology</i>		Desktop
Proc features	L2 cache 256KB, 1MB, or 2MB std and max / ECC / full speed Implementation Processor and L2 cache in FC-LGA4 in LGA775 socket		 <p>Bay ① 3.5", SL 1", access, std diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 5.25", HH 1.6" access, open Bay ④ 3.5", SL 1", no access, std disk</p> <p>Slot 1: full-length, full-height, PCI Express x16 - used in Slot 2: half-length, full-height, PCI Express x1 some Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)</p> <ul style="list-style-type: none"> Business black color Supports up to 100 lb monitor on top of metal cover 17.4" W X 15.7"D X 5.5"H 442mm W X 400mm D X 140mm H 24 to 31 lb (11 to 14 kg) Bay 1, 2, 3, and 4 in cage flips up (latched and pivoting) Toolless install and removal of disk, optical, diskette Toolless install and removal of cover Toolless install and removal of adapter cards
Memory std/max ⁸	512MB std / 4GB max Four 184-pin gold plated DIMM sockets / <i>some: two sockets used (256MB DIMM in each socket); models 2AU/3CU: one socket used / PC3200 400MHz DDR1 / CAS latency 3 (CL3) / non-parity / ind standard / unbuffered / dual-channel capable</i>		
Graphics (one of following)	<ul style="list-style-type: none"> Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector ATI® RADEON® X300 SE / PCI Express x16 adapter / 64MB 400MHz DDR1 / 400MHz RAMDAC / two 15-pin analog D-sub connectors / dual head support 		
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts		
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6		
SATA cables	One SATA cable (one 1-drop to disk) / 4 SATA connectors on planar		
EIDE CD	<i>Some: 48X-20X⁴ CD-ROM / EIDE</i>		
EIDE DVD	<i>Some: 16X-48X Max⁴ DVD-ROM / single-layer / EIDE</i>		
EIDE Combo	<i>Some: 48X/32X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo / EIDE</i>		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)		
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on planar		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 915G Express Chipset / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log		
Ports	<i>Front:</i> two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] <i>Back:</i> six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1981B codec		
Audio connectors	<i>Back:</i> line-in (stereo), line-out (stereo) [both 3.5mm]		
Speaker	One internal speaker for business audio		
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3		
Security chip	Embedded Security Subsystem 2.0¹⁸ / in NS PC8375T chip / TCG-compliant		
Keyboard (one of following)	[Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black [Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Cooling fans	Two variable speed fans (front and power supply)		
Power supply	310 watts with variable speed fan / universal / manual switch / two diagnostic LEDs		

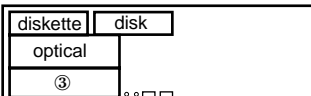
Preload with Windows XP Professional⁵	Accessories
Microsoft® Windows® XP Professional with Service Pack 2	800MHz: 128MB PC3200 CL3 NP DDR1 22P9271
- Disk-to-Disk Recovery (in hidden protected area)	800MHz: 256MB PC3200 CL3 NP DDR1 73P2685
	800MHz: 512MB PC3200 CL3 NP DDR1 73P2686
	800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272
	160GB Serial ATA300 Disk (7200 rpm) 09N4254
Preloaded	Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370
• <i>Some: contains additional module with a specialized education preload image in the base preload package</i>	USB 2.0 Memory Key 1GB 40Y7421
• Access Program	ThinkVision® L151 15" Monitor (black) 9205AB6
• Rescue and Recovery™	ThinkVision L171p 17" Monitor (black) 9417HB2
• Update Connector™ ¹⁵	ThinkVision L192p 19" Monitor (black) 9419HB2
• Adobe Reader	ThinkVision L201p 20.1" Monitor (black) 9320HB1
• Norton AntiVirus (OEM version)	ThinkVision C190 19" (18.0" vis) (black) 6739P0N
• PC-Doctor™ (diagnostics)	Kensington® MicroSaver® Desktop Lock 06P3839
• RecordNow and DLA (combo)	Enh Perf Wireless Keyboard and Mouse 73P4067
• InterVideo WinDVD (combo, DVD)	ATI® RADEON® X300 SE 128MB Dual Head 40Y8405
	Other options at lenovo.com/options
Supports ThinkVantage™ technologies; visit thinkcentre.com/thinkvantage	
LIMITED WARRANTY¹	
<ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ 24x⁷⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 	

See footnotes for important warranty information
US models announced February 22 or April 19, 2005
US models withdrawn effective August 2005, December 2005, or May 2006

ThinkCentre® M51 (8141) - July 2005 - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	EM64T	Memory [®]	SATA disk	EIDE optical	Security Graphics chip	Cover switch	Key-board	Workhorse Preload	Avail Global, Educ	date
M51	8141-A7U	4x4	Celeron® D 331	2.66	256K	533	EM64T	256MB	40GB ²	CD	GMA 900	Sec No	Pref	XP Pro ⁵	No	July 05
M51	8141-A8U	4x4	Celeron D 336	2.80	256K	533	EM64T	256MB	40GB	CD	GMA 900	Sec No	Pref	XP Pro	No	July 05
M51	8141-AAU	4x4	Celeron D 346	3.06	256K	533	EM64T	512MB	40GB	CD	GMA 900	Sec No	Pref	XP Pro	No	July 05
M51	8141-1BU	4x4	Pentium® 4 516	2.93	1MB	533	EM64T	256MB	40GB	CD	GMA 900	Sec Yes	Pref	XP Pro	No	July 05
M51	8141-1CU	4x4	Pentium 4 516	2.93	1MB	533	EM64T	512MB	40GB	CD	GMA 900	Sec No	Pref	XP Pro	No	July 05
M51	8141-1DU	4x4	Pentium 4 516	2.93	1MB	533	EM64T	512MB	40GB	CD-RW	GMA 900	Sec No	Pref	XP Pro	No	July 05
M51	8141-19U	4x4	Pentium 4 521	2.8	1MB	800 HT	EM64T	512MB	40GB	CD	GMA 900	Sec No	Pref	XP Pro	No	July 05
M51	8141-2EU	4x4	Pentium 4 531	3.0	1MB	800 HT	EM64T	512MB	40GB	CD	GMA 900	Sec No	Pref	XP Pro	No	July 05
M51	8141-2FU	4x4	Pentium 4 531	3.0	1MB	800 HT	EM64T	512MB	40GB	DVD	GMA 900	Sec No	Pref	XP Pro	Global	July 05
M51	8141-2HU	4x4	Pentium 4 531	3.0	1MB	800 HT	EM64T	512MB	80GB	Combo	GMA 900	Sec No	Pref	XP Pro	Educ	July 05
M51	8141-2JU	4x4	Pentium 4 531	3.0	1MB	800 HT	EM64T	512MB	80GB	Combo	GMA 900	Sec No	Pref	XP Pro	No	July 05
M51	8141-2KU	4x4	Pentium 4 531	3.0	1MB	800 HT	EM64T	512MB	80GB	Combo	X300 SE	Sec No	Pref	XP Pro	No	July 05
M51	8141-2MU	4x4	Pentium 4 531	3.0	1MB	800 HT	EM64T	512MB	80GB	CD	GMA 900	Sec Yes	Pref	XP Pro	No	July 05
M51	8141-3FU	4x4	Pentium 4 541	3.2	1MB	800 HT	EM64T	512MB	40GB	CD	GMA 900	Sec No	Pref	XP Pro	Global	July 05
M51	8141-3GU	4x4	Pentium 4 541	3.2	1MB	800 HT	EM64T	512MB	40GB	CD	GMA 900	Sec No	Pref	XP Pro	No	July 05
M51	8141-3HU	4x4	Pentium 4 541	3.2	1MB	800 HT	EM64T	512MB	40GB	CD	GMA 900	Sec Yes	Pref	XP Pro	No	July 05
M51	8141-3KU	4x4	Pentium 4 541	3.2	1MB	800 HT	EM64T	512MB	80GB	Combo	GMA 900	Sec No	Pref	XP Pro	No	July 05
M51	8141-3LU	4x4	Pentium 4 541	3.2	1MB	800 HT	EM64T	512MB	80GB	Combo	X300 SE	Sec No	Pref	XP Pro	No	July 05
M51	8141-3NU	4x4	Pentium 4 541	3.2	1MB	800 HT	EM64T	512MB	80GB	DVD	GMA 900	Sec Yes	Pref	XP Pro	Global	July 05
M51	8141-3PU	4x4	Pentium 4 541	3.2	1MB	800 HT	EM64T	512MB	80GB	CD	GMA 900	Sec Yes	Finger	XP Pro	No	July 05
M51	8141-4VU	4x4	Pentium 4 551	3.4	1MB	800 HT	EM64T	512MB	80GB	Combo	GMA 900	Sec No	Pref	XP Pro	No	July 05
M51	8141-4WU	4x4	Pentium 4 551	3.4	1MB	800 HT	EM64T	512MB	80GB	Combo	X300 SE	Sec No	Pref	XP Pro	No	July 05
M51	8141-4XU	4x4	Pentium 4 551	3.4	1MB	800 HT	EM64T	512MB	80GB	DVD	GMA 900	Sec No	Pref	XP Pro	No	July 05
M51	8141-54U	4x4	Pentium 4 551	3.4	1MB	800 HT	EM64T	512MB	80GB	DVD	GMA 900	Sec Yes	Pref	XP Pro	No	July 05
M51	8141-BDU	4x4	Pentium 4 630	3.00	2MB	800 HT	EM64T	512MB	40GB	CD	GMA 900	Sec Yes	Pref	XP Pro	Global	July 05
M51	8141-BEU	4x4	Pentium 4 630	3.00	2MB	800 HT	EM64T	512MB	80GB	Combo	GMA 900	Sec Yes	Pref	XP Pro	No	July 05
M51	8141-DCU	4x4	Pentium 4 640	3.20	2MB	800 HT	EM64T	512MB	40GB	CD	GMA 900	Sec Yes	Pref	XP Pro	No	July 05
M51	8141-DDU	4x4	Pentium 4 640	3.20	2MB	800 HT	EM64T	512MB	80GB	Combo	GMA 900	Sec Yes	Pref	XP Pro	No	July 05
M51	8141-DEU	4x4	Pentium 4 640	3.20	2MB	800 HT	EM64T	512MB	80GB	DVD	GMA 900	Sec Yes	Pref	XP Pro	No	July 05

Positioning	<i>Stability and manageability for the enterprise</i>	Desktop	
Processor	Intel® Celeron D Processor 326, 331, 336 with EM64T, Execute Disable Bit, and 533MHz bus or Intel Pentium 4 Processor 516, 521, 531, 541, 551, 630, 640 with EM64T, Execute Disable Bit (except 516), and 533 or 800MHz bus <i>Some: Hyper-Threading (HT) technology; 6xx: EIST</i>		
Proc features	<i>Some: Hyper-Threading (HT) technology; 6xx: EIST</i>	Bay ① 3.5", SL 1", access, std diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 5.25", HH 1.6", access, open Bay ④ 3.5", SL 1", no access, std disk	
L2 cache	256KB, 1MB, or 2MB std and max / ECC / full speed	Slot 1: full-length, full-height, PCI Express x16 - used in Slot 2: half-length, full-height, PCI Express x1 some Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)	
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket	<ul style="list-style-type: none"> • Business black color • Supports up to 100 lb monitor on top of metal cover • 17.4" W X 15.7" D X 5.5" H • 442mm W X 400mm D X 140mm H • 24 to 31 lb (11 to 14 kg) • Bay 1, 2, 3, and 4 in cage flips up (latched and pivoting) • Toolless install and removal of disk, optical, diskette • Toolless install and removal of cover • Toolless install and remove of adapter cards 	
Memory std/max [®]	256 or 512MB std / 4GB max	SECURITY	<ul style="list-style-type: none"> • Security chip (see information on left) • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington Microsaver cable) - No keylock • Power-on and administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement • <i>Some: cover intrusion switch</i> • <i>Some: fingerprint reader keyboard</i>
Memory	Four 184-pin gold plated DIMM sockets / <i>some: two sockets used (256MB DIMM in each socket); models A7U/A8U/1BU: one 256MB DIMM in one socket (3 available); models 2MU/3PU/DEU: one 512MB DIMM in one socket (3 available); PC3200 400MHz DDR1 / CAS latency 3 (CL3) / non-parity / ind standard / unbuffered / dual-channel capable</i>		
Graphics (one of following)	<ul style="list-style-type: none"> • Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G / 333MHz / one 15-pin analog connector • ATI® RADEON® X300 SE / PCI Express x16 adapter / 64MB 400MHz DDR1 / 400MHz RAMDAC / two 15-pin analog D-sub connectors / dual head support 	<ul style="list-style-type: none"> ➔ 3-year parts and labor limited warranty* ➔ International Warranty Service[®] ➔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) 	
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts		
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6		
SATA cables	One SATA cable (one 1-drop to disk) / 4 SATA connectors on planar		
EIDE CD	<i>Some: 48X-20X⁴ CD-ROM</i>		
EIDE CD-RW	<i>Some: 48X/32X/48X Max⁴ CD-RW</i>		
EIDE DVD	<i>Some: 16X-48X Max⁴ DVD-ROM / single-layer / EIDE</i>		
EIDE Combo	<i>Some: 48X/32X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo / EIDE</i>		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)		
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on planar		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 915G Express Chipset / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor [®] PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log		
Ports	<i>Front:</i> two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] <i>Back:</i> six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Audio	Integrated digital audio / SoundMAX [®] Cadenza / AC '97 interface / ADI1981B codec		
Audio connectors	<i>Back:</i> line-in (stereo), line-out (stereo) [both 3.5mm]		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on planar / Broadcom [®] BCM5705 controller / 32-bit PCI 2.3		
Security chip	Embedded Security Subsystem 2.0¹⁸ / in NS PC8375T chip / TCG-compliant		
Keyboard (one of following)	[Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black [Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Cooling fans	Two variable speed fans (front and power supply)		
Power supply	310 watts with variable speed fan / universal / manual switch / two diagnostic LEDs		

See footnotes for important warranty information
 US models announced July 19, 2005
 US models withdrawn effective December 2005 or May 2006

ThinkCentre® M51 (8143) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	Memory ⁸	SATA disk	EIDE optical	Graphics	Security chip	Cover switch	Preload	Workhorse Global, Educ	Avail date
M51	8143-11U	4x5	Pentium® 4 520	2.8 1MB	800	HT	512MB	40GB ²	CD	GMA 900 GMCH	Sec No	XP Pro ⁵	No	Aug 2004	
M51	8143-24U	4x5	Pentium 4 530	3.0 1MB	800	HT	512MB	40GB	CD	GMA 900 GMCH	Sec No	XP Pro	No	Aug 2004	
M51	8143-32U	4x5	Pentium 4 540	3.2 1MB	800	HT	512MB	40GB	CD	GMA 900 GMCH	Sec Yes	XP Pro	No	Aug 2004	
M51	8143-33U	4x5	Pentium 4 540	3.2 1MB	800	HT	256MB	40GB	None	GMA 900 GMCH	Sec No	XP Pro	No	Aug 2004	
M51	8143-34U	4x5	Pentium 4 540	3.2 1MB	800	HT	512MB	40GB	CD	GMA 900 GMCH	Sec No	XP Pro	W G	Aug 2004	
Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Pentium 4 Processor 520 (2.8GHz), 530 (3.0GHz), or 540 (3.2GHz) with 800MHz system bus										Tower				
Hyper-Threading L2 cache	Hyper-Threading (HT) technology 1MB std and max / ECC / full speed										<ul style="list-style-type: none"> Business black color 6.9" W X 17.7"D X 19.4"H 175mm W X 450mm D X 492mm H 23 to 30 lb (10.5 to 13.5 kg) Handle on top front Rear disk bay pivots out to side Toolless disk, optical, diskette removal Toolless cover removal Toolless adapter slots Easy-to-service chassis design Front audio and USB ports 				
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket										<ul style="list-style-type: none"> Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", access, std diskette Bay ⑤ 3.5", SL 1", no access, std disk 				
Memory std/max ⁸	256MB or 512MB std / 4GB max										<ul style="list-style-type: none"> Slot 1: full-length, full-height, PCI Express x16 Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v) 				
Memory	Four 184-pin gold plated DIMM sockets / 256MB models: one socket used; 512MB models: two sockets used (256MB DIMM in each socket) / PC3200 400MHz DDR1 / CAS latency 3 (CL3) / non-parity / industry standard / unbuffered / dual channel capable														
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector														
SATA disk	40GB / SATA150 7200 rpm / vibration dampening mounts														
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6														
SATA cables	One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard														
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM / EIDE														
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)														
EIDE cables	<i>Some:</i> one 2-drop EIDE 80-conductor cable to optical / <i>All:</i> one EIDE connector on systemboard														
Diskette drive	3.5" 1.44MB diskette drive														
Chipset	Intel 915G Express Chipset / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log												SYSTEMS MANAGEMENT		
Ports	<i>Front:</i> two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] <i>Back:</i> six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)												<ul style="list-style-type: none"> PC 2001-compliant Advanced Configuration and Power Interface (ACPI) 2.0b SMBIOS 2.3.4-compliant DMI 2.0-compliant Asset ID¹⁹ (system specific info in chip accessed over network) 		
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / AD1981B codec												SECURITY		
Audio connectors	<i>Back:</i> line-in (stereo), line-out (stereo) [both 3.5mm]												<ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington Microsaver cable) No keylock Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement <i>Some:</i> cover intrusion switch 		
Speaker	One internal speaker for business audio														
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3 / full duplex / Wake on LAN® / ACPI 1.1 / PXE 2.0 and RPL remote boot														
Security chip	Embedded Security Subsystem 2.0¹⁸ / hardware key storage / multi-factor authentication / local file encryption / in NS PC8375T chip / TCG-compliant														
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black														
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black														
Cooling fans	Two variable speed fans (front and power supply)														
Power supply	310 watt with variable speed fan / universal / manual switch / two diagnostic LEDs														
Preload with Windows XP Professional⁵		Accessories													
Microsoft® Windows® XP Professional		128MB PC3200 CL3 NP DDR1 UDIMM		22P9271											
- Disk-to-Disk Recovery (in hidden protected area)		256MB PC3200 CL3 NP DDR1 UDIMM		73P2685											
		512MB PC3200 CL3 NP DDR1 UDIMM		73P2686											
Preloaded		1GB PC3200 CL3 NP DDR1 UDIMM		22P9272											
• Access Program		80GB Serial ATA150 Disk (7200 rpm)		09N4253											
• Rescue and Recovery™		160GB Serial ATA150 Disk (7200 rpm)		09N4254											
• Update Connector™ ¹⁵		48X/32X/48X Max ⁴ CD-RW internal (black)		22P7042											
• Adobe Reader		Multi-Burner Plus ⁶ (DVD±RW; internal)		73P3370											
• Norton AntiVirus (OEM version)		USB 2.0 Portable Multi-Burner Drive		22P9163											
• PC-Doctor™ (diagnostics)		USB 2.0 Portable 80GB Hard Disk		40Y8726											
		USB 2.0 Memory Key 1GB		40Y7421											
Downloadable		ThinkVision® L151 15" Monitor (black)		9205AB2											
• Client Security Software		ThinkVision L151p 15" Monitor (black)		9205HB2											
• Software Delivery Assistant		ThinkVision L171p 17" Monitor (black)		9417HB7											
• System Migration Assistant		ThinkVision L191p 19" Monitor (black)		9419HB7											
• IBM Director Agent		ThinkVision L200p 20.1" Monitor (black)		6736HC9											
		ThinkVision C170 17" (16.0" vis) (black)		6737P6N											
		ThinkVision C190 19" (18.0" vis) (black)		6739PON											
License - CD not included		DVI-I PCIe Connection Adapter (ADD2)		73P2516											
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client		NVIDIA® GeForce 6200 64MB Dual Head		73P2517											
		ATI® RADEON® X700 128MB Dual Head		73P2518											
		Kensington® MicroSaver® Desktop Lock		06P3839											
		Enh Perf Wireless Keyboard and Mouse		73P4067											
		Enhanced Performance USB Keyboard		73P2620											
		Other options at lenovo.com/options													
												ThinkCentre desktops implement ThinkVantage™ technologies and design; visit thinkcentre.com/thinkvantage			
												LIMITED WARRANTY¹			
												⇒ 3 year parts and labor			
												⇒ International Warranty Service⁹			
												⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)			
												⇒ Onsite service upgrade options (in eligible locations):⁷			
												• 3 year LOR 24x7, 4 hour response (ThinkPlus™ part number 41C9193)			
												⇒ Other ThinkPlus services at lenovo.com/thinkplus/warranty			
												⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)			

See footnotes for important warranty information
US models announced August 3, 2004
US models withdrawn effective August or December 2005

Name	Type-model	Slot x bay	Processor	L2 GHz cache	Bus MHz	Hyper-Thread	Memory ⁸	SATA disk	EIDE optical	Graphics	Security chip	Cover switch	Preload	Workhorse Global, Educ	Avail date
M51	8143-13U	4x5	Pentium® 4 515	2.93 1MB	533		512MB	40GB ²	CD	GMA 900	Sec	No	XP Pro ⁵	No	Jan 2005
M51	8143-14U	4x5	Pentium 4 515	2.93 1MB	533		512MB	40GB	CD-RW	GMA 900	Sec	No	XP Pro	No	Jan 2005
M51	8143-27U	4x5	Pentium 4 530	3.0 1MB	800	HT	512MB	40GB	DVD	GMA 900	Sec	No	XP Pro	No	Nov 2004
M51	8143-28U	4x5	Pentium 4 530	3.0 1MB	800	HT	512MB	80GB	Combo	GMA 900	Sec	No	XP Pro	No	Nov 2004
M51	8143-29U	4x5	Pentium 4 530	3.0 1MB	800	HT	512MB	80GB	Combo	X300 SE 64MB	Sec	No	XP Pro	No	Nov 2004
M51	8143-38U	4x5	Pentium 4 540	3.2 1MB	800	HT	512MB	80GB	DVD	GMA 900	Sec	No	XP Pro	W G	Nov 2004
M51	8143-39U	4x5	Pentium 4 540	3.2 1MB	800	HT	512MB	80GB	Combo	GMA 900	Sec	No	XP Pro	No	Nov 2004
M51	8143-3AU	4x5	Pentium 4 540	3.2 1MB	800	HT	512MB	80GB	Combo	GMA 900	Sec	No	XP Pro	Educ	Nov 2004
M51	8143-3BU	4x5	Pentium 4 540	3.2 1MB	800	HT	512MB	80GB	Combo	X300 SE 64MB	Sec	No	XP Pro	No	Nov 2004

Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Pentium 4 Processor 515 (2.93GHz), 530 (3.0GHz), or 540 (3.2GHz) with 533 or 800MHz system bus		Tower <ul style="list-style-type: none"> Business black color 6.9" W X 17.7"D X 19.4"H 175mm W X 450mm D X 492mm H 23 to 30 lb (10.5 to 13.5 kg) Handle on top front Rear disk bay pivots out to side Toolless disk, optical, diskette removal Toolless cover removal Toolless adapter slots Easy-to-service chassis design Front audio and USB ports 
Hyper-Threading L2 cache	Some: Hyper-Threading (HT) technology 1MB std and max / ECC / full speed		
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket		
Memory std/max ⁸ Memory	512MB std / 4GB max Four 184-pin gold plated DIMM sockets / two sockets used (256MB DIMM in each socket) / PC3200 400MHz DDR1 / CAS latency 3 / non-parity / industry standard / unbuffered / dual channel capable		
Graphics (one of following)	<ul style="list-style-type: none"> Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector ATI® RADEON® X300 SE / PCI Express x16 adapter / 64MB 400MHz DDR1 / 400MHz RAMDAC / two 15-pin analog D-sub connectors / dual head support 		
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts		
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6		
SATA cables	One SATA cable (one 1-drop to disk) / four SATA connectors		
EIDE CD or DVD	Some: 48X-20X ⁴ CD-ROM / Some: 16X-48X Max ⁴ DVD-ROM / single-layer		
EIDE CD-RW	Some: 48X/32X/48X Max ⁴ CD-RW / EIDE		
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)		
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on planar		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 915G Express Chipset / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log		
Ports	<i>Front:</i> two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] <i>Back:</i> six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / AD11981B codec		
Audio connectors	<i>Back:</i> line-in (stereo), line-out (stereo) [both 3.5mm]		
Speaker	One internal speaker for business audio		
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3		
Security chip	Embedded Security Subsystem 2.0¹⁸ / in NS PC8375T chip / TCG-compliant		
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Cooling fans	Two variable speed fans (front and power supply)		
Power supply	310 watts with variable speed fan / universal / manual switch / two diagnostic LEDs		
Preload with Windows XP Professional⁵	Accessories		
Microsoft® Windows® XP Professional with Service Pack 2	800MHz: 128MB PC3200 CL3 NP DDR1 22P9271		
- Disk-to-Disk Recovery (in hidden protected area)	800MHz: 256MB PC3200 CL3 NP DDR1 73P2685		
	800MHz: 512MB PC3200 CL3 NP DDR1 73P2686		
	800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272		
	160GB Serial ATA150 Disk (7200 rpm) 09N4254		
	Multi-Burner Plus ⁵ (DVD±RW; internal) 73P3370		
	USB 2.0 Portable Multi-Burner Drive 22P9163		
	USB 2.0 Memory Key 1GB 40Y7421		
	ThinkVision® L151p 15" Monitor (black) 9205HB2		
	Other options at lenovo.com/options		
	**Vital Source Technologies™ software used in educational institutions for electronic delivery of a variety of class materials including textbooks, rich media, and an existing library of published works		
SYSTEMS MANAGEMENT			
<ul style="list-style-type: none"> PC 2001-compliant Advanced Configuration and Power Interface (ACPI) 2.0b SMBIOS 2.3.4-compliant DMI 2.0-compliant Asset ID¹⁹ (system specific info in chip accessed over network) 			
SECURITY			
<ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington Microsaver cable) No keylock Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement 			
LIMITED WARRANTY¹			
<ul style="list-style-type: none"> 3 year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ThinkPlus™ services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 			

See footnotes for important warranty information
US models announced November 16, 2004
US models withdrawn effective June or December 2005

ThinkCentre® M51 (8143) - February 2005 - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache GHz	Bus MHz	Hyper-Thread	Memory ⁸ EM64T	SATA disk	EIDE optical	Security Graphics	Cover chip	Key-switch board	Workhorse Preload	Avail Global, Educ	
M51	8143-3CU	4x5	Pentium® 4 540	3.20	1MB	800	HT	512MB 80GB ²	Combo	X300 SE	Sec	No	Pref	XP Pro ⁵ No	Feb 05
M51	8143-4GU	4x5	Pentium 4 550	3.40	1MB	800	HT	512MB 80GB	DVD	GMA 900	Sec	No	Pref	XP Pro No	Feb 05
M51	8143-4JU	4x5	Pentium 4 550	3.40	1MB	800	HT	512MB 80GB	Combo	GMA 900	Sec	No	Pref	XP Pro No	Feb 05
M51	8143-4KU	4x5	Pentium 4 550	3.40	1MB	800	HT	512MB 80GB	DVD±RW ⁶	X600 128	Sec	No	Pref	XP Pro Educ	Feb 05
M51	8143-4LU	4x5	Pentium 4 550	3.40	1MB	800	HT	512MB 40GB	CD	GMA 900	Sec	No	Pref	XP Pro No	Feb 05
M51	8143-4MU	4x5	Pentium 4 550	3.40	1MB	800	HT	512MB 80GB	Combo	X300 SE	Sec	No	Pref	XP Pro No	Feb 05
M51	8143-BBU	4x5	Pentium 4 630	3.00	2MB	800	HT	EM64T 256MB 80GB	CD	GMA 900	Sec	Yes	Pref	XP Pro No	Feb 05
M51	8143-D6U	4x5	Pentium 4 640	3.20	2MB	800	HT	EM64T 256MB 80GB	CD	GMA 900	Sec	Yes	Pref	XP Pro No	Feb 05
M51	8143-2AU	4x4	Pentium 4 530	3.00	1MB	800	HT	512MB 80GB	CD	GMA 900	Sec	Yes	Finger	XP Pro No	May 05
M51	8143-2CU	4x4	Pentium 4 530	3.00	1MB	800	HT	512MB 80GB	Combo	GMA 900	Sec	No	Pref	XP Pro Educ	May 05
M51	8143-3DU	4x4	Pentium 4 540	3.20	1MB	800	HT	512MB 80GB	CD	GMA 900	Sec	Yes	Finger	XP Pro No	May 05

Positioning Processor *Stability and manageability for the enterprise*
Intel® Pentium 4 530 (3.00GHz), 540 (3.20GHz), 550 (3.40GHz), 630 (3.00GHz), or 640 (3.20GHz) with Hyper-Threading and 800MHz bus

Proc features *Pentium 4 6xx: Extended Memory 64 Technology, Execute Disable Bit*
L2 cache **1MB or 2MB** std and max / ECC / full speed
Implementation Processor and L2 cache in FC-LGA4 in LGA775 socket

Memory std/max⁹ **256 or 512MB** std / 4GB max
Memory Four 184-pin gold plated DIMM sockets / *some*: two sockets used (256MB DIMM in each socket); *models 2AU/3DU*: one socket used / **PC3200 400MHz DDR1** / CAS latency 3 (CL3) / non-parity / ind standard / unbuffered / dual-channel capable

Graphics (one of following) **Intel Graphics Media Accelerator 900 (GMA 900)** / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector
ATI® RADEON® X300 SE / PCI Express x16 adapter / **64MB** 400MHz DDR1 / 400MHz RAMDAC / two 15-pin analog D-sub connectors / dual head support
ATI RADEON X600 PRO / PCI Express x16 adapter / **128MB** 600MHz DDR1 / 400MHz RAMDAC / three connectors: analog DB-15, digital DVI-I, S-Video out for TV-out / dual head support

SATA disk **40 or 80GB** / SATA150 7200 rpm / vibration dampening mounts
SATA controller Serial ATA / 150 MB/sec SATA150 / integrated in ICH6
SATA cables One SATA cable (one 1-drop to disk) / four SATA connectors
EIDE CD or DVD *Some*: 48X-20X⁴ CD-ROM / *Some*: 16X-48X Max⁴ DVD-ROM / single-layer
EIDE Combo *Some*: 48X/32X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo / EIDE
EIDE DVD±RW *Some*: DVD and CD burner / Multi-Burner Plus / writes DVD-RAM, DVD-R, DVD-RW, DVD+R, DVD+RW, CD-R, CD-RW / reads many DVD and CD formats / EIDE
EIDE controller Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)
EIDE cables One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on planar
Diskette drive 3.5" 1.44MB diskette drive

Chipset **Intel 915G Express Chipset** / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log

Ports *Front*: two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm]
Back: six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)

Audio Integrated digital audio / SoundMAX® Cadenza / AC '97 interface / ADI1981B codec
Audio connectors *Back*: line-in (stereo), line-out (stereo) [both 3.5mm]
Speaker One internal speaker for business audio
Ethernet 10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3

Security chip **Embedded Security Subsystem 2.0¹⁸** / in NS PC8375T chip / TCG-compliant

Keyboard (one of following) [Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black
[Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black
Mouse Optical Wheel Mouse (USB only), 400 dpi, black
Cooling fans Two variable speed fans (front and power supply)
Power supply 310 watts with variable speed fan / universal / manual switch / two diagnostic LEDs

Tower

- Business black color
- 6.9" W X 17.7" D X 19.4" H
- 175mm W X 450mm D X 492mm H
- 23 to 30 lb (10.5 to 13.5 kg)
- Handle on top front
- Rear disk bay pivots out to side
- Toolless disk, optical, diskette removal
- Toolless cover removal
- Toolless adapter slots
- Easy-to-service chassis design
- Front audio and USB ports

Bay ① 5.25", HH 1.6", access, std optical
Bay ② 5.25", HH 1.6", access, open
Bay ③ 3.5", SL 1", access, open
Bay ④ 3.5", SL 1", access, std diskette
Bay ⑤ 3.5", SL 1", no access, std disk

Slot 1: full-length, full-height, PCI Express x16 - used
Slot 2: half-length, full-height, PCI Express x1 in some
Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)
Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)

SYSTEMS MANAGEMENT

- PC 2001-compliant
- Advanced Configuration and Power Interface (ACPI) 2.0b
- SMBIOS 2.3.4-compliant
- DMI 2.0-compliant
- Asset ID¹⁹ (system specific info in chip)

SECURITY

- Security chip (see information on left)
- One lock to secure both cover and entire system to fixed object:
 - Padlock loop (in rear for opt padlock)
 - Security slot (in rear for optional Kensington Microsaver cable)
 - No keylock
- Power-on password
- Administrator password
- Hard disk password (user and master)
- Boot sequence control
- Boot without keyboard, mouse, diskette
- USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable
- Disk, removable, and network device boot password
- Diskette write protect
- Front USB port disablement
- *Some*: cover intrusion switch
- *Some*: fingerprint reader keyboard

Preload with Windows XP Professional ⁵	Accessories
Microsoft® Windows® XP Professional with Service Pack 2	128MB PC3200 CL3 NP DDR1 UDIMM 22P9271
- Disk-to-Disk Recovery (in hidden protected area)	256MB PC3200 CL3 NP DDR1 UDIMM 73P2685
Preloaded (only some listed)	512MB PC3200 CL3 NP DDR1 UDIMM 73P2686
• <i>Model 4KU</i> : contains additional module with a specialized education preload image in the base preload package**	1GB PC3200 CL3 NP DDR1 UDIMM 22P9272
• Rescue and Recovery™	USB 2.0 Memory Key 1GB 40Y7421
• PC-Doctor™ (diagnostics)	USB 2.0 Super Multi-Burner Drive 40Y8638
• RecordNow and DLA (Combo, DVD±RW)	Multi-Burner Plus ⁵ (DVD±RW; internal) 73P3370
• InterVideo WinDVD (Combo, DVD±RW)	ThinkVision® L151 15" Monitor (black) 9205AB6
• InterVideo WinDVD Creator (DVD±RW)	ThinkVision L192p 19" Monitor (black) 9419HB2
• Simple Backup (for DVD±RW)	ATI® RADEON® X300 SE 128MB Dual Head 40Y8405
	Other options at lenovo.com/options

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LIMITED WARRANTY¹

- ↔ **3-year parts and labor**
- ↔ **International Warranty Service⁹**
- ↔ **Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)**
- ↔ **ThinkPlus™ services at lenovo.com/thinkplus/warranty**

See footnotes for important warranty information
US models announced February 22 or April 19, 2005
US models withdrawn effective December 2005 or May 2006

ThinkCentre® M51 (8143) - July 2005 - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	Memory ^a EM64T	SATA disk	EIDE optical	Security Graphics	Cover chip	Key-switch board	Workhorse Preload	Avail Global, Educ	date	
M51	8143-A6U	4x5	Celeron® D 331	2.66	256K	533	EM64T 256MB	40GB ²	CD	GMA 900	Sec	No	Pref	XP Pro ⁵	No	July 05
M51	8143-A7U	4x5	Celeron D 336	2.80	256K	533	EM64T 256MB	40GB	CD	GMA 900	Sec	No	Pref	XP Pro	No	July 05
M51	8143-A8U	4x5	Celeron D 336	2.80	256K	533	EM64T 512MB	40GB	CD	GMA 900	Sec	No	Pref	XP Pro	Educ	July 05
M51	8143-A9U	4x5	Celeron D 346	3.06	256K	533	EM64T 256MB	40GB	CD	GMA 900	Sec	No	Pref	XP Pro	No	July 05
M51	8143-19U	4x5	Pentium® 4 516	2.93	1MB	800	EM64T 512MB	40GB	CD	GMA 900	Sec	No	Pref	XP Pro	No	July 05
M51	8143-1AU	4x5	Pentium 4 516	2.93	1MB	800	EM64T 512MB	40GB	CD-RW	GMA 900	Sec	No	Pref	XP Pro	No	July 05
M51	8143-18U	4x5	Pentium 4 521	2.8	1MB	800	HT EM64T 512MB	40GB	CD	GMA 900	Sec	No	Pref	XP Pro	No	July 05
M51	8143-2EU	4x5	Pentium 4 531	3.0	1MB	800	HT EM64T 512MB	40GB	CD	GMA 900	Sec	No	Pref	XP Pro	No	July 05
M51	8143-2FU	4x5	Pentium 4 531	3.0	1MB	800	HT EM64T 512MB	40GB	DVD	GMA 900	Sec	No	Pref	XP Pro	Global	July 05
M51	8143-2HU	4x5	Pentium 4 531	3.0	1MB	800	HT EM64T 512MB	80GB	Combo	GMA 900	Sec	No	Pref	XP Pro	Educ	July 05
M51	8143-2JU	4x5	Pentium 4 531	3.0	1MB	800	HT EM64T 512MB	80GB	Combo	GMA 900	Sec	No	Pref	XP Pro	No	July 05
M51	8143-2KU	4x5	Pentium 4 531	3.0	1MB	800	HT EM64T 512MB	80GB	Combo	X300 SE	Sec	No	Pref	XP Pro	No	July 05
M51	8143-2LU	4x5	Pentium 4 531	3.0	1MB	800	HT EM64T 512MB	80GB	DVD	GMA 900	Sec	Yes	Pref	XP Pro	No	July 05
M51	8143-2MU	4x5	Pentium 4 531	3.0	1MB	800	HT EM64T 512MB	80GB	CD	GMA 900	Sec	Yes	Pref	XP Pro	No	July 05
M51	8143-3EU	4x5	Pentium 4 541	3.2	1MB	800	HT EM64T 256MB	40GB	None	GMA 900	Sec	No	Pref	XP Pro	No	July 05
M51	8143-3GU	4x5	Pentium 4 541	3.2	1MB	800	HT EM64T 512MB	40GB	CD	GMA 900	Sec	No	Pref	XP Pro	Global	July 05
M51	8143-3HU	4x5	Pentium 4 541	3.2	1MB	800	HT EM64T 512MB	40GB	CD	GMA 900	Sec	Yes	Pref	XP Pro	No	July 05
M51	8143-3KU	4x5	Pentium 4 541	3.2	1MB	800	HT EM64T 512MB	80GB	Combo	GMA 900	Sec	No	Pref	XP Pro	Educ	July 05
M51	8143-3LU	4x5	Pentium 4 541	3.2	1MB	800	HT EM64T 512MB	80GB	Combo	GMA 900	Sec	No	Pref	XP Pro	No	July 05
M51	8143-3MU	4x5	Pentium 4 541	3.2	1MB	800	HT EM64T 512MB	80GB	Combo	X300 SE	Sec	No	Pref	XP Pro	No	July 05
M51	8143-3NU	4x5	Pentium 4 541	3.2	1MB	800	HT EM64T 512MB	80GB	DVD	GMA 900	Sec	Yes	Pref	XP Pro	Global	July 05
M51	8143-3PU	4x5	Pentium 4 541	3.2	1MB	800	HT EM64T 512MB	80GB	CD	GMA 900	Sec	Yes	Pref	XP Pro	No	July 05
M51	8143-4UU	4x5	Pentium 4 551	3.4	1MB	800	HT EM64T 512MB	40GB	CD	GMA 900	Sec	No	Pref	XP Pro	No	July 05
M51	8143-4WU	4x5	Pentium 4 551	3.4	1MB	800	HT EM64T 512MB	80GB	Combo	GMA 900	Sec	No	Pref	XP Pro	No	July 05
M51	8143-4XU	4x5	Pentium 4 551	3.4	1MB	800	HT EM64T 512MB	80GB	DVD	GMA 900	Sec	No	Pref	XP Pro	No	July 05
M51	8143-54U	4x5	Pentium 4 551	3.4	1MB	800	HT EM64T 512MB	80GB	DVD	GMA 900	Sec	Yes	Pref	XP Pro	No	July 05
M51	8143-55U	4x5	Pentium 4 551	3.4	1MB	800	HT EM64T 512MB	80GB	DVD±RW ⁶	GMA 900	Sec	No	Pref	XP Pro	Educ	July 05
M51	8143-57U	4x5	Pentium 4 551	3.4	1MB	800	HT EM64T 512MB	80GB	Combo	X600 128	Sec	No	Pref	XP Pro	No	July 05
M51	8143-BEU	4x5	Pentium 4 630	3.00	2MB	800	HT EM64T 512MB	40GB	CD	GMA 900	Sec	Yes	Pref	XP Pro	Global	July 05
M51	8143-BFU	4x5	Pentium 4 630	3.00	2MB	800	HT EM64T 512MB	80GB	Combo	GMA 900	Sec	Yes	Pref	XP Pro	No	July 05
M51	8143-DBU	4x5	Pentium 4 640	3.20	2MB	800	HT EM64T 512MB	40GB	CD	GMA 900	Sec	Yes	Pref	XP Pro	No	July 05
M51	8143-DCU	4x5	Pentium 4 640	3.20	2MB	800	HT EM64T 512MB	80GB	Combo	GMA 900	Sec	Yes	Pref	XP Pro	No	July 05
M51	8143-DDU	4x5	Pentium 4 640	3.20	2MB	800	HT EM64T 512MB	80GB	DVD	GMA 900	Sec	Yes	Pref	XP Pro	No	July 05

Processor	Intel® Celeron D Processor 331, 336, 346 with EM64T, Execute Disable Bit, and 533MHz bus or Intel Pentium 4 Processor 516, 521, 531, 541, 551, 630, 640 with EM64T, Execute Disable Bit (except 516), and 533 or 800MHz bus	Tower	
Proc features Implementation	Some: Hyper-Threading (HT) technology; 6xx: EIST Processor and L2 cache in FC-LGA4 in LGA775 socket	<ul style="list-style-type: none"> • Business black color • 6.9" W X 17.7" D X 19.4" H • 175mm W X 450mm D X 492mm H • 23 to 30 lb (10.5 to 13.5 kg) • Handle on top front • Rear disk bay pivots out to side • Toolless disk, optical, diskette removal • Toolless cover removal • Toolless adapter slots • Easy-to-service chassis design • Front audio and USB ports 	
Memory ^a	256 or 512MB std / 4GB max / four 184-pin gold plated sockets / some: two sockets used (256MB DIMM in each socket); models A6U/A7U/A9U/3EU: one 256MB DIMM in 1 socket (3 avail); models 2MU/3PU/DDU: one 512MB DIMM in 1 socket (3 avail) / PC3200 400MHz DDR1 / CAS latency 3 (CL3) / non-parity / ind standard / unbuffered / dual-channel capable	<ul style="list-style-type: none"> • Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G / 333MHz / one 15-pin analog connector • ATI® RADEON® X300 SE / PCI Express x16 adapter / 64MB 400MHz DDR1 / 400MHz RAMDAC / two 15-pin analog D-sub connectors / dual head support • ATI RADEON X600 PRO / PCI Express x16 adapter / 128MB 600MHz DDR1 / 400MHz RAMDAC / three connectors: analog DB-15, digital DVI-I, S-Video out for TV-out / dual head support 	<ul style="list-style-type: none"> • Bay ① 5.25", HH 1.6", access, std optical • Bay ② 5.25", HH 1.6" access, open • Bay ③ 3.5", SL 1", access, open • Bay ④ 3.5", SL 1", access, std diskette • Bay ⑤ 3.5", SL 1", no access, std disk
Graphics (one of following)		<ul style="list-style-type: none"> • Slot 1: full-length, full-height, PCI Express x16 - used • Slot 2: half-length, full-height, PCI Express x1 in some • Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) • Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v) 	
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts		
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6		
SATA cables	One SATA cable (one 1-drop to disk) / four SATA connectors		
EIDE CD or DVD	Some: 48X-20X ⁴ CD-ROM / Some: 16X-48X Max ⁴ DVD-ROM / single-layer		
EIDE CD-RW	Some: 48X/32X/48X Max ⁴ CD-RW		
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
EIDE DVD±RW	Some: DVD and CD burner / double-layer / Multi-Burner Plus (part 73P3370)		
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on planar		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 915G Express Chipset / ICH6 for SATA150, ATA-100 EIDE, PCI Express x1 / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log		
Ports	Front: two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] Back: six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Audio	Integrated digital audio / SoundMAX® Cadenza / AC '97 interface / ADI1981B codec		
Audio connectors	Back: line-in (stereo), line-out (stereo) [both 3.5mm]		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on planar / Broadcom® BCM5705 controller / 32-bit PCI 2.3		
Security chip	Embedded Security Subsystem 2.0 ¹⁸ / in NS PC8375T chip / TCG-compliant		
Keyboard (one of following)	[Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black [Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Cooling fans	Two variable speed fans (front and power supply)		
Power supply	310 watts with variable speed fan / universal / manual switch / two diagnostic LEDs		
		SECURITY	
		<ul style="list-style-type: none"> • Security chip (see information on left) • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for opt cable) - No keylock • Power-on and administrator password • Hard disk password (user and master) • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement • Some: cover intrusion switch • Some: fingerprint reader keyboard 	
		<ul style="list-style-type: none"> • 3-year parts and labor limited warranty¹ • Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) 	

See footnotes for important warranty information
US models announced July 19, 2005
US models withdrawn effective December 2005 or May 2006

ThinkCentre™ M51 (8143) - Celeron - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	Memory ⁸	SATA disk	EIDE optical	Graphics	Security chip	Cover switch	Preload	Workhorse Global, Educ	Avail date
M51	8143-A1U	4x5	Celeron® 330	2.66	256KB	533	No	256MB	40GB ²	CD	GMA 900 GMCH	Sec	No	XP Pro ⁵	No	Nov 2004
M51	8143-A2U	4x5	Celeron 335	2.80	256KB	533	No	256MB	40GB	CD	GMA 900 GMCH	Sec	No	XP Pro	No	Nov 2004
M51	8143-A3U	4x5	Celeron 335	2.80	256KB	533	No	512MB	40GB	CD	GMA 900 GMCH	Sec	No	XP Pro	Educ	Nov 2004
M51	8143-A5U	4x5	Celeron 345J	3.06	256KB	533	No	256MB	40GB	CD	GMA 900 GMCH	Sec	No	XP Pro	No	Feb 2005

Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Celeron Processor 330 (2.66GHz), 335 (2.80GHz), or 345J (3.06GHz) with 533MHz bus (345J: Execute Disable Bit)										Tower		
Hyper-Threading L2 cache	None 256KB std and max / ECC / full speed										<ul style="list-style-type: none"> Business black color; 38.75 liters 6.9" W X 17.7" D X 19.4" H 175mm W X 450mm D X 492mm H 23 to 30 lb (10.5 to 13.5 kg) Handle on top front Rear disk bay pivots out to side Toolless disk, optical, diskette removal Toolless cover removal Toolless adapter slots Easy-to-service chassis design Front audio and USB ports 		
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket												
Memory std/max ⁹ Memory	256MB or 512MB std / 4GB max Four 184-pin gold plated DIMM sockets / <i>256MB models</i> : one socket used; <i>512MB models</i> : two sockets used (256MB DIMM in each socket) / PC3200 400MHz DDR1 / CAS latency 3 (CL3) / non-parity / industry standard / unbuffered / dual channel capable										Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", access, std diskette Bay ⑤ 3.5", SL 1", no access, std disk Slot 1: full-length, full-height, PCI Express x16 Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)		
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector												
SATA disk	40GB / SATA150 7200 rpm / vibration dampening mounts												
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6												
SATA cables	One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard												
EIDE CD	48X-20X ⁴ CD-ROM / EIDE												
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)												
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on systemboard												
Diskette drive	3.5" 1.44MB diskette drive												
Chipset	Intel 915G Express Chipset / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log												SYSTEMS MANAGEMENT <ul style="list-style-type: none"> PC 2001-compliant Advanced Configuration and Power Interface (ACPI) 2.0b SMBIOS 2.3.4-compliant DMI 2.0-compliant Asset ID¹⁹ (system specific info in chip accessed over network)
Ports	<i>Front</i> : two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] <i>Back</i> : six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)												SECURITY <ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington Microsaver cable) No keylock Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1981B codec												
Audio connectors	<i>Back</i> : line-in (stereo), line-out (stereo) [both 3.5mm]												
Beeper	One internal speaker for business audio												
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3 / full duplex / Wake on LAN® / ACPI 1.1 / PXE 2.0 and RPL remote boot												
Security chip	Embedded Security Subsystem 2.0¹⁸ / hardware key storage / multi-factor authentication / local file encryption / in NS PC8375T chip / TCG-compliant												
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black												
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black												
Cooling fans	Two variable speed fans (front and power supply)												
Power supply	310 watts with variable speed fan / universal / manual switch / two diagnostic LEDs												
Preload with Windows XP Professional⁵	Microsoft® Windows® XP Professional with Service Pack 2 - Disk-to-Disk Recovery (in hidden protected area)												
Preloaded	<ul style="list-style-type: none"> <i>Model A3U</i>: contains additional module with a specialized education preload image in the base preload package** Access IBM Rescue and Recovery™ Update Connector™¹⁵ Adobe Reader Norton AntiVirus (OEM version) PC-Doctor™ (diagnostics) 										Accessories <ul style="list-style-type: none"> 128MB PC2700 CL2.5 NP DDR UDIMM 31P8854 256MB PC2700 CL2.5 NP DDR UDIMM 31P8855 512MB PC2700 CL2.5 NP DDR UDIMM 31P8856 1GB PC2700 CL2.5 NP DDR UDIMM 31P8857 160GB Serial ATA150 Disk (7200 rpm) 09N4254 Multi-Burner Plus® (DVD±RW; internal) 73P3370 USB Fingerprint Reader 73P4774 USB 2.0 Combo Drive 73P4515 USB 2.0 Portable Multi-Burner Drive 22P9163 USB 2.0 Memory Key 512MB 22P9230 ThinkVision™ L150 15" Monitor (black) 6636AC1 ThinkVision L191p 19" Monitor (black) 9419HB7 ThinkVision L200p 20.1" Monitor (black) 6736HB0 ThinkVision C190 19" (18.0" vis) (black) 673960N NVIDIA® GeForce 6200 64MB Dual Head 73P2517 ATI® RADEON® X700 128MB Dual Head 73P2518 Kensington® MicroSaver® Desktop Lock 06P3839 Enhanced Performance USB Keyboard 73P2620 Preferred Pro USB Fingerprint Keyboard 73P4730 		
Downloadable	<ul style="list-style-type: none"> Client Security Software Software Delivery Assistant System Migration Assistant IBM Director Agent 												ThinkCentre desktops implement ThinkVantage™ technologies and design; visit thinkcentre.com/thinkvantage
License - CD not included	<ul style="list-style-type: none"> Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client 												LIMITED WARRANTY¹ <ul style="list-style-type: none"> ↔ 3 year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, 2nd business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3 year IOR 24x7, 4 hour response (ServicePac part number 41L2740) ↔ Other ServicePac options at ibm.com/services/us/its/pdf/wamomxeu.pdf ↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹
**Vital Source Technologies™ software used in educational institutions for electronic delivery of a variety of class materials including textbooks, rich media, and an existing library of published works													

See footnotes for important warranty information
US models announced November 16, 2004 or February 22, 2005
US models withdrawn effective August 2005

ThinkCentre® M51 Ultra Small (8104) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Slot x	L2	Bus	Hyper-	Diskette	SATA	EIDE	Graphics	PCI	Cover	Key-	Workhorse	Gbl	Avail				
Type-model	bay	cache	MHz	Thread	drive	disk	optical	in GMCH	modem/switch	board	Preload	Education		date				
M51	8104-BKU	1x2	Celeron® 336	2.80	256K	533	256MB	None	40GB ²	CD	GMA 900	No	No	Pref	XP Pro	No	May 05	
M51	8104-BLU	1x2	Celeron 346	3.06	256K	533	256MB	None	40GB	CD	GMA 900	No	No	Pref	XP Pro	Educ	May 05	
M51	8104-BMU	1x2	Celeron 346	3.06	256K	533	256MB	None	40GB	CD	GMA 900	No	No	Pref	XP Pro	No	May 05	
M51	8104-2RU	1x2	Pentium® 4 521	2.80	1MB	800	HT	512MB	None	40GB	CD	GMA 900	No	No	Pref	XP Pro	No	Jun 06
M51	8104-2SU	1x2	Pentium 4 521	2.80	1MB	800	HT	512MB	None	80GB	Combo	GMA 900	No	No	Pref	XP Pro	No	Jun 06
M51	8104-2UU	1x2	Pentium 4 521	2.80	1MB	800	HT	512MB	None	80GB	Combo	GMA 900	Yes	Yes	Pref	XP Pro	No	Jun 06
M51	8104-5BU	1x2	Pentium 4 524	3.06	1MB	533	HT	512MB	None	80GB	DVD	GMA 900	No	No	Pref	XP Pro	No	July 06
M51	8104-2CU	1x2	Pentium 4 531	3.00	1MB	800	HT	512MB	None	40GB	CD	GMA 900	No	No	Pref	XP Pro	No	May 05
M51	8104-2DU	1x2	Pentium 4 531	3.00	1MB	800	HT	512MB	None	80GB	Combo	GMA 900	No	No	Pref	XP Pro	No	May 05
M51	8104-2NU	1x2	Pentium 4 531	3.00	1MB	800	HT	512MB	None	80GB	DVD	GMA 900	No	No	Pref	XP Pro	Gbl	Sep 05
M51	8104-3AU	1x2	Pentium 4 541	3.20	1MB	800	HT	512MB	None	40GB	CD	GMA 900	No	No	Pref	XP Pro	No	May 05
M51	8104-3BU	1x2	Pentium 4 541	3.20	1MB	800	HT	512MB	None	80GB	Combo	GMA 900	No	No	Pref	XP Pro	No	May 05
M51	8104-3DU	1x2	Pentium 4 541	3.20	1MB	800	HT	512MB	None	80GB	DVD	GMA 900	No	Yes	Finger	XP Pro	No	May 05
M51	8104-3FU	1x2	Pentium 4 541	3.20	1MB	800	HT	512MB	None	80GB	Combo	GMA 900	No	No	Pref	XP Pro	Educ	May 05
M51	8104-3JU	1x2	Pentium 4 541	3.20	1MB	800	HT	512MB	None	80GB	DVD	GMA 900	No	No	Pref	XP Pro	Gbl	May 05
M51	8104-92U	1x2	Pentium 4 541	3.20	1MB	800	HT	512MB	None	80GB	CD	GMA 900	No	No	Pref	XP Pro	No	July 06
M51	8104-93U	1x2	Pentium 4 541	3.20	1MB	800	HT	512MB	None	80GB	DVD	GMA 900	No	No	Pref	XP Pro	No	July 06
M51	8104-4EU	1x2	Pentium 4 551	3.40	1MB	800	HT	512MB	None	40GB	CD	GMA 900	No	No	Pref	XP Pro	No	May 05
M51	8104-4FU	1x2	Pentium 4 551	3.40	1MB	800	HT	512MB	None	80GB	Combo	GMA 900	No	No	Pref	XP Pro	No	May 05
M51	8104-4GU	1x2	Pentium 4 551	3.40	1MB	800	HT	512MB	None	80GB	DVD	GMA 900	No	Yes	Finger	XP Pro	No	May 05
M51	8104-4HU	1x2	Pentium 4 551	3.40	1MB	800	HT	512MB	None	80GB	DVD	GMA 900	No	No	Pref	XP Pro	Gbl	May 05
M51	8104-D1U	1x2	Pentium 4 630	3.00	2MB	800	HT	512MB	None	80GB	CD	GMA 900	No	No	Pref	XP Pro	No	May 05
M51	8104-D2U	1x2	Pentium 4 630	3.00	2MB	800	HT	512MB	None	80GB	Combo	GMA 900	No	No	Pref	XP Pro	No	May 05
M51	8104-E1U	1x2	Pentium 4 640	3.20	2MB	800	HT	512MB	None	80GB	CD	GMA 900	No	No	Pref	XP Pro	No	May 05
M51	8104-E2U	1x2	Pentium 4 640	3.20	2MB	800	HT	512MB	None	80GB	Combo	GMA 900	No	No	Pref	XP Pro	No	May 05
M51	8104-E5U	1x2	Pentium 4 640	3.20	2MB	800	HT	512MB	None	80GB	DVD	GMA 900	No	No	Pref	XP Pro	Gbl	Sep 05

Positioning	<i>Smallest ThinkCentre desktop without compromise</i>
Processor	Intel® Celeron D Processor 336 or 346 with 533MHz bus or Intel Pentium 4 Processor 521, 524, 531, 541, 551, 630, or 640 with 533MHz or 800MHz bus
Proc features	All: Extended Memory 64 Technology, Execute Disable Bit
Hyper-Threading	Some: Hyper-Threading (HT) technology
L2 cache	256KB or 1MB std and max / ECC / full speed
Socket	Processor and L2 cache in FC-LGA4 in LGA775 socket
Memory	256 or 512MB std / 4GB max ⁸ / two 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics / uses main memory / 333MHz / one 15-pin analog connector
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6
SATA cables	One SATA cable (one 1-drop to disk) / one SATA connector
EIDE CD	Some: 24X-10X ⁴ CD-ROM / Ultrabay Enhanced (12.5mm high)
EIDE DVD	Some: 8X-3.3X ⁴ DVD-ROM / Ultrabay Enhanced (12.5mm high)
EIDE Combo	Some: 24X/24X/24X/8X Max ¹¹ CD-RW/DVD-ROM Combo / Ultrabay Enhanced (12.5mm high)
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)
EIDE cables	One cable (one 1-drop Ultrabay Enhanced cable to optical) / one EIDE connector (Ultrabay Enhanced) on systemboard
Diskette drive	None / use optional external USB-based 3.5" 1.44MB diskette drive
Chipset	Intel 915GV Express Chipset / 82915GV Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log
Ports	<i>Front:</i> two USB (Version 2.0), microphone in (mono), headphone out (mono) <i>Back:</i> four USB (Version 2.0), one serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)
Audio connectors	<i>Back:</i> line-in (mono), line-out (mono) [all 3.5mm]
Audio	Integrated digital audio / SoundMAX® Cadenza / AC '97 / ADI1981B codec
Speaker	One internal speaker for business audio
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY/MAC / 32-bit PCI 2.3 / Wake on LAN®
Modem	Some: 56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter
Security chip	Embedded Security Subsystem 2.0¹⁸ / in NS PC8375T chip / TCG-compliant
Keyboard	[Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black (one of following)
Mouse	[Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black
Mouse	Optical Wheel Mouse (USB only), optical, 400 dpi, black
Cooling fans	Four variable speed fans (front, back, fansink, power supply)
Power supply	200 watts with variable speed fan / universal / autosensing / two diagnostic LEDs

Ultra Small

Bay ① 3.5", SL 1", access, std disk (desktop)
Bay ② 5.25", *slim .5", access, std optical (notebook)
* Optical bay is Ultrabay™ Enhanced 12.5mm high (supports select ThinkPad-based Ultrabay Enhanced [12.5mm high] and Ultrabay Slim [9.5mm high] devices)

Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)

- Up to 75% less space than desktop chassis
- Business black color; metal case
- 10.8" W X 10.8"D X 3.4"H
- 275mm W X 275mm D X 87.5mm H
- 13.2 to 14.0 lb (6.0 to 6.4 kg)
- Toolless cover flips up and tilts backward on rear hinges
- Toolless disk and optical drive removal
- Bays 1 and 2 flip up (latched and pivoting)
- Toolless PCI slot and riser card retention
- Steel chassis supports 100 lb (45kg) monitor on top

- SYSTEMS MANAGEMENT**
- PC 2001-compliant
 - ACPI 2.0b-compliant
 - SMBIOS 2.3.1-compliant
 - DMI 2.0-compliant
 - Asset ID¹⁹ (system specific info in chip)

- SECURITY**
- Security chip (see information on left)
 - Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons
 - Power-on password
 - Administrator password
 - Boot sequence control
 - Boot without keyboard or mouse
 - USB, ethernet, SATA, EIDE, serial, parallel enable or disable
 - Disk, removable, and network device boot password
 - Some: cover intrusion switch
 - Some: fingerprint reader keyboard

Preload with Windows XP Professional ⁵	Accessories
Microsoft® Windows® XP Professional	512MB PC2-4200 CL4 NP DDR2 UDIMM 73P4971
Preloaded (only some listed)	1GB PC2-4200 CL4 NP DDR2 UDIMM 73P4972
• Some: contains additional module with a specialized education preload image	2GB PC2-4200 CL4 NP DDR2 UDIMM 73P4973
• RecordNow and DLA (combo models)	Super Multi-Burner Ultrabay Enhanced Drv 40Y8624
• InterVideo WinDVD (combo, DVD)	ThinkCentre Ultra Small Under Desk Mount 40Y8625
	Other accessories at lenovo.com/accessories

- LIMITED WARRANTY¹**
- ↔ **3-year parts and labor**
 - ↔ **Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)**

See footnotes for important warranty information
US models announced on May 17, 2005, Sept 13, 2005, June 6, 2006 and July 25, 2006
US models withdrawn effective May 2006 or June 2007

ThinkCentre® M52 Tower (8113) - Celeron - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache GHz	Bus MHz	Hyper-Thread	Memory ⁸	SATA disk	EIDE optical	Graphics	Chipset	Cover switch	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date	
M52	8113-A1U	4x4	Celeron® D 331	2.66	256K	533	No	256MB	40GB ²	CD	GMA 950	945G	No	XP Pro	3-yr	No	Jun 05
M52	8113-A2U	4x4	Celeron D 336	2.80	256K	533	No	512MB	40GB	CD	GMA 950	945G	Yes	XP Pro	3-yr	No	Jun 05
M52	8113-B2U	4x4	Celeron D 346	3.06	256K	533	No	512MB	40GB	CD	GMA 950	945G	No	XP Pro	3-yr	No	Jun 05

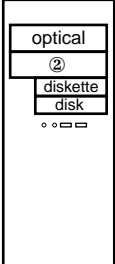
Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Celeron D Processor 331 (2.66GHz), 336 (2.80GHz), 346 (3.06GHz) with single-core, EM64T, Execute Disable Bit, and 533MHz system bus	Tower	
L2 cache Implementation	256KB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket	<ul style="list-style-type: none"> Business black color 7.0" W X 17.7" D X 17.0" H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 	
Memory - std/max ⁸ Memory	256 or 512MB std / 4GB max / DDR2 only Four 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	<ul style="list-style-type: none"> Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, std diskette Bay ④ 3.5", SL 1", no access, std disk Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v) 	
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector		
SATA disk	40GB / SATA150 7200 rpm / vibration dampening mounts		
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7		
SATA cables	One SATA cable (one 1-drop to disk) / 4 SATA connectors on planar		
EIDE CD	48X-20X ⁴ CD-ROM		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)		
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 945G Express Chipset / 82945G Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log	<ul style="list-style-type: none"> PC 2001-compliant ACPI 2.0c-compliant SMBIOS 2.3.4-compliant DMI 2.0-compliant SMBus 2.0-compliant Asset ID¹⁹ (system specific info in chip) 	
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1 / full duplex / Wake on LAN® / PXE 2.0 and RPL remote boot		
Modem	None		
Security chip	Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant		
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Cooling fans	Two variable speed fans (front and power supply)		
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		
Preload with Windows XP Professional⁵	Microsoft® Windows® XP Professional with Service Pack 2 - Disk-to-Disk Recovery (in hidden protected area)	Accessories	
Preloaded	<ul style="list-style-type: none"> Access Program Rescue and Recovery™ Adobe Reader Norton AntiVirus (OEM version) PC-Doctor™ (diagnostics) Client Security Software 	<ul style="list-style-type: none"> 512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 250GB Serial ATA300 Disk (7200 rpm) 41N3015 Super Multi-Burner DL DVD±RW Drive 41N5581 USB Portable Diskette Drive 05K9276 USB Fingerprint Reader 41U3167 USB Gemplus GemPC Smart Card Reader 41N3040 USB 2.0/Analog Headset by Sennheiser 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 Essential Memory Key 2GB 41U4944 USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 USB 2.0 Portable 120GB Hard Disk 41N8379 USB 2.0 Super Multi-Burner Drive 41N5565 Lenovo L192 Wide 19" Monitor (black) 6920AB1 Lenovo D221 Wide 22" Monitor (black) 6622HB2 ThinkVision® L171p 17" Monitor (black) 9417HC2 ThinkVision L192p 19" Monitor (black) 9419HC2 ThinkVision L201p 20.1" Monitor (black) 9220HB1 ScrollPoint® Pro Optical Mouse (black) 31P8700 Optical 3-button ScrollPoint Mouse (black) 31P7405 Lenovo Laser Mouse (USB, PS/2) 41U3074 Kensington® MicroSaver® Desktop Lock 06P3839 Enhanced Performance USB Keyboard 73P2620 Enh Perf Wireless Keyboard and Mouse 73P4067 DVI-I PCIe Connection Adapter (ADD2) 73P2516 ATI® RADEON® X300 SE 128MB Dual Head 41U4813 ATI X1300 256MB Dual Head/TV-out 41U5028 Other accessories at lenovo.com/accessories 	
			<ul style="list-style-type: none"> Supports ThinkVantage® technologies; visit thinkcentre.com/thinkvantage
			<p>LIMITED WARRANTY¹</p> <ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)

See footnotes for important warranty information
US models announced June 28, 2005
US models withdrawn effective June 2007

ThinkCentre® M52 Tower (8113) - Pentium 4 - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type	Slot x model bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	Execute disable	Memory ⁸	SATA disk	EIDE optical	Graphics	Cover switch	Intel IAMT	Key-board warranty ¹	Limited Gbl, Educ	Workhorse Avail
M52	8113-11U	4x4	Pentium® 4 516	2.93	1MB	533			512MB	40G ²	CD	GMA 950			Pref	3-yr	Jun 05
M52	8113-12U	4x4	Pentium 4 516	2.93	1MB	533			512MB	80G	DVD	GMA 950			Pref	3-yr	Jun 05
M52	8113-21U	4x4	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	40G	CD	GMA 950			Pref	3-yr	Jun 05
M52	8113-22U	4x4	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	80G	Combo	GMA 950			Pref	3-yr	Jun 05
M52	8113-24U	4x4	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	80G	DVD	GMA 950	Yes		Finger	3-yr	Jun 05
M52	8113-28U	4x4	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	80G	DVD	GMA 950			Pref	3-yr	W G Jun 05
M52	8113-31U	4x4	Pentium 4 541	3.20	1MB	800	HT	XD	512MB	40G	CD	GMA 950			Pref	3-yr	Jun 05
M52	8113-32U	4x4	Pentium 4 541	3.20	1MB	800	HT	XD	512MB	80G	Combo	GMA 950			Pref	3-yr	Jun 05
M52	8113-34U	4x4	Pentium 4 541	3.20	1MB	800	HT	XD	512MB	80G	DVD	NVIDIA 64M			Pref	3-yr	Aug 05
M52	8113-35U	4x4	Pentium 4 541	3.20	1MB	800	HT	XD	512MB	80G	DVD	GMA 950			Pref	3-yr	G Jun 05
M52	8113-36U	4x4	Pentium 4 541	3.20	1MB	800	HT	XD	512MB	80G	DVD	GMA 950	Yes		Finger	3-yr	Jun 05
M52	8113-41U	4x4	Pentium 4 551	3.40	1MB	800	HT	XD	512MB	40G	CD	GMA 950			Pref	3-yr	Jun 05
M52	8113-42U	4x4	Pentium 4 551	3.40	1MB	800	HT	XD	512MB	80G	Combo	GMA 950			Pref	3-yr	Jun 05
M52	8113-44U	4x4	Pentium 4 551	3.40	1MB	800	HT	XD	512MB	80G	DVD	NVIDIA 64M			Pref	3-yr	Aug 05
M52	8113-45U	4x4	Pentium 4 551	3.40	1MB	800	HT	XD	512MB	80G	DVD	GMA 950			Pref	3-yr	Jun 05
M52	8113-46U	4x4	Pentium 4 551	3.40	1MB	800	HT	XD	512MB	80G	DVD	GMA 950	Yes		Finger	3-yr	Jun 05
M52	8113-D1U	4x4	Pentium 4 630	3.00	2MB	800	HT	XD	512MB	80G	DVD	GMA 950			Pref	3-yr	W G Jun 05
M52	8113-D3U	4x4	Pentium 4 630	3.00	2MB	800	HT	XD	256MB	80G	DVD	GMA 950			Pref	3-yr	Jun 05
M52	8113-D5U	4x4	Pentium 4 630	3.00	2MB	800	HT	XD	512MB	80G	Combo	GMA 950			Pref	3-yr	Jun 05
M52	8113-D6U	4x4	Pentium 4 630	3.00	2MB	800	HT	XD	512MB	80G	DVD	GMA 950		IAMT	Pref	3-yr	W G Aug 05
M52	8113-E1U	4x4	Pentium 4 640	3.20	2MB	800	HT	XD	512MB	80G	DVD	GMA 950			Pref	3-yr	Jun 05
M52	8113-E7U	4x4	Pentium 4 640	3.20	2MB	800	HT	XD	512MB	80G	Combo	GMA 950			Pref	3-yr	Jun 05
M52	8113-F1U	4x4	Pentium 4 650	3.40	2MB	800	HT	XD	512MB	80G	DVD	GMA 950			Pref	3-yr	Jun 05
M52	8113-F4U	4x4	Pentium 4 650	3.40	2MB	800	HT	XD	512MB	80G	Combo	GMA 950			Pref	3-yr	Jun 05

Processor	Intel® Pentium 4 Processor 516, 531, 541, 551, 630, 640, or 650 with single-core, EM64T, and 533 or 800MHz system bus	Tower	
Processor features	<i>Some:</i> Hyper-Threading (HT) technology, Execute Disable Bit (XD)	<ul style="list-style-type: none"> Business black color 7.0" W X 17.7"D X 17.0"H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 	
L2 cache Implementation	1MB or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket	<ul style="list-style-type: none"> Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, std diskette Bay ④ 3.5", SL 1", no access, std disk 	
Memory - std/max ⁸	256 or 512MB std / 4GB max / DDR2 only	<ul style="list-style-type: none"> Slot 1: full-length, full-height, PCI Express x16 (75w max)* Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v) 	
Memory	Four 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	<ul style="list-style-type: none"> * slot used by adapter in some models 	
Graphics (one of following)	<ul style="list-style-type: none"> Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory (up to 128MB with 256MB+) NVIDIA® GeForce® 6200 / PCI Express x16 adapter / 64MB 400MHz DDR1 / 400MHz RAMDAC / two 15-pin analog D-sub connectors / dual head support 	<ul style="list-style-type: none"> PC 2001-compliant ACPI 2.0c-compliant SMBIOS 2.3.4-compliant DMI 2.0 and SMBus 2.0-compliant Asset ID¹⁹ (system specific info in chip) 	
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts	SECURITY	
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7	<ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington Microsaver cable) No keylock Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement <i>Some:</i> cover intrusion switch <i>Some:</i> fingerprint reader keyboard 	
SATA cables	One SATA cable (one 1-drop to disk) / 4 SATA connectors on planar		
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM		
EIDE DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE		
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)		
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 945G Express Chipset / 82945G Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log		
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1		
Intel AMT	<i>Some:</i> Intel Active Management Technology (IAMT)		
Security chip	Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant		
Keyboard (one of following)	[Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black		
Mouse	[Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Cooling fans	Optical Wheel Mouse (USB only), 400 dpi, black		
Power supply	Two variable speed fans (front and power supply)		
	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		
Preload with Windows XP Professional⁵	Accessories		
Microsoft® Windows® XP Professional with Service Pack 2	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983	
- Disk-to-Disk Recovery (in hidden area)	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	
	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985	
Preloaded (only some listed)	Super Multi-Burner DL DVD±RW Drive	41N5581	
• Rescue and Recovery™	Lenovo D221 Wide 22" Monitor (black)	6622HB1	
• Client Security Software	Lenovo Laser Mouse (USB, PS/2)	41U3074	
• RecordNow and DLA (combo models)	ATI® RADEON® X300 SE 128MB Dual Head	41U4813	
• InterVideo WinDVD (combo models)	ATI X1300 256MB Dual Head/TV-out	41U5028	
	Other accessories at lenovo.com/accessories		

See footnotes for important warranty information
US models announced on June 28 and August 23, 2005
US models withdrawn effective May 2006 or June 2007

ThinkCentre® M52 Tower (8113) - Pentium 4 (November 2005)

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type	Slot x model bay	Processor	L2 GHz cache	Bus Hyper-MHz Thread	EM64T	Diskette Memory ⁹	SATA drive	EIDE disk	EIDE optical	Graphics	Intel Key-IAMT board warranty ¹	Limited Gbl, Educ	Workhorse Avail date
M52	8113-13U	4x4	Pentium® 4 519K	3.06 1MB	533		EM64T 512MB		40G ²	CD	GMA	No Pref	3-yr	Nov 05
M52	8113-14U	4x4	Pentium 4 519K	3.06 1MB	533		EM64T 512MB	Diskette	40G	CD-RW	GMA	No Pref	3-yr	Nov 05
M52	8113-15U	4x4	Pentium 4 519K	3.06 1MB	533		EM64T 512MB		80G	Combo	GMA	No Pref	3-yr	Nov 05
M52	8113-2AU	4x4	Pentium 4 521	2.80 2MB	800	HT	EM64T 512MB		80G	CD	GMA	No Pref	3-yr	Jun 06
M52	8113-2BU	4x4	Pentium 4 521	2.80 2MB	800	HT	EM64T 512MB		80G	Combo	GMA	No Pref	3-yr	Jun 06
M52	8113-D8U	4x4	Pentium 4 630	3.00 2MB	800	HT	EM64T 512MB		40G	CD	GMA	No Pref	3-yr	Nov 05
M52	8113-E9U	4x4	Pentium 4 640	3.20 2MB	800	HT	EM64T 512MB	Diskette	80G	DVD	GMA	No Pref	3-yr	Global Nov 05
M52	8113-EBU	4x4	Pentium 4 640	3.20 2MB	800	HT	EM64T 512MB		40G	CD	GMA	No Pref	3-yr	Nov 05
M52	8113-EDU	4x4	Pentium 4 640	3.20 2MB	800	HT	EM64T 512MB	Diskette	80G	DVD	GMA	No Finger	3-yr	Nov 05
M52	8113-FCU	4x4	Pentium 4 650	3.40 2MB	800	HT	EM64T 512MB		40G	CD	GMA	No Pref	3-yr	Nov 05
M52	8113-FEU	4x4	Pentium 4 650	3.40 2MB	800	HT	EM64T 512MB	Diskette	80G	DVD	GMA	No Finger	3-yr	Nov 05
M52	8113-DCU	4x4	Pentium 4 630	3.00 2MB	800	HT	EM64T 512MB	Diskette	80G	CD	GMA	No Pref	3-yr	Feb 06
M52	8113-EGU	4x4	Pentium 4 640	3.20 2MB	800	HT	EM64T 1GB	Diskette	80G	Combo	GMA	No Pref	3-yr	Feb 06
M52	8113-EJU	4x4	Pentium 4 640	3.20 2MB	800	HT	EM64T 1GB	Diskette	160G	DVD±RW ⁶	X300SE	No Pref	3-yr	Feb 06
M52	8113-EKU	4x4	Pentium 4 640	3.20 2MB	800	HT	EM64T 1GB	Diskette	160G	Combo	X300SE	No Pref	3-yr	Feb 06
M52	8113-DFU	4x4	Pentium 4 630	3.00 2MB	800	HT	EM64T 512MB	Diskette	80G	Combo	GMA	No Pref	3-yr	Educ Apr 06
M52	8113-ELU	4x4	Pentium 4 640	3.20 2MB	800	HT	EM64T 512MB	Diskette	80G	Combo	GMA	No Pref	3-yr	Educ Apr 06
M52	8113-FGU	4x4	Pentium 4 650	3.40 2MB	800	HT	EM64T 512MB	Diskette	160G	DVD±RW	X300SE	No Pref	3-yr	Educ Apr 06
M52	8113-H3U	4x4	Pentium 4 661	3.60 2MB	800	HT	EM64T 512MB	Diskette	80G	CD	GMA	No Pref	3-yr	Apr 06
M52	8113-H4U	4x4	Pentium 4 661	3.60 2MB	800	HT	EM64T 512MB	Diskette	80G	DVD	GMA	No Pref	3-yr	Apr 06
M52	8113-H6U	4x4	Pentium 4 661	3.60 2MB	800	HT	EM64T 1GB	Diskette	80G	Combo	GMA	No Pref	3-yr	Apr 06

Processor **Intel® Pentium 4 Processor 519K, 521, 630, 640, 650 or 661** with single-core, EM64T, Execute Disable Bit, and 533 or 800MHz bus
 Processor features *Some:* Hyper-Threading (HT) technology
 L2 cache **1MB or 2MB** std and max / ECC / full speed
 Implementation Processor and L2 cache in FC-LGA4 in LGA775 socket

Memory - std/max⁹ **512MB or 1GB std / 4GB max / DDR2 only**
 Memory Four 240-pin DIMM sockets / one socket used / **PC2-4200 533MHz DDR2** / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable

Graphics (one of following) **Intel Graphics Media Accelerator 950 (GMA 950)** / integrated graphics in 945G / 400MHz / supports dual independent display
ATI® RADEON® X300 SE / PCI Express x16 adapter / **128MB** 400MHz DDR1 / 400MHz RAMDAC / two 15-pin analog D-sub connectors / dual head support

SATA disk **40, 80 or 160GB** / SATA150 7200 rpm / vibration dampening mounts
 SATA controller Serial ATA / 300 MB/sec SATA300 / integrated in ICH7
 SATA cables One SATA cable (one 1-drop to disk) / 4 SATA connectors on planar
 EIDE CD *Some:* 48X-20X⁴ CD-ROM
 EIDE DVD *Some:* 16X-48X Max⁴ DVD-ROM / single-layer
 EIDE CD-RW *Some:* 48X/32X/48X Max⁴ CD-RW
 EIDE Combo *Some:* 48X/32X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo
 EIDE DVD±RW *Some:* DVD and CD burner / Multi-Burner Plus (part 73P3370)
 EIDE controller Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)
 EIDE cables One 2-drop EIDE cable to optical / one connector on systemboard
 Diskette drive *Some:* 3.5" 1.44MB diskette drive

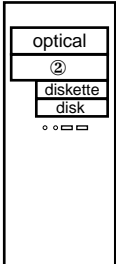
Chipset **Intel 945G Express Chipset** / 82945G Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log

Front ports Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)
 Rear ports Six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)
 Rear audio ports Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)
 Audio High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software
 Beeper One internal speaker for business audio
 Ethernet Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1
 Security chip **Trusted Platform Module** / in NS PC8375S chip / TCG 1.2-compliant

Keyboard (one of following) [Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black
 [Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black
 Mouse Optical Wheel Mouse (USB only), 400 dpi, black
 Cooling fans Two variable speed fans (front and power supply)
 Power supply 310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs

Tower

- Business black color
- 7.0" W X 17.7" D X 17.0" H
- 178mm W X 450mm D X 432mm H
- 25.0 to 27.5 lb (11.3 to 12.5 kg)
- Handle on top front
- Thumbscrew to remove bay 3 and 4
- Toolless install and removal of disk, optical, diskette
- Toolless install and removal of side cover
- Toolless install and removal of adapter cards



Bay ① 5.25", HH 1.6", access, std optical
 Bay ② 5.25", SL 1.6", access, open
 Bay ③ 3.5", SL 1", access, std diskette
 Bay ④ 3.5", SL 1", no access, std disk

Slot 1: full-length, full-height, PCI Express x16 (75w max)^{*}
 Slot 2: full-length, full-height, PCI Express x1
 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)
 Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)
^{*} slot used by adapter in some models

SECURITY

- Security chip (see information on left)
- One lock to secure both cover and entire system to fixed object:
 - Padlock loop (in rear for opt padlock)
 - Security slot (in rear for optional Kensington Microsaver cable)
- No keylock
- Power-on password
- Administrator password
- Hard disk password (user and master)
- Boot sequence control
- Boot without keyboard, mouse, diskette
- USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable
- Disk, removable, and network device boot password
- Diskette write protect
- Front USB port disablement
- Some:* fingerprint reader keyboard

Supports ThinkVantage® technologies; visit thinkcentre.com/thinkvantage

Preload with Windows XP Professional ⁵	Accessories
Microsoft® Windows® XP Professional	512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983
Preloaded (only some listed)	1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984
• <i>Some:</i> contains additional module with a specialized education preload image in the base preload package	2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985
• Rescue and Recovery™	250GB Serial ATA300 Disk (7200 rpm) 41N3015
• Multimedia Center for Think Offerings (CD-RW, combo, DVD models)	Super Multi-Burner DL DVD±RW Drive 41N5581
• RecordNow and DLA (CD-RW, combo)	USB 2.0 Essential Memory Key 2GB 41U4944
• InterVideo WinDVD (combo, DVD)	Lenovo Laser Mouse (USB, PS/2) 41U3074
	DVI-I PCIe Connection Adapter (ADD2) 73P2516
	ATI® RADEON® X300 SE 128MB Dual Head 41U4813
	ATI X1300 256MB Dual Head/TV-out 41U5028
	Other accessories at lenovo.com/accessories

LIMITED WARRANTY¹

- 3-year parts and labor
- International Warranty Service⁹
- Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)
- ThinkPlus™ services at lenovo.com/thinkplus/warranty
- 24x7¹⁴ toll-free support for warranty issues during the warranty period¹

See footnotes for important warranty information

¹⁴ US models announced on June 6, 2006; previous models on Nov 8, 2005 and Feb 21, 2006 and Apr 5, 2006

ThinkCentre® M52 Tower (8113) - Pentium 4 (August 2006) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Memory*	Diskette drive	SATA disk	EIDE optical	Graphics	Intel IAMT	Key-board	Vista™ capable	Limited warranty ¹	Workhorse Gbl, Educ	Avail date	
M52	8113-5BU	4x4	Pentium® 4 531	4 531	3.00	1MB 800	1GB	Diskette	80G	Combo	GMA 950	No	Pref	Yes	3-yr	Educ	Aug 06
M52	8113-5CU	4x4	Pentium 4 531	4 531	3.00	1MB 800	512MB	Diskette	80G	DVD	GMA 950	No	Pref	Yes	3-yr	Educ	Aug 06
M52	8113-67U	4x4	Pentium 4 541	3.20	1MB 800	512MB	Diskette	80G	DVD	GMA 950	No	Pref	Yes	3-yr		Aug 06	
M52	8113-68U	4x4	Pentium 4 541	3.20	1MB 800	1GB	Diskette	80G	Combo	GMA 950	No	Pref	Yes	3-yr		Aug 06	

Processor	Intel® Pentium 4 Processor 531 or 541 with single-core, EM64T, Hyper-Threading technology, Execute Disable Bit, 800MHz system bus, and 1MB L2 cache										Tower		
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket										<ul style="list-style-type: none"> Business black color 7.0" W X 17.7"D X 17.0"H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 		
Memory - std/max ⁵	512MB or 1GB std / 4GB max / DDR2 / Memory										<ul style="list-style-type: none"> Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, std diskette Bay ④ 3.5", SL 1", no access, std disk 		
Memory	Two 240-pin gold plated DIMM sockets / model 5BU: two sockets used (512MB per socket); other models: one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable										<ul style="list-style-type: none"> Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v) 		
Graphics (one of following)	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory / 400MHz / one 15-pin analog D-sub connector / supports dual independent display with optional ADD2 adapter										SECURITY		
SATA disk	80GB / SATA300 7200 rpm / vibration dampening mounts										<ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington Microsaver cable) No keylock 		
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7										<ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement 		
SATA cables	One SATA cable (one 1-drop to disk) / 4 SATA connectors on planar												
EIDE DVD	Some: 16X-48X Max ⁴ DVD-ROM / single-layer												
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo												
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)												
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard												
Diskette drive	Some: 3.5" 1.44MB diskette drive												
Chipset	Intel 945 Express Chipset / 82945G Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keyboard, mouse, auto-thermal controls, hardware event log												
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)												
Rear ports	Six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)												
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)												
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software												
Beeper	One internal speaker for business audio												
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1												
Security chip	Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant												
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black												
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black												
Cooling fans	Two variable speed fans (front and power supply)												
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs												
Preload with Windows XP Professional⁵	Accessories										Supports ThinkVantage® technologies; visit thinkcentre.com/thinkvantage		
Microsoft® Windows® XP Professional	512MB PC2-5300 CL5 NP DDR2 UDIMM										73P4983		
Preloaded (only some listed)	1GB PC2-5300 CL5 NP DDR2 UDIMM										73P4984		
• Education models: VitalSource Library education software	2GB PC2-5300 CL5 NP DDR2 UDIMM										73P4985		
• Education models: Adobe® Photoshop® Elements plus Adobe Premiere® Elements	160GB Serial ATA300 Disk (7200 rpm)										09N4254		
• Rescue and Recovery™	250GB Serial ATA300 Disk (7200 rpm)										41N3015		
• Client Security Solution™	Super Multi-Burner DL DVD±RW Drive										41N5581		
• ThinkVantage Productivity Center	USB Portable Diskette Drive										05K9276		
• ThinkVantage System Update	USB Fingerprint Reader										41U3167		
• ThinkVantage Fingerprint Software (fingerprint models)	USB Gemplus GemPC Smart Card Reader										41N3040		
• Symantec® Client Security™	USB 2.0/Analog Headset by Sennheiser										40Y8518		
• Diskeeper Lite	USB 2.0 Lenovo Webcam										40Y8519		
• PC-Doctor™ (diagnostics)	USB 2.0 Memory Key 1GB										40Y7421		
• Google Toolbar	USB 2.0 Essential Memory Key 2GB										41U4944		
• Google Desktop	USB 2.0 CD-RW/DVD-ROM Combo II Drive										40Y8637		
• Picasa from Google	USB 2.0 Portable 120GB Hard Disk										41N8379		
• Multimedia Center for Think Offerings (combo, DVD)	USB 2.0 Super Multi-Burner Drive										41N5565		
• Sonic RecordNow and Drive Letter Access (combo)	Lenovo L191 19" Monitor (black)										6135AB1		
• InterVideo WinDVD (combo, DVD)	Lenovo L192 Wide 19" Monitor (black)										6920AB1		
CD	ThinkVision® L171p 17" Monitor (black)										9417HC2		
• Education models: Adobe Photoshop Elements plus Adobe Premiere Elements	ThinkVision® L201p 20.1" Monitor (black)										9220HB1		
License - CD not included	USB Optical Wheel Mouse (black)										06P4069		
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	ScrollPoint® Pro Optical Mouse (black)										31P8700		
	Optical 3-button ScrollPoint Mouse (black)										31P7405		
	Lenovo Laser Mouse (USB, PS/2)										41U3074		
	Kensington® MicroSaver® Desktop Lock										06P3839		
	Preferred Pro USB Fingerprint Keyboard										73P4730		
	DVI-I PCIe Connection Adapter (ADD2)										73P2516		
	ATI® RADEON® X300 SE 128MB Dual Head										41U4813		
	ATI X1300 256MB Dual Head/TV-out										41U5028		
	Other accessories at lenovo.com/accessories												
											LIMITED WARRANTY¹		
											<ul style="list-style-type: none"> 3-year parts and labor International Warranty Service® Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) Other ThinkPlus services at lenovo.com/thinkplus/warranty Post-warranty maintenance services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 		

See footnotes for important warranty information
US models announced August 22, 2006
US models withdrawn effective June 2007

ThinkCentre® M52 Desktop (8212) - Celeron - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache GHz	Bus MHz	Hyper-Thread	Memory ⁶	SATA disk	EIDE optical	Graphics	Chipset	Cover switch	Floor stand	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date	
M52	8212-A1U	3x3	Celeron® D 331	2.66	256K	533	No	256MB	40GB ²	CD	GMA 950	945G	No	Yes	XP Pro	3-yr	No	Aug 05
M52	8212-A2U	3x3	Celeron D 336	2.80	256K	533	No	512MB	40GB	CD	GMA 950	945G	No	Yes	XP Pro	3-yr	No	Aug 05
M52	8212-A3U	3x3	Celeron D 346	3.06	256K	533	No	512MB	40GB	CD	GMA 950	945G	No	Yes	XP Pro	3-yr	No	Aug 05

Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Celeron D Processor 331 (2.66GHz), 336 (2.80GHz), 346 (3.06GHz) with single-core, EM64T, Execute Disable Bit, and 533MHz system bus										Desktop			
L2 cache Implementation	256KB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket										Bay ① 5.25", HH 1.6", access, std or opt optical		Bay ② 3.5", SL 1", access, std or opt diskette	
Memory - std/max ⁸ Memory	256 or 512MB std / 4GB max / DDR2 only Four 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable										Bay ③ 3.5", SL 1", no access, std disk		Slot 1: full-length (170mm), low-profile, PCI Express x16 (25w max), supports optional ADD2 card	
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector										Slot 2: half-length, full-height, 32-bit PCI 2.3 (5v)		Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)	
SATA disk SATA controller SATA cables EIDE CD EIDE controller EIDE cables Diskette drive	40GB / SATA150 7200 rpm / vibration dampening mounts Serial ATA / 300 MB/sec SATA300 / integrated in ICH7 One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar 48X-20X ⁴ CD-ROM Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7) One 2-drop EIDE cable to optical / one connector on systemboard 3.5" 1.44MB diskette drive										<ul style="list-style-type: none"> • Business black color; metal case • 13.8" W X 15.2"D X 4.2"H • 350mm W X 385mm D X 108mm H • With vertical stand: 5.9" W X 15.2"D X 15.0"H • With vertical stand: 150mm W X 385mm D X 380mm H • 18.5 to 22.0 lb (8.4 to 10.0 kg) • All three bays flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI) • Toolless systemboard and adapter retention • Steel chassis supports 100 lb (45kg) monitor on top • System floor stand for vertical orientation (ships std) 			
Chipset	Intel 945G Express Chipset / 82945G Graphics Mem Cont Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, LPC interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log										<ul style="list-style-type: none"> • PC 2001-compliant • ACPI 2.0c-compliant • SMBIOS 2.3.4-compliant • DMI 2.0-compliant • SMBus 2.0-compliant • Asset ID¹⁹ (system specific info in chip) 			
Front ports Rear ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm) Six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)													
Rear audio ports Audio Speaker Ethernet	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm) High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software One internal speaker for business audio Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1 / full duplex / Wake on LAN® / PXE 2.0 and RPL remote boot													
Modem Security chip	None Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant													
Keyboard Mouse Cooling fans Power supply	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), blk Optical Wheel Mouse (USB only), 400 dpi, black Three variable speed fans (two front and one power supply) 225 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs													
Preload with Windows XP Professional⁵	Accessories													
Microsoft® Windows® XP Professional with Service Pack 2	512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983													
- Disk-to-Disk Recovery (in hidden protected area)	1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984													
Preloaded	2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985													
• Access Program	160GB Serial ATA300 Disk (7200 rpm) 09N4254													
• Rescue and Recovery™	250GB Serial ATA300 Disk (7200 rpm) 41N3015													
• Adobe Reader	Super Multi-Burner DL DVD±RW Drive 41N5581													
• Norton AntiVirus (OEM version)	USB Portable Diskette Drive 05K9276													
• PC-Doctor™ (diagnostics)	USB Fingerprint Reader 41U3167													
• Client Security Software	USB Gemplus GemPC Smart Card Reader 41N3040													
Downloadable	USB 2.0 Analog Headset by Sennheiser 40Y8518													
• Software Delivery Assistant	USB 2.0 Lenovo Webcam 40Y8519													
• System Migration Assistant	USB 2.0 Memory Key 512MB 40Y8596													
• IBM Director Agent	USB 2.0 Memory Key 1GB 40Y7421													
License - CD not included	USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637													
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	USB 2.0 Portable 120GB Hard Disk 41N8379													
	USB 2.0 Super Multi-Burner Drive 41N5565													
	Lenovo L191 19" Monitor (black) 6135AB1													
	Lenovo L192 Wide 19" Monitor (black) 6920AB1													
	Lenovo D221 Wide 22" Monitor (black) 6622HB2													
	ThinkVision® L171 17" Monitor (black) 9417AC1													
	ThinkVision L171p 17" Monitor (black) 9417HC2													
	ThinkVision L192p 19" Monitor (black) 9419HC2													
	ThinkVision L201p 20.1" Monitor (black) 9220HB1													
	ScrollPoint® Pro Optical Mouse (black) 31P8700													
	Lenovo Laser Mouse (USB, PS/2) 41U3074													
	Enhanced Performance USB Keyboard 73P2620													
	Preferred Pro USB Fingerprint Keyboard 73P4730													
	Kensington® MicroSaver® Desktop Lock 06P3839													
	DVI-I PCIe Connection Adapter (ADD2) 73P2516													
	ATI® RADEON® X300 SE 128MB Dual Head 41U4813													
	ATI X1300 256MB Dual Head/TV-out 41U5028													
	Other accessories at lenovo.com/accessories													
											<ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • U-bolt anchoring feature (U-bolt is optional; supports optional padlock) • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement 			
											Supports ThinkVantage® technologies; visit thinkcentre.com/thinkvantage			
											LIMITED WARRANTY¹			
											<ul style="list-style-type: none"> ↪ 3-year parts and labor ↪ International Warranty Service⁹ ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 24x7, 4 hour response (ThinkPlus™ part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) ↪ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 			

See footnotes for important warranty information
US models announced August 23, 2005
US models withdrawn effective June 2007

ThinkCentre® M52 Desktop (8212) - Pentium 4 - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type	Slot x model bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	Execute disable	Memory*	Diskette drive	SATA disk	EIDE optical	Graphics	Cover switch	Intel AMT board	Key-board	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
M52	8212-21U	3x3	Pentium® 4 516	2.93	1MB	533			512MB	Dskte	40GB ²	CD	GMA			Pref	3-year		Aug 05
M52	8212-22U	3x3	Pentium 4 516	2.93	1MB	533			512MB	Dskte	80GB	DVD	GMA			Pref	3-year		Aug 05
M52	8212-23U	3x3	Pentium 4 519	3.06	1MB	533		XD	512MB	Dskte	40GB	CD	GMA			Pref	3-year		Aug 05
M52	8212-24U	3x3	Pentium 4 519	3.06	1MB	533		XD	512MB	Dskte	80GB	DVD	GMA			Pref	3-year		Aug 05
M52	8212-29U	3x3	Pentium 4 521	2.80	1MB	800	HT	XD	512MB		80GB	CD	GMA			Pref	3-year		Jun 06
M52	8212-2AU	3x3	Pentium 4 521	2.80	1MB	800	HT	XD	512MB		80GB	Combo	GMA			Pref	3-year		Jun 06
M52	8212-12U	3x3	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	Dskte	40GB	CD	GMA			Pref	3-year		Aug 05
M52	8212-13U	3x3	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	Dskte	80GB	Combo	GMA			Pref	3-year		Aug 05
M52	8212-15U	3x3	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	Dskte	80GB	DVD	GMA	Switch		Finger	3-year		Aug 05
M52	8212-16U	3x3	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	Dskte	80GB	DVD	GMA			Pref	3-year	W G	Aug 05
M52	8212-1DU	3x3	Pentium 4 541	3.20	1MB	800	HT	XD	512MB	Dskte	80GB	DVD	GMA			Pref	3-year	G	Aug 05
M52	8212-1MU	3x3	Pentium 4 551	3.40	1MB	800	HT	XD	512MB	Dskte	80GB	DVD	GMA			Pref	3-year		Aug 05
M52	8212-1QU	3x3	Pentium 4 630	3.00	2MB	800	HT	XD	512MB	Dskte	80GB	DVD	GMA			Pref	3-year	G	Aug 05
M52	8212-1YU	3x3	Pentium 4 630	3.00	2MB	800	HT	XD	512MB	Dskte	80GB	Combo	GMA			Pref	3-year		Aug 05
M52	8212-1H1U	3x3	Pentium 4 630	3.00	2MB	800	HT	XD	512MB	Dskte	80GB	DVD	GMA		IAMT	Pref	3-year	G	Aug 05
M52	8212-1SU	3x3	Pentium 4 640	3.20	2MB	800	HT	XD	512MB	Dskte	80GB	DVD	GMA			Pref	3-year		Aug 05
M52	8212-E1U	3x3	Pentium 4 640	3.20	2MB	800	HT	XD	512MB	Dskte	40GB	CD	GMA			Pref	3-year		Aug 05
M52	8212-E2U	3x3	Pentium 4 640	3.20	2MB	800	HT	XD	512MB	Dskte	80GB	Combo	GMA			Pref	3-year		Aug 05
M52	8212-1VU	3x3	Pentium 4 650	3.40	2MB	800	HT	XD	512MB	Dskte	80GB	DVD	GMA			Pref	3-year		Aug 05
M52	8212-F1U	3x3	Pentium 4 650	3.40	2MB	800	HT	XD	512MB	Dskte	40GB	CD	GMA			Pref	3-year		Aug 05
M52	8212-F2U	3x3	Pentium 4 650	3.40	2MB	800	HT	XD	512MB	Dskte	80GB	Combo	GMA			Finger	3-year		Aug 05
M52	8212-H2U	3x3	Pentium 4 630	3.00	2MB	800	HT	XD	512MB		40GB	CD	GMA			Pref	3-year		Nov 05
M52	8212-E7U	3x3	Pentium 4 640	3.20	2MB	800	HT	XD	512MB	Dskte	80GB	DVD	GMA			Pref	3-year	G	Nov 05
M52	8212-L4U	3x3	Pentium 4 661	3.60	2MB	800	HT	XD	512MB	Dskte	80GB	DVD	GMA			Pref	3-year		Jan 06
M52	8212-L6U	3x3	Pentium 4 661	3.60	2MB	800	HT	XD	1GB	Dskte	80GB	Combo	GMA			Pref	3-year		Jan 06
M52	8212-H9U	3x3	Pentium 4 630	3.00	2MB	800	HT	XD	512MB	Dskte	80GB	DVD	GMA			Pref	3-year	Educ	Apr 06
M52	8212-EBU	3x3	Pentium 4 640	3.20	2MB	800	HT	XD	512MB	Dskte	80GB	Combo	GMA			Pref	3-year	Educ	Apr 06

Processor	Intel® Pentium 4 Processor 516, 519, 521, 531, 541, 551, 630, 640 650, or 661 with single-core, EM64T, and 533 or 800MHz bus	Desktop	
Processor features	<i>Some:</i> Hyper-Threading (HT) technology, Execute Disable Bit (XD) L2 cache 1MB or 2MB std and max / ECC / full speed	Bay ① 5.25", HH 1.6", access, std or opt optical Bay ② 3.5", SL 1", access, std or opt diskette Bay ③ 3.5", SL 1", no access, std disk	
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket	Slot 1: full-length (170mm), low-profile, PCI Express x16 (25w max), supports optional ADD2 card Slot 2: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)	
Memory - std/max ⁵	512MB or 1GB std / 4GB max / DDR2 only	• Business black color; metal case • 13.8" W X 15.2"D X 4.2"H • 350mm W X 385mm D X 108mm H • With vertical stand: 5.9" W X 15.2"D X 15.0"H • With vertical stand: 150mm W X 385mm D X 380mm H • 18.5 to 22.0 lb (8.4 to 10.0 kg) • All three bays flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI) • Toolless systemboard and adapter retention • Steel chassis supports 100 lb (45kg) monitor on top • System floor stand for vertical orientation (ships std)	
Memory	Four 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable		
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics / uses main memory / 400MHz / one 15-pin analog connector		
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts		
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7		
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar		
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM		
EIDE DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE		
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)		
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard		
Diskette drive	<i>Some:</i> 3.5" 1.44MB diskette drive		
Chipset	Intel 945G Express Chipset / 82945G Graphics Mem Cont Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log		
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1		
Intel AMT	<i>Some:</i> Intel Active Management Technology (IAMT)		
Security chip	Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant		
Keyboard	[Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black (one of following)		
Mouse	[Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), blk		
Cooling fans	Optical Wheel Mouse (USB only), 400 dpi, black		
Power supply	Three variable speed fans (two front and one power supply)		
	225 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		
Preload with Windows XP Professional⁵	Accessories		
Microsoft® Windows® XP Professional	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983	
Preloaded (only some listed)	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	
• <i>Some:</i> contains additional module with a specialized education preload image in the base preload package	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985	
• Multimedia Center for Think Offerings (DVD, combo models)	250GB Serial ATA300 Disk (7200 rpm)	41N3015	
• RecordNow and DLA (combo models)	USB 2.0 Essential Memory Key 2GB	41U4944	
• InterVideo WinDVD (combo models)	ThinkVision® L201p 20.1" Monitor (black)	9220HB1	
	DVI-I PCIe Connection Adapter (ADD2)	73P2516	
	ATI® RADEON® X300 SE 128MB Dual Head	41U4813	
	ATI X1300 256MB Dual Head/TV-out	41U5028	
	Other accessories at lenovo.com/accessories		
			<ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • U-bolt anchoring feature (U-bolt is optional; supports optional padlock) • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement • <i>Some:</i> cover intrusion switch • <i>Some:</i> fingerprint reader keyboard
			<ul style="list-style-type: none"> ⇒ 3-year parts and labor limited warranty¹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)

See footnotes for important warranty information
US models announced on Aug 23, 2005, Nov 8, 2005, Jan 24, 2006, April 4, 2006 and June 6, 2006
US models withdrawn effective May 2006 or June 2007

ThinkCentre® M52 Desktop (8212) - Pentium 4 (Aug 2006) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type	Slot x bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	Execute disable	Memory*	Diskette drive	SATA disk	EIDE optical	Graphics	Cover switch	Key-board	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
M52	8212-3BU	3x3	Pentium® 4 531	3.00	1MB	800	HT	XD	512MB	Dskte	80GB	DVD	GMA 950	No	Pref	3-year	Educ	Aug 06
M52	8212-44U	3x3	Pentium 4 541	3.20	1MB	800	HT	XD	512MB	Dskte	80GB	DVD	GMA 950	No	Pref	3-year		Aug 06
M52	8212-45U	3x3	Pentium 4 541	3.20	1MB	800	HT	XD	1GB	Dskte	80GB	Combo	GMA 950	No	Pref	3-year		Aug 06

Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Pentium 4 Processor 531 or 541 with single-core, EM64T, Hyper-Threading (HT) technology, Execute Disable Bit (XD), 800MHz system bus, and 1MB L2 cache										Desktop			
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket										Bay ① 5.25", HH 1.6", access, std or opt optical		Bay ② 3.5", SL 1", access, std or opt diskette	
Memory - std/max	512MB or 1GB std / 4GB max / DDR2 only										Bay ③ 3.5", SL 1", no access, std disk		Slot 1: full-length (170mm), low-profile, PCI Express x16 (25w max), supports optional ADD2 card	
Memory	Four 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable										Slot 2: half-length, full-height, 32-bit PCI 2.3 (5v)		Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)	
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector										<ul style="list-style-type: none"> • Business black color; metal case • 13.8" W X 15.2"D X 4.2"H • 350mm W X 385mm D X 108mm H • With vertical stand: 5.9" W X 15.2"D X 15.0"H • With vertical stand: 150mm W X 385mm D X 380mm H • 18.5 to 22.0 lb (8.4 to 10.0 kg) • All three bays flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI) • Toolless systemboard and adapter retention • Steel chassis supports 100 lb (45kg) monitor on top • System floor stand for vertical orientation (ships std) 			
SATA disk	80GB / SATA300 7200 rpm / vibration dampening mounts										<p style="text-align: center;">SECURITY</p> <ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • U-bolt anchoring feature (U-bolt is optional; supports optional padlock) • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement 			
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7													
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar													
EIDE DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE													
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo													
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)													
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard													
Diskette drive	3.5" 1.44MB diskette drive													
Chipset	Intel 945G Express Chipset / 82945G Graphics Mem Cont Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log													
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)													
Rear ports	Six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)													
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)													
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software													
Speaker	One internal speaker for business audio													
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1													
Security chip	Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant													
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black													
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black													
Cooling fans	Three variable speed fans (two front and one power supply)													
Power supply	225 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs													
Preload with Windows XP Professional⁵	Accessories													
Microsoft® Windows® XP Professional	512MB PC2-5300 CL5 NP DDR2 UDIMM										73P4983			
- Disk-to-Disk Recovery (in hidden protected area)	1GB PC2-5300 CL5 NP DDR2 UDIMM										73P4984			
	2GB PC2-5300 CL5 NP DDR2 UDIMM										73P4985			
	160GB Serial ATA300 Disk (7200 rpm)										09N4254			
	250GB Serial ATA300 Disk (7200 rpm)										41N3015			
	Super Multi-Burner DL DVD±RW Drive										41N5581			
	USB Portable Diskette Drive										05K9276			
	USB Fingerprint Reader										41U3167			
	USB Gemplus GemPC Smart Card Reader										41N3040			
	USB 2.0/Analog Headset by Sennheiser										40Y8518			
	USB 2.0 Lenovo Webcam										40Y8519			
	USB 2.0 Memory Key 512MB										40Y8596			
	USB 2.0 Memory Key 1GB										40Y7421			
	USB 2.0 Essential Memory Key 2GB										41U4944			
	USB 2.0 CD-RW/DVD-ROM Combo II Drive										40Y8637			
	USB 2.0 Portable 120GB Hard Disk										41N8379			
	USB 2.0 Super Multi-Burner Drive										41N5565			
	Lenovo L191 19" Monitor (black)										6135AB1			
	Lenovo L192 Wide 19" Monitor (black)										6920AB1			
	Lenovo D221 Wide 22" Monitor (black)										6622HB2			
	ThinkVision® L171p 17" Monitor (black)										9417HC2			
	ThinkVision L192p 19" Monitor (black)										9419HC2			
	ThinkVision L201p 20.1" Monitor (black)										9220HB1			
	Kensington® MicroSaver® Desktop Lock										06P3839			
	Enhanced Performance USB Keyboard										73P2620			
	Preferred Pro USB Fingerprint Keyboard										73P4730			
	ScrollPoint® Pro Optical Mouse (black)										31P8700			
	Lenovo Laser Mouse (USB, PS/2)										41U3074			
	DVI-I PCIe Connection Adapter (ADD2)										73P2516			
	ATI® X1300 256MB Dual Head/TV-out										41U5028			
	Other accessories at lenovo.com/accessories													
	CD													
	<i>Education model:</i> Adobe Photoshop Elements plus Adobe Premiere Elements													
	License - CD not included													
	- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client													
	Supports ThinkVantage® technologies; visit thinkcentre.com/thinkvantage													
	LIMITED WARRANTY¹													
	<ul style="list-style-type: none"> ⇒ 3-year parts and labor ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇒ Other ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ Post warranty maintenance services available ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 													

See footnotes for important warranty information
US models announced August 1, 2006
US models withdrawn effective June 2007

ThinkCentre® M52 Desktop (8212) - Pentium D - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Dual core	Memory ^a	Diskette drive	SATA disk	EIDE optical	Graphics	Intel IAMT	Floor stand	Vista™ capable	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
M52	8212-G1U	3x3	Pentium® D 820	2.80	2x1MB	Dual	512MB	Dskte	80GB ²	Combo	GMA		Yes	Yes	3-year		Aug 05
M52	8212-G2U	3x3	Pentium D 820	2.80	2x1MB	Dual	512MB	Dskte	80GB	DVD	GMA		Yes	Yes	3-year		Aug 05
M52	8212-G3U	3x3	Pentium D 820	2.80	2x1MB	Dual	512MB	Dskte	80GB	Combo	GMA		No	Yes	3-year		Nov 05
M52	8212-G9U	3x3	Pentium D 820	2.80	2x1MB	Dual	512MB	Dskte	80GB	DVD	GMA		Yes	Yes	3-year		Aug 06
M52	8212-GAU	3x3	Pentium D 820	2.80	2x1MB	Dual	512MB	Dskte	80GB	Combo	GMA		Yes	Yes	3-year	Educ	Aug 06
M52	8212-K3U	3x3	Pentium D 920	2.80	2x2MB	Dual	512MB	Dskte	80GB	DVD	GMA		Yes	Yes	3-year		Jan 06
M52	8212-JCU	3x3	Pentium D 925	3.00	2x2MB	Dual	512MB		80GB	DVD	GMA		Yes	Yes	3-year		Sep 06
M52	8212-JDU	3x3	Pentium D 925	3.00	2x2MB	Dual	1GB		80GB	Combo	GMA		Yes	Yes	3-year		Sep 06
M52	8212-K3U	3x3	Pentium D 930	3.00	2x2MB	Dual	512MB	Dskte	80GB	DVD	GMA		Yes	Yes	3-year		Jan 06
M52	8212-K4U	3x3	Pentium D 930	3.00	2x2MB	Dual	1GB	Dskte	80GB	Combo	GMA		Yes	Yes	3-year		Jan 06
M52	8212-84U	3x3	Pentium D 945	3.40	2x2MB	Dual	512MB	Dskte	80GB	Combo	GMA IAMT		Yes	Yes	3-year		Aug 06
M52	8212-85U	3x3	Pentium D 945	3.40	2x2MB	Dual	1GB	Dskte	80GB	Combo	GMA		Yes	Yes	3-year	Gbl	Aug 06
M52	8212-86U	3x3	Pentium D 945	3.40	2x2MB	Dual	512MB	Dskte	80GB	DVD	GMA IAMT		Yes	Yes	3-year	Gbl	Aug 06
M52	8212-87U	3x3	Pentium D 945	3.40	2x2MB	Dual	512MB	Dskte	80GB	DVD	GMA		Yes	Yes	3-year		Aug 06
M52	8212-8CU	3x3	Pentium D 945	3.40	2x2MB	Dual	512MB	Dskte	160GB	DVD±RW	GMA		Yes	Yes	3-year	Educ	Aug 06

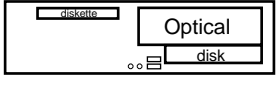
Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Pentium D Processor 820 with dual-core , EM64T, Execute Disable Bit, and 800MHz bus with 2x1MB L2 cache or Intel Pentium D Processor 920, 925, 930, or 945 with dual-core , Virtualization Technology (920/930), EM64T, Execute Disable Bit, EIST, and 800MHz system bus with 2x2MB L2 cache	Desktop	
Implementation	Processor and L2 cache in FC-LGA4 or LGA61 in LGA775 socket	Bay ① 5.25", HH 1.6", access, std or opt optical Bay ② 3.5", SL 1", access, std or opt diskette Bay ③ 3.5", SL 1", no access, std disk	
Memory - std/max ⁵	512MB or 1GB std / 4GB max / DDR2 only	Slot 1: full-length (170mm), low-profile, PCI Express x16 (25w max), supports optional ADD2 card	
Memory	Four 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	Slot 2: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)	
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory / 400MHz / one 15-pin analog D-sub connector	<ul style="list-style-type: none"> Business black color; metal case 13.8" W X 15.2"D X 4.2"H 350mm W X 385mm D X 108mm H With vertical stand: 5.9" W X 15.2"D X 15.0"H With vertical stand: 150mm W X 385mm D X 380mm H 18.5 to 22.0 lb (8.4 to 10.0 kg) All three bays flip up (latched and pivoting) Toolless cover flips up and tilts backward on rear hinges Toolless disk, diskette drive, optical drive removal Two slots on riser card (PCI) Toolless systemboard and adapter retention Steel chassis supports 100 lb (45kg) monitor on top Floor stand for vertical orientation (some models) 	
SATA disk	80 or 160GB / SATA300 7200 rpm / vibration dampening mounts		
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7		
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors		
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
EIDE DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE		
EIDE DVD±RW	<i>Some:</i> DVD and CD burner / Multi-Burner Plus (part 73P3370)		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)		
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard		
Diskette drive	<i>Some:</i> 3.5" 1.44MB diskette drive		
Chipset	Intel 945G Express Chipset / 82945G Graphics Mem Cont Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, LPC interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log		
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1 / full duplex / Wake on LAN® / PXE 2.0 and RPL remote boot		
IAMT	<i>Some:</i> Intel Active Management Technology (IAMT)		
Modem	None		
Security chip	Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant		
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), blk		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Power supply	225 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		

Preload with Windows XP Professional⁵	Accessories	
Microsoft® Windows® XP Professional	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983
Preloaded (only some listed)	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984
• <i>Education models:</i> VitalSource Library education software	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985
• <i>Education models:</i> Adobe® Photoshop® Elements plus Adobe Premiere® Elements	250GB Serial ATA300 Disk (7200 rpm)	41N3015
• ThinkVantage Productivity Center	Super Multi-Burner DL DVD±RW Drive	41N5581
• ThinkVantage System Update	USB 2.0 Lenovo Webcam	40Y8519
• Multimedia Center for Think Offerings (combo, DVD, DVD±RW)	USB 2.0 Essential Memory Key 2GB	41U4944
• Sonic RecordNow and Drive Letter Access (combo, DVD±RW)	USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637
• InterVideo WinDVD (combo, DVD, DVD±RW)	USB 2.0 Portable 120GB Hard Disk	41N8379
• InterVideo WinDVD Creator (DVD±RW)	USB 2.0 Super Multi-Burner Drive	41N5565
CD	Lenovo L192 Wide 19" Monitor (black)	6920AB1
• <i>Education models:</i> Adobe Photoshop Elements plus Adobe Premiere Elements	ThinkVision® L171p 17" Monitor (black)	9417HC2
	ThinkVision L201p 20.1" Monitor (black)	9220HB1
	Enh Perf Wireless Keyboard and Mouse	73P4067
	Preferred Pro USB Fingerprint Keyboard	73P4730
	DVI-I PCIe Connection Adapter (ADD2)	73P2516
	ATI® RADEON® X300 SE 128MB Dual Head	41U4813
	ATI X1300 256MB Dual Head/TV-out	41U5028
	Other accessories at lenovo.com/accessories	
		Supports ThinkVantage® technologies
		LIMITED WARRANTY¹
		⇒ 3-year parts and labor
		⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)
		⇒ Onsite service upgrade options (in eligible locations):⁷
		• 3-year LOR 24x7, 4 hour response (ThinkPlus™ part number 41C9193)
		• 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196)
		⇒ Other ThinkPlus services at lenovo.com/thinkplus/warranty
		⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹

See footnotes for important warranty information
US models announced on Aug 23, 2005, Nov 8, 2005, Jan 24, Aug 1, Aug 22, and Sep 26, 2006
US models withdrawn effective June 2007

ThinkCentre® M52 Small (8215) - Celeron - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache GHz	Bus MHz	Hyper-Thread	Memory ⁸	SATA disk	EIDE optical	Graphics	Chipset	Cover switch	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date	
M52	8215-A1U	2x3	Celeron® D 331	2.66	256K	533	No	256MB	40GB ²	CD	GMA 950	945G	No	XP Pro	3-yr	No	Jun 05
M52	8215-A2U	2x3	Celeron D 336	2.80	256K	533	No	512MB	40GB	CD	GMA 950	945G	No	XP Pro	3-yr	No	Jun 05
M52	8215-B2U	2x3	Celeron D 346	3.06	256K	533	No	512MB	40GB	CD	GMA 950	945G	No	XP Pro	3-yr	No	Jun 05
Positioning	<i>Stability and manageability for the enterprise</i>										Small						
Processor	Intel® Celeron D Processor 331 (2.66GHz), 336 (2.80GHz), 346 (3.06GHz) with single-core, EM64T, Execute Disable Bit, and 533MHz system bus																
L2 cache Implementation	256KB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket										Bay ① 3.5", slim .5", access, std diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk						
Memory - std/max ⁸	256 or 512MB std / 4GB max / DDR2 only										Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports optional DVI-I PCIe adptr only)						
Memory	Two 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable										<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1"D X 3.3"H (3.4"H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • With vertical stand: 5.0" W X 15.4"D X 13.6"H • With vertical stand: 127mm W X 390mm D X 346mm H • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • System stand for vertical orientation 						
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector										<ul style="list-style-type: none"> • PC 2001-compliant • ACPI 2.0c-compliant • SMBIOS 2.3.4-compliant • DMI 2.0-compliant • SMBus 2.0-compliant • Asset ID¹⁹ (system specific info in chip) 						
SATA disk	40GB / SATA150 7200 rpm / vibration dampening mounts										SECURITY <ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement 						
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7																
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar																
EIDE CD	48X-20X ⁴ CD-ROM																
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)																
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard										<ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement 						
Diskette drive	3.5" 1.44MB diskette drive										LIMITED WARRANTY¹ <ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 24x7, 4 hour response (ThinkPlus™ part number 41C9193) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 						
Chipset	Intel 945G Express Chipset / 82945G Graphics Mem Cont Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, LPC interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log										Supports ThinkVantage® technologies; visit thinkcentre.com/thinkvantage						
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)										LIMITED WARRANTY¹ <ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 24x7, 4 hour response (ThinkPlus™ part number 41C9193) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 						
Rear ports	Six USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)																
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)																
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software																
Speaker	One internal speaker for business audio																
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1 / full duplex / Wake on LAN® / PXE 2.0 and RPL remote boot																
Modem	None																
Security chip	Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant																
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black																
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black																
Cooling fans	Three variable speed fans (two front and one power supply)																
Power supply	225 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs																
Preload with Windows XP Professional⁵		Accessories															
Microsoft® Windows® XP Professional with Service Pack 2		512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983															
- Disk-to-Disk Recovery (in hidden protected area)		1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984															
Preloaded		2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985															
• Access Program		160GB Serial ATA300 Disk (7200 rpm) 09N4254															
• Rescue and Recovery™		250GB Serial ATA300 Disk (7200 rpm) 41N3015															
• Adobe Reader		Super Multi-Burner DL DVD±RW Drive 41N5581															
• Norton AntiVirus (OEM version)		USB Portable Diskette Drive 05K9276															
• PC-Doctor™ (diagnostics)		USB Fingerprint Reader 41U3167															
• Client Security Software		USB Gemplus GemPC Smart Card Reader 41N3040															
Downloadable		USB 2.0/Analog Headset by Sennheiser 40Y8518															
• Software Delivery Assistant		USB 2.0 Lenovo Webcam 40Y8519															
• System Migration Assistant		USB 2.0 Memory Key 512MB 40Y8596															
• IBM Director Agent		USB 2.0 Memory Key 1GB 40Y7421															
License - CD not included		USB 2.0 Essential Memory Key 2GB 41U4944															
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client		USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637															
		USB 2.0 Portable 120GB Hard Disk 41N8379															
		USB 2.0 Super Multi-Burner Drive 41N5565															
		Lenovo L191 19" Monitor (black) 6135AB1															
		Lenovo L192 Wide 19" Monitor (black) 6920AB1															
		Lenovo D221 Wide 22" Monitor (black) 6622HB2															
		ThinkVision® L171p 17" Monitor (black) 9417HC2															
		ThinkVision L192p 19" Monitor (black) 9419HC2															
		ThinkVision L201p 20.1" Monitor (black) 9220HB1															
		ScrollPoint Pro Optical Mouse (black) 31P8700															
		Optical 3-button ScrollPoint Mouse (black) 31P7405															
		Lenovo Laser Mouse (USB, PS/2) 41U3074															
		Kensington® MicroSaver® Desktop Lock 06P3839															
		Enhanced Performance USB Keyboard 73P2620															
		Preferred Pro USB Keyboard 73P5220															
		Preferred Pro USB Fingerprint Keyboard 73P4730															
		DVI-I PCIe Connection Adapter (ADD2) 73P2516															
		Other accessories at lenovo.com/accessories															

See footnotes for important warranty information
US models announced June 28, 2005
US models withdrawn effective June 2007

ThinkCentre® M52 Small (8215) - Pentium 4 - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	Execute disable	Memory ^a	Diskette drive	SATA disk	EIDE optical	Graphics	Cover switch	Intel Key-AMT board	Limited warranty	Workhorse Gbl, Educ	Avail date
M52	8215-13U	2x3	Pentium® 4 516	2.93	1MB	533		512MB	40GB ²	CD	GMA		Pref	3-yr		Jun 05	
M52	8215-14U	2x3	Pentium 4 516	2.93	1MB	533		512MB	Diskette 80GB	DVD	GMA		Pref	3-yr		Jun 05	
M52	8215-21U	2x3	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	40GB	CD	GMA	Pref	3-yr		Jun 05	
M52	8215-22U	2x3	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	Diskette 40GB	CD	GMA	Pref	3-yr		Jun 05	
M52	8215-23U	2x3	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	Diskette 80GB	Combo	GMA	Pref	3-yr		Jun 05	
M52	8215-25U	2x3	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	Diskette 80GB	DVD	GMA	Yes	Finger	3-yr	Jun 05	
M52	8215-29U	2x3	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	Diskette 80GB	DVD	GMA		Pref	3-yr	W G Jun 05	
M52	8215-31U	2x3	Pentium 4 541	3.20	1MB	800	HT	XD	512MB	Diskette 40GB	CD	GMA		Pref	3-yr	Jun 05	
M52	8215-32U	2x3	Pentium 4 541	3.20	1MB	800	HT	XD	512MB	Diskette 80GB	Combo	GMA		Pref	3-yr	Jun 05	
M52	8215-34U	2x3	Pentium 4 541	3.20	1MB	800	HT	XD	512MB	80GB	DVD	GMA		Pref	3-yr	Jun 05	
M52	8215-35U	2x3	Pentium 4 541	3.20	1MB	800	HT	XD	512MB	Diskette 80GB	DVD	GMA		Pref	3-yr	G Jun 05	
M52	8215-36U	2x3	Pentium 4 541	3.20	1MB	800	HT	XD	512MB	Diskette 80GB	DVD	GMA	Yes	Finger	3-yr	Jun 05	
M52	8215-41U	2x3	Pentium 4 551	3.40	1MB	800	HT	XD	512MB	Diskette 40GB	CD	GMA		Pref	3-yr	Jun 05	
M52	8215-42U	2x3	Pentium 4 551	3.40	1MB	800	HT	XD	512MB	Diskette 80GB	Combo	GMA		Pref	3-yr	Jun 05	
M52	8215-44U	2x3	Pentium 4 551	3.40	1MB	800	HT	XD	512MB	80GB	DVD	GMA		Pref	3-yr	Jun 05	
M52	8215-45U	2x3	Pentium 4 551	3.40	1MB	800	HT	XD	512MB	Diskette 80GB	DVD	GMA		Pref	3-yr	Jun 05	
M52	8215-46U	2x3	Pentium 4 551	3.40	1MB	800	HT	XD	512MB	Diskette 80GB	DVD	GMA	Yes	Finger	3-yr	Jun 05	
M52	8215-D1U	2x3	Pentium 4 630	3.00	2MB	800	HT	XD	512MB	Diskette 80GB	DVD	GMA		Pref	3-yr	W G Jun 05	
M52	8215-D6U	2x3	Pentium 4 630	3.00	2MB	800	HT	XD	512MB	Diskette 80GB	Combo	GMA		Pref	3-yr	Jun 05	
M52	8215-D7U	2x3	Pentium 4 630	3.00	2MB	800	HT	XD	512MB	Diskette 80GB	DVD	GMA	IAMT	Pref	3-yr	W G Aug 05	
M52	8215-E1U	2x3	Pentium 4 640	3.20	2MB	800	HT	XD	512MB	Diskette 80GB	DVD	GMA		Pref	3-yr	Jun 05	
M52	8215-E7U	2x3	Pentium 4 640	3.20	2MB	800	HT	XD	512MB	Diskette 80GB	Combo	GMA		Pref	3-yr	Jun 05	
M52	8215-F1U	2x3	Pentium 4 650	3.40	2MB	800	HT	XD	512MB	Diskette 80GB	DVD	GMA		Pref	3-yr	Jun 05	
M52	8215-F6U	2x3	Pentium 4 650	3.40	2MB	800	HT	XD	512MB	Diskette 80GB	Combo	GMA		Pref	3-yr	Jun 05	

Processor	Intel® Pentium 4 Processor 516, 531, 541, 551, 630, 640, or 650 with single-core, EM64T, and 533 or 800MHz system bus	Small 
Processor features	<i>Some:</i> Hyper-Threading (HT) technology, Execute Disable Bit (XD)	
L2 cache	1MB or 2MB std and max / ECC / full speed	Bay ① 3.5", slim .5", access, std or opt diskette
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket	Bay ② 5.25", HH 1.6", access, std optical
Memory - std/max ^a	512MB std / 4GB max / DDR2 only	Bay ③ 3.5", SL 1", no access, std disk
Memory	Two 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / 400MHz / one 15-pin analog connector	Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports optional DVI-I PCIe adptr only)
SATA disk	40GB (SATA150) or 80GB (SATA300) / 7200 rpm / rubber vibration dampening mounts	<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1"D X 3.3"H (3.4"H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • With vertical stand: 5.0" W X 15.4"D X 13.6"H • With vertical stand: 127mm W X 390mm D X 346mm H • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • System floor stand for vertical orientation
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7	
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar	
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM	
EIDE DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE	
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo	
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)	
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard	
Diskette drive	<i>Some:</i> 3.5" 1.44MB diskette drive	
Chipset	Intel 945G Express Chipset / 82945G Graphics Mem Cont Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log	
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	SECURITY <ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement • <i>Some:</i> cover intrusion switch • <i>Some:</i> fingerprint reader keyboard
Rear ports	Six USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)	
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software	
Speaker	One internal speaker for business audio	
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1	
Intel IAMT	<i>Some:</i> Intel Active Management Technology (IAMT)	
Security chip	Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant	
Keyboard	[Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black (one of following)	
Mouse	[Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black	
Cooling fans	Three variable speed fans (two front and one power supply)	
Power supply	225 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs	
Preload with Windows XP Professional⁵	Accessories	
Microsoft® Windows® XP Professional with Service Pack 2	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983
- Disk-to-Disk Recovery	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984
	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985
	250GB Serial ATA300 Disk (7200 rpm)	41N3015
Preloaded (only some listed)	Super Multi-Burner DL DVD±RW Drive	41N5581
• Access Program	USB Fingerprint Reader	41U3167
• Rescue and Recovery™	USB 2.0 Essential Memory Key 2GB	41U4944
• Norton AntiVirus (OEM version)	Lenovo L192 Wide 19" Monitor (black)	6920AB1
• PC-Doctor™ (diagnostics)	Lenovo D221 Wide 22" Monitor (black)	6622HB2
• Client Security Software	ThinkVision® L192p 19" Monitor (black)	9419HC2
• RecordNow and DLA (combo models)	DVI-I PCIe Connection Adapter (ADD2)	73P2516
• InterVideo WinDVD (combo models)	Other accessories at lenovo.com/accessories	
	Supports ThinkVantage® technologies; visit thinkcentre.com/thinkvantage	
	<ul style="list-style-type: none"> ↪ 3-year parts and labor limited warranty¹ ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ ThinkPlus™ services at lenovo.com/thinkplus/warranty 	

See footnotes for important warranty information
US models announced on June 28 and August 23, 2005
US models withdrawn effective May 2006 or June 2007

ThinkCentre® M52 Small (8215) - Pentium 4 (Nov 2005) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type	Slot x model bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	EM64T	Memory ⁶	Diskette drive	SATA disk	EIDE optical	Graphics	Cover switch	Intel AMT	Key-board	Limited warranty ⁷	Workhorse ⁸ Gbl, Educ	Avail date
M52	8215-15U	2x3	Pentium® 4 519K	3.06	1MB	533		EM64T	512MB	40G ²	CD	GMA	No	No	Pref	3-yr		Nov 05	
M52	8215-16U	2x3	Pentium 4 519K	3.06	1MB	533		EM64T	512MB	80G	Combo	GMA	No	No	Pref	3-yr		Nov 05	
M52	8215-2BU	2x3	Pentium 4 521	2.80	1MB	800	HT	EM64T	512MB	80G	CD	GMA	No	No	Pref	3-yr		Jun 06	
M52	8215-2CU	2x3	Pentium 4 521	2.80	1MB	800	HT	EM64T	512MB	80G	Combo	GMA	No	No	Pref	3-yr		Jun 06	
M52	8215-D9U	2x3	Pentium 4 630	3.00	2MB	800	HT	EM64T	512MB	40G	CD	GMA	No	No	Pref	3-yr		Nov 05	
M52	8215-E9U	2x3	Pentium 4 640	3.20	2MB	800	HT	EM64T	512MB	Diskette	80G	DVD	GMA	No	No	Pref	3-yr	Global	Nov 05
M52	8215-EBU	2x3	Pentium 4 640	3.20	2MB	800	HT	EM64T	512MB	Diskette	80G	DVD	GMA	No	No	Finger	3-yr		Nov 05
M52	8215-EEU	2x3	Pentium 4 640	3.20	2MB	800	HT	EM64T	512MB	40G	CD	GMA	No	No	Pref	3-yr		Nov 05	
M52	8215-F8U	2x3	Pentium 4 650	3.40	2MB	800	HT	EM64T	512MB	40G	CD	GMA	No	No	Pref	3-yr		Nov 05	
M52	8215-FAU	2x3	Pentium 4 650	3.40	2MB	800	HT	EM64T	512MB	Diskette	80G	DVD	GMA	No	No	Finger	3-yr		Nov 05
M52	8215-DDU	2x3	Pentium 4 630	3.00	2MB	800	HT	EM64T	512MB	Diskette	80G	CD	GMA	No	No	Pref	3-yr		Jan 06
M52	8215-EHU	2x3	Pentium 4 640	3.20	2MB	800	HT	EM64T	1GB	Diskette	80G	Combo	GMA	No	No	Pref	3-yr		Jan 06
M52	8215-EKU	2x3	Pentium 4 640	3.20	2MB	800	HT	EM64T	1GB	Diskette	160	DVD±RW ⁶	GMA	No	No	Pref	3-yr		Jan 06
M52	8215-H4U	2x3	Pentium 4 661	3.60	2MB	800	HT	EM64T	512MB	Diskette	80G	DVD	GMA	No	No	Pref	3-yr		Jan 06
M52	8215-H6U	2x3	Pentium 4 661	3.60	2MB	800	HT	EM64T	1GB	Diskette	80G	Combo	GMA	No	No	Pref	3-yr		Jan 06
M52	8215-DFU	2x3	Pentium 4 630	3.00	2MB	800	HT	EM64T	512MB	Diskette	80G	CD	GMA	No	No	Pref	3-yr	Educ	Apr 06
M52	8215-DGU	2x3	Pentium 4 630	3.00	2MB	800	HT	EM64T	512MB	Diskette	80G	Combo	GMA	No	No	Pref	3-yr	Educ	Apr 06
M52	8215-ELU	2x3	Pentium 4 640	3.20	2MB	800	HT	EM64T	512MB	Diskette	80G	Combo	GMA	No	No	Pref	3-yr	Educ	Apr 06
M52	8215-EMU	2x3	Pentium 4 640	3.20	2MB	800	HT	EM64T	512MB	Diskette	80G	DVD±RW	GMA	No	No	Pref	3-yr	Educ	Apr 06
M52	8215-FDU	2x3	Pentium 4 650	3.40	2MB	800	HT	EM64T	512MB	Diskette	160	DVD±RW	GMA	No	No	Pref	3-yr	Educ	Apr 06

Processor	Intel® Pentium 4 Processor 519K, 521, 630, 640, 650, or 661 with single-core, EM64T, Execute Disable Bit, and 533 or 800MHz bus	Small	
Processor features	Some: Hyper-Threading (HT) technology	Bay ① 3.5", slim .5", access, std or opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk	
L2 cache	1MB or 2MB std and max / ECC / full speed	Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports optional DVI-I PCIe adptr only)	
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket	<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1"D X 3.3"H (3.4"H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • With vertical stand: 5.0" W X 15.4"D X 13.6"H • With vertical stand: 127mm W X 390mm D X 346mm H • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • System floor stand for vertical orientation 	
Memory - std/max ⁵	512MB or 1GB std / 4GB max / DDR2 only		
Memory	Two 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable		
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / 400MHz / one 15-pin analog connector		
SATA disk	40GB (SATA150), 80GB or 160GB (SATA300) / 7200 rpm / rubber vibration dampening mounts		
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7		
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar		
EIDE CD	Some: 48X-20X ⁴ CD-ROM		
EIDE DVD	Some: 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE		
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
EIDE DVD±RW	Some: DVD and CD burner / Multi-Burner Plus (part 73P3370)		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)		
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard		
Diskette drive	Some: 3.5" 1.44MB diskette drive		
Chipset	Intel 945G Express Chipset / 82945G Graphics Mem Cont Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log		
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Six USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1		
Intel IAMT	None		
Security chip	Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant		
Keyboard	[Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black (one of following) [Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Cooling fans	Three variable speed fans (two front and one power supply)		
Power supply	225 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		

<p>Preload with Windows XP Professional⁵ Microsoft® Windows® XP Professional</p> <p>Preloaded (only some listed)</p> <ul style="list-style-type: none"> • Some: contains additional module with a specialized education preload image in the base preload package • Rescue and Recovery™ • PC-Doctor™ (diagnostics) • Multimedia Center for Think Offerings (combo, DVD, DVD±RW) • Sonic RecordNow and Drive Letter Access (combo, DVD±RW) • InterVideo WinDVD (combo, DVD, DVD±RW) • InterVideo WinDVD Creator (DVD±RW) 	<p>Accessories</p> <ul style="list-style-type: none"> 512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 250GB Serial ATA300 Disk (7200 rpm) 41N3015 Super Multi-Burner DL DVD±RW Drive 41N5581 USB Portable Diskette Drive 05K9276 USB Fingerprint Reader 41U3167 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 Portable 120GB Hard Disk 41N8379 USB 2.0 Super Multi-Burner Drive 41N5565 Lenovo L192 Wide 19" Monitor (black) 6920AB1 Lenovo D221 Wide 22" Monitor (black) 6622HB2 ThinkVision® L192p 19" Monitor (black) 9419HC2 DVI-I PCIe Connection Adapter (ADD2) 73P2516 <p>Other accessories at lenovo.com/accessories</p>	<p>Supports ThinkVantage® technologies; visit thinkcentre.com/thinkvantage</p> <p>LIMITED WARRANTY¹</p> <ul style="list-style-type: none"> ↪ 3-year parts and labor ↪ International Warranty Service⁹ ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ ThinkPlus™ services at lenovo.com/thinkplus/warranty ↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)
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See footnotes for important warranty information
US models announced Nov 8, 2005 or January 24, April 4, or June 6, 2006
US models withdrawn effective June 2007

ThinkCentre® M52 Small (8215) - Pentium 4 (August 2006) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type	Slot x bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	EM64T	Memory*	Diskette drive	SATA disk	EIDE optical	Graphics	Cover switch	Intel AMT	Key-board	Limited warranty	Workhorse Gbl, Educ	Avail date
M52	8215-66U	2x3	Pentium® 4 531	3.0	1MB	800	HT	EM64T	512MB	Diskette	80G ²	DVD	GMA	No	No	Pref	3-yr	Educ	Aug 06
M52	8215-67U	2x3	Pentium 4 531	3.0	1MB	800	HT	EM64T	512MB	Diskette	80G	Combo	GMA	No	No	Pref	3-yr	Educ	Aug 06
M52	8215-68U	2x3	Pentium 4 531	3.0	1MB	800	HT	EM64T	1GB	Diskette	80G	Combo	GMA	No	No	Pref	3-yr	Educ	Aug 06
M52	8215-6AU	2x3	Pentium 4 541	3.2	1MB	800	HT	EM64T	512MB	Diskette	80G	DVD	GMA	No	No	Pref	3-yr		Aug 06
M52	8215-6BU	2x3	Pentium 4 541	3.2	1MB	800	HT	EM64T	1GB	Diskette	80G	Combo	GMA	No	No	Pref	3-yr		Aug 06

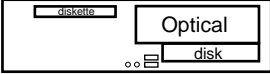
Processor	Intel® Pentium 4 Processor 531 or 541 with single-core, EM64T, Hyper-Threading (HT) technology, Execute Disable Bit, and 800MHz system bus	Small	
L2 cache	1MB std and max / ECC / full speed		
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket	Bay ① 3.5", slim .5", access, std diskette	
Memory - std/max ⁵	512MB or 1GB std / 4GB max / DDR2 only	Bay ② 5.25", HH 1.6", access, std optical	
Memory	Two 240-pin gold plated DIMM sockets / <i>model 68U:</i> two sockets used (512MB per socket); <i>other models:</i> one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	Bay ③ 3.5", SL 1", no access, std disk	
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / 400MHz / one 15-pin analog connector	Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)	
SATA disk	80GB / SATA300 7200 rpm / vibration dampening mounts	Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports optional DVI-I PCIe adptr only)	
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7	<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1"D X 3.3"H (3.4"H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • With vertical stand: 5.0" W X 15.4"D X 13.6"H • With vertical stand: 127mm W X 390mm D X 346mm H • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • System floor stand for vertical orientation 	
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar		
EIDE DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE		
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)		
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 945G Express Chipset / 82945G Graphics Mem Cont Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log		
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Six USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1 / full duplex / Wake on LAN® / PXE 2.0 and RPL remote boot		
Intel IAMT	None		
Security chip	Trusted Platform Module / in Winbond PC8375S chip / TCG 1.2-compliant		
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Cooling fans	Three variable speed fans (two front and one power supply)		
Power supply	225 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		
Preload with Windows XP Professional⁵	Accessories		
Microsoft® Windows® XP Professional with Service Pack 2	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983	
Preloaded	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	
• <i>Some:</i> contains additional module with a specialized education preload image in the base preload package	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985	
• Rescue and Recovery™	160GB Serial ATA300 Disk (7200 rpm)	09N4254	
• Client Security Solution™	250GB Serial ATA300 Disk (7200 rpm)	41N3015	
• ThinkVantage Productivity Center with Away Manager	Super Multi-Burner DL DVD±RW Drive	41N5581	
• ThinkVantage System Update	USB Portable Diskette Drive	05K9276	
• Symantec® Client Security™	USB Fingerprint Reader	41U3167	
• Diskeeper Lite	USB Gemplus GemPC Smart Card Reader	41N3040	
• PC-Doctor™ (diagnostics)	USB 2.0/Analog Headset by Sennheiser	40Y8518	
• Adobe® Reader	USB 2.0 Lenovo Webcam	40Y8519	
• Google Toolbar	USB 2.0 Memory Key 1GB	40Y7421	
• Google Desktop	USB 2.0 Essential Memory Key 2GB	41U4944	
• Picasa from Google	USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637	
• Multimedia Center for Think Offerings (combo, DVD models)	USB 2.0 Portable 120GB Hard Disk	41N8379	
• Sonic RecordNow and Drive Letter Access (combo models)	USB 2.0 Super Multi-Burner Drive	41N5565	
• InterVideo WinDVD (combo, DVD)	Lenovo L192p 19" Monitor (black)	6920AB1	
License - CD not included	Lenovo D221 Wide 22" Monitor (black)	6622HB2	
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client (Notes client not supported on XP Home)	ThinkVision® L171p 17" Monitor (black)	9417HC2	
	ThinkVision L192p 19" Monitor (black)	9419HC2	
	ThinkVision L201p 20.1" Monitor (black)	9220HB1	
	Lenovo C500 Projector	0039A05	
	Optical 3-button ScrollPoint® Mouse (black)	31P7405	
	Lenovo Laser Mouse (USB, PS/2)	41U3074	
	Kensington® MicroSaver® Desktop Lock	06P3839	
	Enhanced Performance USB Keyboard	73P2620	
	Preferred Pro USB Fingerprint Keyboard	73P4730	
	DVI-I PCIe Connection Adapter (ADD2)	73P2516	
	Other accessories at lenovo.com/accessories		
			<p>ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage</p> <p>LIMITED WARRANTY¹</p> <ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ ThinkPlus services at lenovo.com/thinkplus/warranty ↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹

See footnotes for important warranty information
US models announced August 1, 2006
US models withdrawn effective June 2007

ThinkCentre® M52 Small (8215) - Pentium D - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Bus MHz	Virtual Tech	Dual core	Memory ⁸	SATA disk	EIDE optical	Graphics	Cover switch	Preload	Vista™ capable	Limited warranty ⁹	Workhorse Gbl, Educ	Avail date
M52	8215-G2U	2x3	Pentium® D 820	2.80	2x1MB	800		Dual	512MB	80GB ²	Combo	GMA	Yes	XP Pro	Yes	3-yr	No	Jun 05
M52	8215-G4U	2x3	Pentium D 820	2.80	2x1MB	800		Dual	512MB	80GB	DVD	GMA		XP Pro	Yes	3-yr	No	Jun 05
M52	8215-J3U	2x3	Pentium D 920	2.80	2x2MB	800	Yes	Dual	512MB	80GB	DVD	GMA		XP Pro	Yes	3-yr	No	Jan 06
M52	8215-JDU	2x3	Pentium D 925	3.00	2x2MB	800		Dual	512MB	80GB	DVD	GMA		XP Pro	Yes	3-yr	No	Sep 06
M52	8215-JEU	2x3	Pentium D 925	3.00	2x2MB	800		Dual	1GB	80GB	Combo	GMA		XP Pro	Yes	3-yr	No	Sep 06
M52	8215-K3U	2x3	Pentium D 930	3.00	2x2MB	800	Yes	Dual	512MB	80GB	DVD	GMA		XP Pro	Yes	3-yr	No	Jan 06
M52	8215-K4U	2x3	Pentium D 930	3.00	2x2MB	800	Yes	Dual	1GB	80GB	Combo	GMA		XP Pro	Yes	3-yr	No	Jan 06

Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Pentium D Processor 820 with dual-core, EM64T, Execute Disable Bit, and 800MHz system bus with 2x1MB (dual-core) L2 cache or Intel Pentium D Processor 920, 925, or 930 with dual-core, Virtualization Technology (920/930), EM64T, Execute Disable Bit, EIST, and 800MHz system bus with 2x2MB (dual-core) L2 cache Processor and L2 cache in FC-LGA4 or LGA6 in LGA775 socket	Small  Bay ① 3.5", slim .5", access, std diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports optional DVI-I PCIe adptr only)
Implementation		
Memory - std/max ⁸ Memory	512MB or 1GB std / 4GB max / DDR2 only Two 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1"D X 3.3"H (3.4"H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • With vertical stand: 5.0" W X 15.4"D X 13.6"H • With vertical stand: 127mm W X 390mm D X 346mm H • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • All except G4U: system stand for vertical orientation
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector	
SATA disk	80GB / SATA300 7200 rpm / vibration dampening mounts	SECURITY <ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disenable • Some: cover intrusion switch
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7	
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors	<ul style="list-style-type: none"> • Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant
EIDE DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE	
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo	<ul style="list-style-type: none"> • Microsoft® Windows® XP Professional⁵ • Disk-to-Disk Recovery (in hidden protected area)
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)	
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard	<ul style="list-style-type: none"> • Preloaded • Rescue and Recovery™ • Adobe Reader • Norton AntiVirus (OEM version) • PC-Doctor™ (diagnostics) • Client Security Software • Multimedia Center for Think Offerings (DVD, combo models) • RecordNow and DLA (combo models) • InterVideo WinDVD (DVD, combo models)
Diskette drive	3.5" 1.44MB diskette drive	
Chipset	Intel 945G Express Chipset / 82945G Graphics Mem Cont Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, LPC interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log	<ul style="list-style-type: none"> • License - CD not included • Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Six USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	<ul style="list-style-type: none"> • ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)	
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software	LIMITED WARRANTY⁹ <ul style="list-style-type: none"> ⇒ 3-year parts and labor ⇒ International Warranty Service⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) ⇒ Other ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)
Speaker	One internal speaker for business audio	
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1 / full duplex / Wake on LAN® / PXE 2.0 and RPL remote boot	<ul style="list-style-type: none"> • Accessories 512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 250GB Serial ATA300 Disk (7200 rpm) 41N3015 Super Multi-Burner DL DVD±RW Drive 41N5581 USB Portable Diskette Drive 05K9276 USB Fingerprint Reader 41U3167 USB 2.0/Analog Headset by Sennheiser 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 Essential Memory Key 2GB 41U4944 USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 USB 2.0 Super Multi-Burner Drive 41N5565 Lenovo D221 Wide 22" Monitor (black) 6622HB2 ThinkVision® L171p 17" Monitor (black) 9417CB2 ThinkVision L192p 19" Monitor (black) 9419CB2 ThinkVision L201p 20.1" Monitor (black) 9220HB1 Lenovo M500 Projector 0037A05 Optical 3-button ScrollPoint® Mouse (black) 31P7405 Lenovo Laser Mouse (USB, PS/2) 41U3074 Kensington® MicroSaver® Desktop Lock 06P3839 Enhanced Performance USB Keyboard 73P2620 Enh Perf Wireless Keyboard and Mouse 73P4067 Preferred Pro USB Fingerprint Keyboard 73P4730 DVI-I PCIe Connection Adapter (ADD2) 73P2516 Other accessories at lenovo.com/accessories
Modem	None	
Security chip		

See footnotes for important warranty information
US models announced on June 28, 2005, January 24, 2006 and September 26, 2006
US models withdrawn effective June 2007

ThinkCentre® M52 Small (8215) - Pentium D (August 2006) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Dual core	Diskette Memory ⁶	SATA drive	EIDE disk	EIDE optical	DVI-I Graphics Adptr	Cover Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
M52	8215-G9U	2x3	Pentium® D 820	2.80	2x1MB	Dual	512MB	80GB ²	DVD	GMA	945G	No XP Pro	3-yr		Aug 06
M52	8215-GAU	2x3	Pentium D 820	2.80	2x1MB	Dual	512MB Dskte	80GB	Combo	GMA	945G	No XP Pro	3-yr	Educ	Aug 06
M52	8215-GBU	2x3	Pentium D 820	2.80	2x1MB	Dual	512MB Dskte	80GB	DVD±RW ⁶	GMA	945G	No XP Pro	3-yr	Educ	Aug 06
M52	8215-95U	2x3	Pentium D 945	3.40	2x2MB	Dual	1GB	250GB	DVD±RW	GMA	ADD2	945G	No XP Pro	3-yr	Aug 06
M52	8215-97U	2x3	Pentium D 945	3.40	2x2MB	Dual	512MB Dskte	160GB	DVD±RW	GMA	945G	No XP Pro	3-yr	Educ	Aug 06
M52	8215-99U	2x3	Pentium D 945	3.40	2x2MB	Dual	512MB Dskte	80GB	DVD	GMA	945G	No XP Pro	3-yr	Aug 06	
M52	8215-9AU	2x3	Pentium D 945	3.40	2x2MB	Dual	1GB Dskte	80GB	Combo	GMA	945G	No XP Pro	3-yr	Aug 06	
M52	8215-9BU	2x3	Pentium D 945	3.40	2x2MB	Dual	512MB Dskte	80GB	Combo	GMA	945G	No XP Pro	3-yr	Aug 06	
M52	8215-9CU	2x3	Pentium D 945	3.40	2x2MB	Dual	512MB Dskte	80GB	Combo	GMA	945G	No XP Pro	3-yr	Aug 06	
Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Pentium D Processor 820 with dual-core, EM64T, Execute Disable Bit, and 800MHz system bus with two x 1MB (dual-core) L2 cache or Intel Pentium D Processor 945 with dual-core, EM64T, Execute Disable Bit, EIST, and 800MHz system bus with two x 2MB (dual-core) L2 cache Implementation Processor and L2 cache in FC-LGA4 or LGA6 in LGA775 socket										Small 				
Memory - std/max ⁸	512MB or 1GB std / 4GB max / DDR2 only Memory Two 240-pin gold plated DIMM sockets / <i>model 95U:</i> two sockets used (512MB per socket); <i>other models:</i> one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable										Bay ① 3.5", slim .5", access, std diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports std or opt DVI-I PCIe adptr only)				
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector Graphics adapter <i>Some:</i> [ADD2] DVI-I PCIe Connection Adapter / dual independent display / DVI-i connector										<ul style="list-style-type: none"> Business black color; metal case 12.2" W X 14.1"D X 3.3"H (3.4"H with feet) 310mm W X 358mm D X 85mm H (87.5mm H with feet) With vertical stand: 5.0" W X 15.4"D X 13.6"H With vertical stand: 127mm W X 390mm D X 346mm H 18.7 to 20.0 lb (8.5 to 9.1 kg) Bays 1 and 2/3 flip up (latched and pivoting) Toolless cover flips up and tilts backward on rear hinges Toolless disk, diskette drive, optical drive removal Two slots on riser card (PCI and PCI Express x1) Toolless PCI slots and riser card retention Toolless systemboard retention Steel chassis supports 100 lb (45kg) monitor on top System floor stand for vertical orientation 				
SATA disk	80, 160, or 250GB / SATA300 7200 rpm / vibration dampen mounts SATA controller Serial ATA / 300 MB/sec SATA300 / integrated in ICH7 SATA cables One SATA cable (one 1-drop to disk) / 2 SATA connectors EIDE DVD <i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE EIDE Combo <i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo EIDE DVD±RW <i>Some:</i> DVD and CD burner / Multi-Burner Plus (part 73P3370) EIDE controller Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7) EIDE cables One 2-drop EIDE cable to optical / one connector on systemboard Diskette drive <i>Some:</i> 3.5" 1.44MB diskette drive										<ul style="list-style-type: none"> PC 2001-compliant ACPI 2.0c-compliant SMBIOS 2.3.4-compliant DMI 2.0-compliant SMBus 2.0-compliant Asset ID¹⁹ (system specific info in chip) 				
Chipset	Intel 945G Express Chipset / 82945G Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, LPC interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log										SECURITY <ul style="list-style-type: none"> Security chip (see information on left) Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement 				
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)														
Rear ports	Six USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)														
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)														
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software														
Speaker	One internal speaker for business audio														
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1 / full duplex / Wake on LAN® / PXE 2.0 and RPL remote boot														
Modem	None														
Security chip	Trusted Platform Module / in Winbond PC8375S chip / TCG 1.2-compliant														
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black														
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black														
Cooling fans	Three variable speed fans (two front and one power supply)														
Power supply	225 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs														
Preload with Windows XP Professional⁵		Accessories										Supports ThinkVantage® technologies			
Microsoft® Windows® XP Professional		512MB PC2-5300 CL5 NP DDR2 UDIMM										73P4983			
Preloaded (only some listed)		1GB PC2-5300 CL5 NP DDR2 UDIMM										73P4984			
• <i>Some:</i> contains additional module with a specialized education preload image in the base preload package**		2GB PC2-5300 CL5 NP DDR2 UDIMM										73P4985			
• Rescue and Recovery™		250GB Serial ATA300 Disk (7200 rpm)										41N3015			
• Client Security Solution™		Super Multi-Burner DL DVD±RW Drive										41N5581			
• ThinkVantage Productivity Center		USB Fingerprint Reader										41U3167			
• ThinkVantage System Update		USB 2.0/Analog Headset by Sennheiser										40Y8518			
• Symantec® Client Security™		USB 2.0 Memory Key 1GB										40Y7421			
• Diskkeeper Lite		USB 2.0 CD-RW/DVD-ROM Combo II Drive										40Y8637			
• Multimedia Center for Think Offerings (combo, DVD, DVD±RW)		USB 2.0 Super Multi-Burner Drive										41N5565			
• Sonic RecordNow and Drive Letter Access (combo, DVD, DVD±RW)		Lenovo L192 Wide 19" Monitor (black)										6920AB1			
• InterVideo WinDVD (combo, DVD, DVD±RW)		Lenovo D221 Wide 22" Monitor (black)										6622HB1			
• InterVideo WinDVD Creator (DVD±RW)		ThinkVision® L192p 19" Monitor (black)										9419HC2			
		ThinkVision L201p 20.1" Monitor (black)										9220HB1			
		Kensington® MicroSaver® Desktop Lock										06P3839			
		Enh Perf Wireless Keyboard and Mouse										73P4067			
		Preferred Pro USB Fingerprint Keyboard										73P4730			
		DVI-I PCIe Connection Adapter (ADD2)										73P2516			
		Other accessories at lenovo.com/accessories													
												LIMITED WARRANTY¹			
												↪ 3-year parts and labor			
												↪ International Warranty Service⁹			
												↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)			
												↪ Onsite service upgrade options (in eligible locations):⁷			
												• 3-year LOR 24x7, 4 hour response (ThinkPlus™ part number 41C9193)			
												• 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196)			
												↪ Other ThinkPlus services at lenovo.com/thinkplus/warranty			
												↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹			

See footnotes for important warranty information
US models announced August 1, 2006
US models withdrawn effective June 2007

ThinkCentre® M55e Desktop (9632) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Memory ⁶	Diskette drive	SATA disk	EIDE optical	Graphics	Preload	Workhorse Gbl Educ	Avail date
M55e	9632-A2U	4x3	Celeron 336	2.80	256KB	Single	512MB		80GB ²	CD	GMA	XP Pro		Sep 06
M55e	9632-B2U	4x3	Celeron 346	3.06	256KB	Single	512MB		80GB	CD	GMA	XP Pro		Sep 06
M55e	9632-22U	4x3	Pentium 4 524	3.06	1MB	Single	512MB		80GB	CD	GMA	XP Pro		Sep 06
M55e	9632-23U	4x3	Pentium 4 524	3.06	1MB	Single	512MB		80GB	Combo	GMA	XP Pro		Sep 06
M55e	9632-31U	4x3	Pentium 4 541	3.20	1MB	Single	512MB	Dsktte	160GB	CD	GMA	XP Pro		Nov 06
M55e	9632-32U	4x3	Pentium 4 541	3.20	1MB	Single	512MB		160GB	Combo	GMA	XP Pro		Nov 06
M55e	9632-D2U	4x3	Pentium D 820	2.80	2x1MB	Dual	512MB		80GB	DVD	GMA	XP Pro		Sep 06
M55e	9632-D5U	4x3	Pentium D 820	2.80	2x1MB	Dual	512MB		160GB	Combo	GMA	XP Pro		Sep 06
M55e	9632-F7U	4x3	Pentium D 925	3.00	2x2MB	Dual	512MB		80GB	DVD	GMA	XP Pro		Sep 06
M55e	9632-F8U	4x3	Pentium D 925	3.00	2x2MB	Dual	512MB		160GB	Combo	GMA	XP Pro		Sep 06
M55e	9632-J4U	4x3	Pentium D 945	3.40	2x2MB	Dual	512MB		160GB	Combo	GMA	XP Pro		Sep 06
M55e	9632-J5U	4x3	Pentium D 945	3.40	2x2MB	Dual	512MB		80GB	DVD	GMA	XP Pro	Global	Nov 06

Positioning Processor	<p><i>Mainstream enterprise stability and manageability</i></p> <p>Intel® Celeron® D Processor 336 or 346 with single-core, Intel 64 Technology, Execute Disable Bit, 533MHz system bus, and 256KB L2 cache or</p> <p>Intel Pentium® 4 Processor 524 or 541 with single-core, Intel 64 Technology, Hyper-Threading (HT) technology, Execute Disable Bit, 533MHz (524) or 800MHz (541) system bus, and 1MB L2 cache or</p> <p>Intel Pentium D Processor 820, 925, or 945 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST (9xx only), 800MHz system bus, and 2x1MB (820) or 2x2MB (9xx) L2 cache Processor and L2 cache in FC-LGA4/LGA6 in LGA775 socket</p>								<p>Desktop</p> <ul style="list-style-type: none"> • Business black color • 13.3" W X 15.94" D X 4.13" H • 331mm W X 405mm D X 105mm H • 18.5 to 20.7lb (8.4 to 9.4kg) • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention <p>Bay ① 5.25", 1.6" high, access, standard optical Bay ② 3.5", 1" high, access, optional diskette Bay ③ 3.5", 1" high, no access, standard disk</p> <p>Slot 1: Low Profile, PCI Express x16 (25w max) Slot 2: Low Profile, PCI Express x1 Slot 3: Low Profile, 32-bit PCI 2.3 (5v) Slot 4: Low Profile, 32-bit PCI 2.3 (5v)</p>	
Implementation										
Memory - std/max ⁵	<p>512MB or 1GB std / 4GB max</p> <p>Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable</p>									
Memory										
Graphics	<p>Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display</p>									
SATA disk	<p>80 or 160GB / SATA 3.0Gb/s 7200 rpm / vibration dampening</p>									
SATA controller	<p>Serial ATA / SATA 3.0Gb/s / integrated in ICH7</p>									
SATA cables	<p>One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar</p>									
EIDE CD	<p><i>Some:</i> 48X-20X⁴ CD-ROM</p>									
EIDE Combo	<p><i>Some:</i> 48X/32X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo</p>									
EIDE DVD	<p><i>Some:</i> 16X-48X Max⁴ DVD-ROM / single-layer</p>									
EIDE controller	<p>Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)</p>									
EIDE cables	<p>One 1-drop EIDE cable to optical / 1 planar connector</p>									
Diskette drive	<p><i>31U:</i> 3.5" 1.44MB diskette drive; <i>Others:</i> None</p>									
Media reader	<p>None</p>									
Chipset	<p>Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / ITE Tech® IT8718 Super I/O</p>									
Front ports	<p>Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)</p>									
Rear ports	<p>Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)</p>									
Rear audio ports	<p>Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)</p>									
Audio	<p>High Definition (HD) Audio / AD1986A codec / SoundMAX® software</p>									
Speaker	<p>One internal speaker for business audio</p>									
Ethernet	<p>Gigabit ethernet on planar / Broadcom BCM5786 / PCIe x1 / Wake on LAN®</p>									
Modem	<p>None</p>									
Keyboard	<p>104-key Preferred Pro Full-size keyboard (PS/2 connector), black, Lenovo logo</p>									
Mouse	<p>Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo</p>									
Power supply	<p>220 watts with variable speed fan / manual switch / 2 diagnostic LEDs</p>									
Preloaded operating system²⁰	<p>- Microsoft® Windows® XP Professional</p> <p>↔ Disk-to-Disk Recovery (in hidden protected area)</p>									
Preloaded applications⁵ (only some listed)	<ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • System Migration Assistant • ThinkVantage System Update • PC-Doctor™ (diagnostics) • Symantec® Client Security™ • Multimedia Center for Think Offerings (combo, DVD) • Sonic RecordNow and Drive Letter Access (combo) • InterVideo WinDVD (combo, DVD) 									
Accessories	<ul style="list-style-type: none"> 512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 Super Multi-Burner DL DVD±RW EIDE Drive 41N5581 USB Portable Diskette Drive 05K9276 USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 USB 2.0 Super Multi-Burner Drive 41N5565 ThinkVision® L190x 19" LCD Monitor 4439HB2 ThinkVision L1937 19" LCD Monitor 4431HB2 ThinkVision L197 Wide 19" LCD Monitor 4434HE1 ThinkVision L200p Wide 20.1" LCD Monitor 4438HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 ADD2 DVI-I PCIe Connection Adapter 73P2516 Other accessories at lenovo.com/accessories 									
									<p>Security</p> <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect 	
									<p>Supports ThinkVantage® technologies</p>	
									<p>Limited Warranty¹</p> <ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ ThinkPlus services at lenovo.com/thinkplus/warranty ↔ Post warranty maintenance services available ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 	

See footnotes for important warranty information

US models announced September 26, October 17, or November 21, 2006

US models withdrawn effective June 2007, August 2007, or June 2008

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Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Memory ^a	SATA disk	EIDE optical	Graphics	Preload	Limited warranty ¹	Workhorse Education	Gbl	Avail date		
M55e	9632-Q1U	4x3	Core 2 Duo E4300	1.80	2MB	Dual	512MB	80GB ²	DVD	GMA	XP Pro	3-yr			Feb 07		
M55e	9632-Q2U	4x3	Core 2 Duo E4300	1.80	2MB	Dual	1GB	80GB	Combo	GMA	XP Pro	3-yr	Global		Feb 07		
M55e	9632-M2U	4x3	Core 2 Duo E6300	1.86	2MB	Dual	1GB	80GB	DVD	GMA	XP Pro	3-yr	WH		Oct 06		
M55e	9632-M4U	4x3	Core 2 Duo E6300	1.86	2MB	Dual	1GB	80GB	DVD	GMA	XP Pro	3-yr	Educ		Nov 06		
M55e	9632-P1U	4x3	Core 2 Duo E6400	2.13	2MB	Dual	1GB	160GB	Combo	GMA	XP Pro	3-yr			Oct 06		
M55e	9632-P3U	4x3	Core 2 Duo E6400	2.13	2MB	Dual	1GB	160GB	Combo	GMA	XP Pro	3-yr	Educ		Nov 06		
Positioning Processor	Mainstream enterprise stability and manageability Intel® Core™ 2 Duo Processor E4300 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB L2 cache (shared) or Intel Core 2 Duo Processor E6300 or E6400 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, and 1066MHz system bus with 2MB L2 cache (shared)								Desktop								
Implementation	Processor in FC-LGA6 package in LGA775 socket								<ul style="list-style-type: none"> Business black color 13.3" W X 15.94" D X 4.13" H 331mm W X 405mm D X 105mm H 18.5 to 20.7lb (8.4 to 9.4kg) Toolless cover removal Toolless disk, diskette drive, optical drive removal Toolless adapter retention 								
Memory - std/max ⁶	512MB or 1GB std / 4GB max								Bay ① 5.25", 1.6" high, access, standard optical Bay ② 3.5", 1" high, access, optional diskette Bay ③ 3.5", 1" high, no access, standard disk								
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable																
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display								Slot 1: Low Profile, PCI Express x16 (25w max) Slot 2: Low Profile, PCI Express x1 Slot 3: Low Profile, 32-bit PCI 2.3 (5v) Slot 4: Low Profile, 32-bit PCI 2.3 (5v)								
SATA disk	80 or 160GB / SATA 3.0Gb/s 7200 rpm / vibration dampening										Security <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® Microsaver® cable) Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Diskette write protect 						
SATA controller	Serial ATA / SATA 3.0Gb/s / integrated in ICH7																
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar																
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo																
EIDE DVD	Some: 16X-48X Max ⁴ DVD-ROM / single-layer																
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)																
EIDE cables	One 1-drop EIDE cable to optical / 1 planar connector																
Diskette drive	None																
Media reader	None																
Chipset	Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / ITE Tech® IT8718 Super I/O																
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)																
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)																
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)																
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software																
Speaker	One internal speaker for business audio																
Ethernet	Gigabit ethernet on planar / Broadcom BCM5786 / PCIe x1 / Wake on LAN®																
Modem	None																
Keyboard	104-key Preferred Pro Full-size keyboard (PS/2 connector), black, Lenovo logo																
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo																
Power supply	220 watts with variable speed fan / manual switch																
Preloaded operating system²⁰	- Microsoft® Windows® XP Professional ⇨ Disk-to-Disk Recovery (in hidden protected area)										Supports ThinkVantage® technologies						
Preloaded applications⁵ (only some listed)	• Education models: VitalSource Library education software • Education models: Adobe® Photoshop® Elements plus Adobe Premiere® Elements • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Symantec® Client Security™ • Diskeeper® Lite • PC-Doctor™ (diagnostics) • Picasa from Google • Multimedia Center for Think Offerings (combo, DVD) • Sonic RecordNow and Drive Letter Access (combo)																
CD	• Education models: Adobe Photoshop Elements plus Adobe Premiere Elements																
Accessories	512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 Super Multi-Burner DL DVD±RW EIDE Drive 41N5581 USB Portable Diskette Drive 05K9276 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 Essential Memory Key 4GB 45J7904 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 USB 2.0 Portable 120GB Hard Disk 41N8379 USB 2.0 Super Multi-Burner Drive 41N5565 ThinkVision® L171p 17" LCD Monitor 9417HC2 ThinkVision L174 17" LCD Monitor 9227AE1 ThinkVision L190x 19" LCD Monitor 4439HB2 ThinkVision L193p 19" LCD Monitor 4431HB2 ThinkVision L197 Wide 19" LCD Monitor 4434HE1 ThinkVision L200p Wide 20.1" LCD Monitor 4438HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 Preferred Pro USB Fingerprint Keyboard 73P4730 Kensington® Cable Lock from Lenovo 73P2582 ADD2 DVI-I PCIe Connection Adapter 73P2516 Acc Guide in pdf lenovo.com/accessoriesguide Other accessories at lenovo.com/accessories																
										Limited Warranty¹							
										⇨ 3-year parts and labor ⇨ International Warranty Service ⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts ³ , 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations): ⁷ <ul style="list-style-type: none"> 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇨ ThinkPlus services at lenovo.com/thinkplus/warranty ⇨ Post warranty maintenance services available ⇨ 24 hour x 7 day ¹⁴ toll-free support during the warranty period ¹ via 800-426-7378							

See footnotes for important warranty information
 US models announced October 17, 2006, November 21, 2006, or January 30, 2007
 US models withdrawn effective June 2008

ThinkCentre® M55e Desktop (9632) - Vista® - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Memory ⁸	SATA disk	EIDE optical	Graphics	Int or ext speaker	Vista preload	Limited warranty ¹	Workhorse Education	Gbl	Avail date
M55e	9632-2KU	4x3	Celeron 420	1.60	512KB	Single	1GB	80GB ²	DVD	GMA	Ext spks	Business	3-yr			Jun 07
M55e	9632-2NU	4x3	Pentium E2140	1.60	1MB	Dual	1GB	80GB	Combo	GMA	Ext spks	Business	3-yr			Jun 07
M55e	9632-F9U	4x3	Pentium D 925	3.00	2x2MB	Dual	1GB	80GB	DVD	GMA	Internal	Business	3-yr	Global		Feb 07
M55e	9632-QAU	4x3	Core 2 Duo E4300	1.80	2MB	Dual	1GB	80GB	DVD	GMA	Internal	Business	3-yr			May 07
M55e	9632-Q9U	4x3	Core 2 Duo E4300	1.80	2MB	Dual	1GB	80GB	Combo	GMA	Internal	Business	3-yr			May 07
M55e	9632-Q8U	4x3	Core 2 Duo E4400	2.00	2MB	Dual	1GB	80GB	Combo	GMA	Internal	Business	3-yr			May 07
M55e	9632-M7U	4x3	Core 2 Duo E6300	1.86	2MB	Dual	1GB	80GB	DVD	GMA	Internal	Business	3-yr	Global		Feb 07

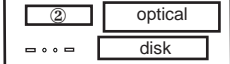
Positioning Processor	<p><i>Mainstream enterprise stability and manageability</i></p> <p>Intel® Celeron® Processor 420 with single-core, Intel 64 Technology, Execute Disable Bit, 800MHz bus, and 512KB L2 cache or Intel Pentium® Dual-Core Processor E2140 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Pentium D Processor 925 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2x2MB L2 cache or Intel Core™ 2 Duo Processor E4300 or E4400 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB shared L2 cache or Intel Core 2 Duo Processor E6300 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, and 1066MHz system bus with 2MB L2 cache (shared) Processor in FC-LGA6 package in LGA775 socket</p>										<p>Desktop</p> <ul style="list-style-type: none"> • Business black color • 13.3" W X 15.94" D X 4.13" H • 331mm W X 405mm D X 105mm H • 18.5 to 20.7lb (8.4 to 9.4kg) • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention <p>Bay ① 5.25", 1.6" high, access, standard optical Bay ② 3.5", 1" high, access, optional diskette Bay ③ 3.5", 1" high, no access, standard disk</p> <p>Slot 1: Low Profile, PCI Express x16 (25w max) Slot 2: Low Profile, PCI Express x1 Slot 3: Low Profile, 32-bit PCI 2.3 (5v) Slot 4: Low Profile, 32-bit PCI 2.3 (5v)</p>																																		
Implementation																																													
Memory	<p>1GB std / 4GB max⁸ / PC2-5300 667MHz DDR2, non-parity, dual-channel capable, two 240-pin DIMM sockets; <i>Non-italics</i>: standard memory in one socket; one socket available</p>																																												
Graphics	<p>Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display</p>										<p>Security</p> <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect 																																		
SATA disk	<p>80GB / SATA 3.0Gb/s 7200 rpm / vibration dampening</p>																																												
SATA controller	<p>Serial ATA / SATA 3.0Gb/s / integrated in ICH7</p>																																												
SATA cables	<p>One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar</p>																																												
EIDE DVD	<p><i>Some</i>: 16X-48X Max⁴ DVD-ROM / single-layer</p>																																												
EIDE Combo	<p><i>Some</i>: 48X/32X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo</p>																																												
EIDE controller	<p>Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)</p>																																												
EIDE cables	<p>One 1-drop EIDE cable to optical / 1 planar connector</p>																																												
Diskette drive	<p>None</p>																																												
Media reader	<p>None</p>																																												
Chipset	<p>Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, USB, LPC bus / ITE Tech® IT8718 Super I/O</p>																																												
Front ports	<p>Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)</p>																																												
Rear ports	<p>Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)</p>																																												
Rear audio ports	<p>Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)</p>																																												
Audio	<p>High Definition (HD) Audio / AD1986A codec / SoundMAX® software</p>																																												
External speakers	<p><i>Some</i>: [Ext spks] 2-piece speakers, 6 watts (3 watts each), black, Infinity logo</p>																																												
Speaker	<p><i>Some</i>: [Internal] one internal speaker for business audio</p>																																												
Ethernet	<p>Gigabit ethernet on planar / Broadcom BCM5786 / PCIe x1 / Wake on LAN®</p>																																												
Modem	<p>None</p>																																												
Keyboard	<p><i>Feb models</i>: 104-key Preferred Pro Full-size keyboard (PS/2 connector) <i>May/Jun models</i>: Preferred Pro USB Keyboard (USB connector), 104-key</p>																																												
Mouse	<p>Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo</p>																																												
Power supply	<p>220 watts with variable speed fan / manual switch</p>																																												
Preloaded operating system²⁰	<p>- Microsoft® Windows® Vista Business Edition (32-bit) ♦ Vista Basic logo</p>																																												
Preloaded applications⁵ (only some listed)	<ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Norton Internet Security™ (90 days of virus definitions) • Diskeeper® Home • PC-Doctor™ (diagnostics) • Adobe® Reader • Picasa from Google 																																												
Accessories	<table border="0"> <tr> <td>512MB PC2-5300 CL5 NP DDR2 UDIMM</td> <td>73P4983</td> </tr> <tr> <td>1GB PC2-5300 CL5 NP DDR2 UDIMM</td> <td>73P4984</td> </tr> <tr> <td>2GB PC2-5300 CL5 NP DDR2 UDIMM</td> <td>73P4985</td> </tr> <tr> <td>250GB SATA 3.0Gb/s Disk (7200 rpm)</td> <td>41N3015</td> </tr> <tr> <td>500GB SATA 3.0Gb/s Disk (7200 rpm)</td> <td>43R1990</td> </tr> <tr> <td>Super Multi-Burner DL DVD±RW EIDE Drive</td> <td>41N5581</td> </tr> <tr> <td>USB Gemplus GemPC Smart Card Reader</td> <td>41N3040</td> </tr> <tr> <td>USB 2.0 Security Memory Key 4GB</td> <td>41U5120</td> </tr> <tr> <td>USB 2.0 Super Multi-Burner Drive</td> <td>41N5565</td> </tr> <tr> <td>ThinkVision® L190x 19" LCD Monitor</td> <td>4439HB2</td> </tr> <tr> <td>ThinkVision L193p 19" LCD Monitor</td> <td>4431HB2</td> </tr> <tr> <td>ThinkVision L197 Wide 19" LCD Monitor</td> <td>4434HE1</td> </tr> <tr> <td>ThinkVision L200p Wide 20.1" LCD Monitor</td> <td>4438HB6</td> </tr> <tr> <td>ThinkVision L220x Wide 22" LCD Monitor</td> <td>4433HB2</td> </tr> <tr> <td>Laser Tilt Wheel Mouse (USB, PS/2)</td> <td>41U3074</td> </tr> <tr> <td>Kensington® Cable Lock from Lenovo</td> <td>73P2582</td> </tr> <tr> <td>ADD2 DVI-I PCIe Connection Adapter</td> <td>73P2516</td> </tr> </table> <p>Other accessories at lenovo.com/accessories</p>										512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985	250GB SATA 3.0Gb/s Disk (7200 rpm)	41N3015	500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990	Super Multi-Burner DL DVD±RW EIDE Drive	41N5581	USB Gemplus GemPC Smart Card Reader	41N3040	USB 2.0 Security Memory Key 4GB	41U5120	USB 2.0 Super Multi-Burner Drive	41N5565	ThinkVision® L190x 19" LCD Monitor	4439HB2	ThinkVision L193p 19" LCD Monitor	4431HB2	ThinkVision L197 Wide 19" LCD Monitor	4434HE1	ThinkVision L200p Wide 20.1" LCD Monitor	4438HB6	ThinkVision L220x Wide 22" LCD Monitor	4433HB2	Laser Tilt Wheel Mouse (USB, PS/2)	41U3074	Kensington® Cable Lock from Lenovo	73P2582	ADD2 DVI-I PCIe Connection Adapter	73P2516	
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	<p>Supports ThinkVantage® technologies</p>																																												
	<p>Limited Warranty¹</p> <ul style="list-style-type: none"> ↪ 3-year parts and labor ↪ International Warranty Service⁹ ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↪ ThinkPlus services at lenovo.com/thinkplus/warranty ↪ Post warranty maintenance services available ↪ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 																																												

See footnotes for important warranty information
 US models announced January 30, May 1, or June 5, 2007
 US models withdrawn effective June 2008

ThinkCentre® M55e Desktop (9632) - May 2007 - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Core	Memory ⁸	SATA disk	EIDE optical	Graphics	Int or ext speaker	Pre-load	Limited warranty ¹	Workhorse Education	Gbl	Avail date
M55e	9632-2LU	4x3	Celeron 420	1.60 512KB	Single	1GB	80GB ²	DVD	GMA	Ext spks	XP Pro	3-yr	No	Jun 07	
M55e	9632-2MU	4x3	Pentium E2140	1.60 1MB	Dual	1GB	80GB	Combo	GMA	Ext spks	XP Pro	3-yr	No	Jun 07	
M55e	9632-Q4U	4x3	Core 2 Duo E4300	1.80 2MB	Dual	512MB	80GB	DVD	GMA	Internal	XP Pro	3-yr	No	May 07	
M55e	9632-Q5U	4x3	Core 2 Duo E4300	1.80 2MB	Dual	1GB	80GB	DVD	GMA	Internal	XP Pro	3-yr	No	May 07	
M55e	9632-Q6U	4x3	Core 2 Duo E4300	1.80 2MB	Dual	1GB	80GB	Combo	GMA	Internal	XP Pro	3-yr	No	May 07	
M55e	9632-Q7U	4x3	Core 2 Duo E4400	2.00 2MB	Dual	1GB	80GB	Combo	GMA	Internal	XP Pro	3-yr	No	May 07	

Positioning Processor	Mainstream enterprise stability and manageability Intel® Celeron® Processor 420 with single-core, Intel 64 Technology, Execute Disable Bit, 800MHz bus, and 512KB L2 cache or Intel Pentium® Dual-Core Processor E2140 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Core™ 2 Duo Processor E4300 or E4400 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB shared L2 cache							Desktop					
Implementation	Processor in FC-LGA6 package in LGA775 socket							<ul style="list-style-type: none"> • Business black color • 13.3" W X 15.94" D X 4.13" H • 331mm W X 405mm D X 105mm H • 18.5 to 20.7lb (8.4 to 9.4kg) • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 					
Memory	512MB or 1GB std / 4GB max⁸ / PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, two 240-pin DIMM sockets; <i>Non-italics</i> : standard memory in one socket; one socket available							Bay ① 5.25", 1.6" high, access, standard optical Bay ② 3.5", 1" high, access, optional diskette Bay ③ 3.5", 1" high, no access, standard disk					
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display							Slot 1: Low Profile, PCI Express x16 (25w max) Slot 2: Low Profile, PCI Express x1 Slot 3: Low Profile, 32-bit PCI 2.3 (5v) Slot 4: Low Profile, 32-bit PCI 2.3 (5v)					
SATA disk	80GB / SATA 3.0Gb/s 7200 rpm / vibration dampening									Security			
SATA controller	Serial ATA / SATA 3.0Gb/s / integrated in ICH7												
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar									<ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect 			
EIDE DVD	<i>Some</i> : 16X-48X Max ⁴ DVD-ROM / single-layer												
EIDE Combo	<i>Some</i> : 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo												
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)												
EIDE cables	One 1-drop EIDE cable to optical / 1 planar connector												
Diskette drive	None												
Media reader	None												
Chipset	Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / ITE Tech® IT8718 Super I/O												
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)												
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)												
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)												
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software												
External speakers	<i>Some</i> : [Ext spks] 2-piece speakers, 6 watts (3 watts each), black, Infinity logo												
Speaker	<i>Some</i> : [Internal] one internal speaker for business audio												
Ethernet	Gigabit ethernet on planar / Broadcom BCM5786 / PCIe x1 / Wake on LAN®												
Modem	None												
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo									Supports ThinkVantage® technologies			
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo												
Power supply	220 watts with variable speed fan / manual switch									Limited Warranty¹			
Preloaded operating system²⁰	Accessories												
- Microsoft® Windows® XP Professional	512MB PC2-5300 CL5 NP DDR2 UDIMM							73P4983		<ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ ThinkPlus services at lenovo.com/thinkplus/warranty ↔ Post warranty maintenance services available ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 			
↔ Disk-to-Disk Recovery (in hidden protected area)	1GB PC2-5300 CL5 NP DDR2 UDIMM							73P4984					
Preloaded applications⁵	2GB PC2-5300 CL5 NP DDR2 UDIMM							73P4985					
• Rescue and Recovery™	250GB SATA 3.0Gb/s Disk (7200 rpm)							41N3015					
• Client Security Solution™	500GB SATA 3.0Gb/s Disk (7200 rpm)							43R1990					
• ThinkVantage Productivity Center	Super Multi-Burner DL DVD±RW EIDE Drive							41N5581					
• ThinkVantage System Update	USB Portable Diskette Drive							05K9276					
• System Migration Assistant	USB 2.0 Lenovo Multimedia Headset							40Y8518					
• Symantec® Client Security™	USB 2.0 Security Memory Key 4GB							41U5120					
• Diskeeper® Lite	USB 2.0 Portable 80GB Hard Disk							40Y8726					
• PC-Doctor™ (diagnostics)	USB 2.0 Super Multi-Burner Drive							41N5565					
• Adobe® Reader	ThinkVision® L190x 19" LCD Monitor							4439HB2					
• Windows Live™ Toolbar	ThinkVision L193p 19" LCD Monitor							4431HB2					
• Windows Live Search	ThinkVision L197 Wide 19" LCD Monitor							4434HE1					
• Picasa from Google	ThinkVision L200p Wide 20.1" LCD Monitor							4438HB6					
• Multimedia Center for Think Offerings (combo, DVD)	ThinkVision L220x Wide 22" LCD Monitor							4433HB2					
• Sonic RecordNow and Drive Letter Access (combo)	Laser Tilt Wheel Mouse (USB, PS/2)							41U3074					
	Wireless Kbd & Opt Wheel Mouse (via USB)							73P4067					
	Preferred Pro USB Fingerprint Keyboard							73P4730					
	Kensington® Cable Lock from Lenovo							73P2582					
	ADD2 DVI-I PCIe Connection Adapter							73P2516					
	Acc Guide in pdf lenovo.com/accessoriesguide												
	Other accessories at lenovo.com/accessories												

See footnotes for important warranty information
 US models announced May 1 or June 5, 2007
 US models withdrawn effective June 2008

ThinkCentre® M55e Tower (9637) - Single-core - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Memory ^a	SATA disk	EIDE optical	Graphics	Preload	Limited warranty ¹	Workhorse Gbl Education	Avail date
M55e	9637-A1U	4x4	Celeron 336	2.80	256KB	Single	512MB	80GB ²	CD	GMA	XP Pro	3-yr	None	Sep 06
M55e	9637-B2U	4x4	Celeron 346	3.06	256KB	Single	512MB	80GB	CD	GMA	XP Pro	3-yr	None	Sep 06
M55e	9637-22U	4x4	Pentium 4 524	3.06	1MB	Single	512MB	80GB	CD	GMA	XP Pro	3-yr	None	Sep 06
M55e	9637-23U	4x4	Pentium 4 524	3.06	1MB	Single	512MB	80GB	Combo	GMA	XP Pro	3-yr	None	Sep 06
M55e	9637-31U	4x4	Pentium 4 541	3.20	1MB	Single	512MB	80GB	CD	GMA	XP Pro	3-yr	None	Sep 06
M55e	9637-32U	4x4	Pentium 4 541	3.20	1MB	Single	512MB	80GB	Combo	GMA	XP Pro	3-yr	None	Sep 06

Positioning Processor	<p><i>Mainstream enterprise stability and manageability</i></p> <p>Intel® Celeron® D Processor 336 or 346 with single-core, Intel 64 Technology, Execute Disable Bit, 533MHz system bus, and 256KB L2 cache, or</p> <p>Intel Pentium® 4 Processor 524 or 541 with single-core, Intel 64 Technology, Hyper-Threading (HT) technology, Execute Disable Bit, 533MHz (524 only) or 800MHz system bus, and 1MB L2 cache (5xx only)</p>		<p>Tower</p> <ul style="list-style-type: none"> • Business black color • 6.9"W X 16.7" D X 16.14"H • 175mm W X 424mm D X 410mm H • 22.0 lb (10.0 kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 	
Implementation	Processor and L2 cache in FC-LGA4/LGA6 in LGA775 socket			
Memory - std/max ^a	512MB std / 4GB max			
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable			
Graphics	<p>Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display</p>			
SATA disk	80GB / SATA 3.0Gb/s 7200 rpm / rubber vibration dampening mounts			
SATA controller	Serial ATA / SATA 3.0Gb/s / integrated in ICH7			
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar			
EIDE CD	Some: 48X-20X ⁴ CD-ROM			
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo			
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)			
EIDE cables	One 1-drop EIDE cable to optical / 1 planar connector			
Diskette drive	None			
Media reader	None			
Chipset	<p>Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / ITE Tech® IT8718 Super I/O</p>			
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)			
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)			
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)			
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software			
Speaker	One internal speaker for business audio			
Ethernet	Gigabit ethernet on planar / Broadcom® BCM5786 / PCIe x1 / Wake on LAN®			
Modem	None			
Keyboard	104-key Preferred Pro Full-size keyboard (PS/2 connector), black, Lenovo logo			
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo			
Power supply	250 watts with variable speed fan / manual switch			
Preloaded operating system²⁰	<ul style="list-style-type: none"> - Microsoft® Windows® XP Professional ◆ Disk-to-Disk Recovery (in hidden protected area) 			
Preloaded applications⁵	<ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • PC-Doctor™ (diagnostics) • Diskeeper® Lite • Symantec® Client Security™ • Adobe® Reader • Google Toolbar • Google Desktop • Picasa from Google • Multimedia Center for Think Offerings (combo) • Sonic RecordNow and Drive Letter Access (combo) • InterVideo WinDVD (combo) 			
Accessories	<ul style="list-style-type: none"> 512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 160GB SATA 3.0Gb/s Disk (7200 rpm) 09N4254 250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 Super Multi-Burner DL DVD±RW EIDE Drive 41N5581 USB Gemplus GemPC Smart Card Reader 41N3040 USB 2.0 Essential Memory Key 4GB 45J7904 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 USB 2.0 Super Multi-Burner Drive 41N5565 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 ThinkVision® L190x 19" LCD Monitor 4439HB2 ThinkVision L193p 19" LCD Monitor 4431HB2 ThinkVision L197 Wide 19" LCD Monitor 4434HE1 ThinkVision L200p Wide 20.1" LCD Monitor 4438HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 ADD2 DVI-I PCIe Connection Adapter 73P2516 Acc Guide in pdf lenovo.com/accessoriesguide Other accessories at lenovo.com/accessories 			
			<p>Bay ① 5.25", 1.6" high, access, standard optical</p> <p>Bay ② 5.25", 1.6" high, access, open</p> <p>Bay ③ 3.5", 1" high, access, optional diskette</p> <p>Bay ④ 3.5", 1" high, no access, standard disk</p> <p>Slot 1: half-length, full-height, PCI Express x16 (75w max)</p> <p>Slot 2: half-length, full-height, PCI Express x1</p> <p>Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)</p> <p>Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)</p>	
			<p>Security</p> <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsave® cable) • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect 	
			Supports ThinkVantage® technologies	
			<p>Limited Warranty¹</p> <ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ ThinkPlus services at lenovo.com/thinkplus/warranty ↔ Post warranty maintenance services available ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 	

See footnotes for important warranty information
 US models announced September 26, 2006
 US models withdrawn effective June 2007, August 2007, or June 2008

ThinkCentre® M55e Tower (9637) - Dual-core - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Memory ^a	SATA disk	EIDE optical	Graphics	Preload	Limited warranty ¹	Workhorse (W) Global (G)	Avail date
M55e	9637-D1U	4x4	Pentium D 820	2.80	2x1MB	Dual	512MB	80GB ²	DVD	GMA 3000	XP Pro	3-yr		Sep 06
M55e	9637-D5U	4x4	Pentium D 820	2.80	2x1MB	Dual	512MB	160GB	Combo	GMA 3000	XP Pro	3-yr		Sep 06
M55e	9637-F9U	4x4	Pentium D 925	3.00	2x2MB	Dual	512MB	80GB	DVD	GMA 3000	XP Pro	3-yr		Oct 06
M55e	9637-FAU	4x4	Pentium D 925	3.00	2x2MB	Dual	512MB	160GB	Combo	GMA 3000	XP Pro	3-yr		Oct 06
M55e	9637-J4U	4x4	Pentium D 945	3.40	2x2MB	Dual	512MB	160GB	Combo	GMA 3000	XP Pro	3-yr		Sep 06
M55e	9637-J5U	4x4	Pentium D 945	3.40	2x2MB	Dual	512MB	80GB	DVD	GMA 3000	XP Pro	3-yr	W G	Nov 06

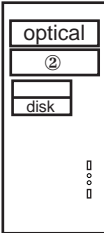
Positioning	<i>Mainstream enterprise stability and manageability</i>	
Processor	Intel® Pentium® D Processor 820, 925, or 945 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST (9xx only), 800MHz system bus, and 2x1MB or 2x2MB L2 cache	
Implementation	Processor and L2 cache in FC-LGA4/LGA6 in LGA775 socket	
Memory - std/max ^a	512MB std / 4GB max	
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display	
SATA disk	80 or 160GB / SATA 3.0Gb/s 7200 rpm / vibration dampening	
SATA controller	Serial ATA / SATA 3.0Gb/s / integrated in ICH7	
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar	
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo	
EIDE DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE	
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)	
EIDE cables	One 1-drop EIDE cable to optical / 1 planar connector	
Diskette drive	None	
Media reader	None	
Chipset	Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / ITE Tech® IT8718 Super I/O	
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)	
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software	
Speaker	One internal speaker for business audio	
Ethernet	Gigabit ethernet on planar / Broadcom® BCM5786 / PCIe x1 / Wake on LAN®	
Modem	None	
Keyboard	104-key Preferred Pro Full-size keyboard (PS/2 connector), black, Lenovo logo	
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo	
Power supply	230 watts with variable speed fan / manual switch / 2 diagnostic LEDs	
Preloaded operating system²⁰	<ul style="list-style-type: none"> - Microsoft® Windows® XP Professional ◇ Disk-to-Disk Recovery (in hidden protected area) 	
Preloaded applications⁵	<ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Symantec® Client Security™ • Diskeeper® Lite • PC-Doctor™ (diagnostics) • Adobe® Reader • Google Toolbar • Google Desktop • Picasa from Google • Multimedia Center for Think Offerings (combo, DVD) • Sonic RecordNow and Drive Letter Access (combo) • InterVideo WinDVD (combo, DVD) 	
Accessories	<ul style="list-style-type: none"> 512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 Super Multi-Burner DL DVD±RW EIDE Drive 41N5581 USB Gemplus GemPC Smart Card Reader 41N3040 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 Essential Memory Key 4GB 45J7904 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 USB 2.0 Portable 120GB Hard Disk 41N8379 USB 2.0 Super Multi-Burner Drive 41N5565 ThinkVision® L171p 17" LCD Monitor 9417HC2 ThinkVision L190x 19" LCD Monitor 4439HB2 ThinkVision L193p 19" LCD Monitor 4431HB2 ThinkVision L197 Wide 19" LCD Monitor 4434HE1 ThinkVision L200p Wide 20.1" LCD Monitor 4438HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 Kensington® Cable Lock from Lenovo 73P2582 ADD2 DVI-I PCIe Connection Adapter 73P2516 Acc Guide in pdf lenovo.com/accessoriesguide Other accessories at lenovo.com/accessories 	
Tower	<ul style="list-style-type: none"> • Business black color • 6.9"W X 16.7" D X 16.14"H • 175mm W X 424mm D X 410mm H • 22.0 lb (10.0 kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 	
	<p>Bay ① 5.25", 1.6" high, access, standard optical</p> <p>Bay ② 5.25", 1.6" high, access, open</p> <p>Bay ③ 3.5", 1" high, access, optional diskette</p> <p>Bay ④ 3.5", 1" high, no access, standard disk</p> <p>Slot 1: half-length, full-height, PCI Express x16 (75w max)</p> <p>Slot 2: half-length, full-height, PCI Express x1</p> <p>Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)</p> <p>Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)</p>	
	<p>Security</p> <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect 	
	Supports ThinkVantage® technologies	
	<p>Limited Warranty¹</p> <ul style="list-style-type: none"> ⇨ 3-year parts and labor ⇨ International Warranty Service⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇨ ThinkPlus services at lenovo.com/thinkplus/warranty ⇨ Post warranty maintenance services available ⇨ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 	

See footnotes for important warranty information
 US models announced September 26, October 17, or November 21, 2006
 US models withdrawn effective August 2007 or June 2008

ThinkCentre® M55e Tower (9637) - Dual-core (Oct 2006) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Memory ⁸	SATA disk	EIDE optical	Graphics	Preload	Limited warranty ¹	Workhorse Education	Gbl Avail date
M55e	9637-Q1U	4x4	Core 2 Duo E4300	1.80	2MB	Dual	512MB	80GB ²	DVD	GMA	XP Pro	3-yr		Feb 07
M55e	9637-Q2U	4x4	Core 2 Duo E4300	1.80	2MB	Dual	1GB	80GB	Combo	GMA	XP Pro	3-yr	Global	Feb 07
M55e	9637-P1U	4x4	Core 2 Duo E6300	1.86	2MB	Dual	1GB	80GB	DVD	GMA	XP Pro	3-yr		Oct 06
M55e	9637-P5U	4x4	Core 2 Duo E6300	1.86	2MB	Dual	1GB	80GB	DVD	GMA	XP Pro	3-yr	Educ	Nov 06
M55e	9637-M1U	4x4	Core 2 Duo E6400	2.13	2MB	Dual	1GB	160GB	Combo	GMA	XP Pro	3-yr		Oct 06
M55e	9637-M2U	4x4	Core 2 Duo E6400	2.13	2MB	Dual	1GB	160GB	Combo	GMA	XP Pro	3-yr	Educ	Oct 06

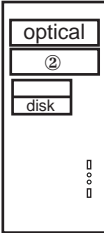
Positioning Processor	Mainstream enterprise stability and manageability Intel® Core™ 2 Duo Processor E4300 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB L2 cache (shared) or Intel Core 2 Duo Processor E6300 or E6400 with dual-core , Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, and 1066MHz system bus with 2MB L2 cache (shared)	Tower <ul style="list-style-type: none"> • Business black color • 6.9"W X 16.7" D X 16.14"H • 175mm W X 424mm D X 410mm H • 22.0 lb (10.0 kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 	
Implementation	Processor and L2 cache in FC-LGA4/LGA6 in LGA775 socket	<ul style="list-style-type: none"> Bay ① 5.25", 1.6" high, access, standard optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, optional diskette Bay ④ 3.5", 1" high, no access, standard disk 	
Memory - std/max ⁸	512 or 1GB std / 4GB max	Slot 1: half-length, full-height, PCI Express x16 (75w max)	
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	Slot 2: half-length, full-height, PCI Express x1	
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display	Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)	
SATA disk	80 or 160GB / SATA 3.0Gb/s 7200 rpm / vibration dampening	Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)	
SATA controller	Serial ATA / SATA 3.0Gb/s / integrated in ICH7		
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar		
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
EIDE DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)		
EIDE cables	One 1-drop EIDE cable to optical / 1 planar connector		
Diskette drive	None		
Media reader	None		
Chipset	Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / ITE Tech® IT8718 Super I/O		
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on planar / Broadcom® BCM5786 / PCIe x1 / Wake on LAN®		
Modem	None		
Keyboard	104-key Preferred Pro Full-size keyboard (PS/2 connector), black, Lenovo logo		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo		
Power supply	280 watts with variable speed fan / manual switch / 2 diagnostic LEDs		
Preloaded operating system²⁰	- Microsoft® Windows® XP Professional ◇ Disk-to-Disk Recovery (in hidden protected area)		
Preloaded accessories	512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 Super Multi-Burner DL DVD±RW EIDE Drive 41N5581 USB Gemplus GemPC Smart Card Reader 41N3040 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 Essential Memory Key 4GB 45J7904 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 USB 2.0 Portable 120GB Hard Disk 41N8379 USB 2.0 Super Multi-Burner Drive 41N5565 ThinkVision® L190x 19" LCD Monitor 4439HB2 ThinkVision L193p 19" LCD Monitor 4431HB2 ThinkVision L197 Wide 19" LCD Monitor 4434HE1 ThinkVision L200p Wide 20.1" LCD Monitor 4438HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 Preferred Pro USB Fingerprint Keyboard 73P4730 ADD2 DVI-I PCIe Connection Adapter 73P2516 Acc Guide in pdf lenovo.com/accessoriesguide Other accessories at lenovo.com/accessories		
Preloaded applications⁵ (only some listed)	<ul style="list-style-type: none"> • Education models: VitalSource Library education software • Education models: Adobe® Photoshop® Elements plus Adobe Premiere® Elements • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Symantec® Client Security™ • Diskeeper® Lite • PC-Doctor™ (diagnostics) • Google Desktop • Picasa from Google • Multimedia Center for Think Offerings (combo, DVD) • Sonic RecordNow and Drive Letter Access (combo) • InterVideo WinDVD (combo, DVD) 		
CD	<ul style="list-style-type: none"> • Education models: Adobe Photoshop Elements plus Adobe Premiere Elements 		
		Supports ThinkVantage® technologies	
		Limited Warranty¹	
		<ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ ThinkPlus services at lenovo.com/thinkplus/warranty ↔ Post warranty maintenance services available ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 	

See footnotes for important warranty information
 US models announced October 17, 2006, November 21, 2006, or January 30, 2007
 US models withdrawn effective June 2008

ThinkCentre® M55e Tower (9637) - Dual-core (May 2007) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 GHz cache	Core	Memory ⁸	SATA disk	EIDE optical	Graphics	Int or ext speaker	Pre-load	Limited warranty ¹	Wrkhrse Education	Gbl Avail date
M55e	9637-3AU	4x4	Celeron 420	1.60 512KB	Single	1GB	80GB ²	DVD	GMA	Ext spks	XP Pro	3-yr	No	Jun 07
M55e	9637-2AU	4x4	Pentium E2140	1.60 1MB	Dual	1GB	80GB	Combo	GMA	Ext spks	XP Pro	3-yr	No	Jun 07
M55e	9637-QKU	4x4	Core 2 Duo E4300	1.80 2MB	Dual	512MB	80GB	DVD	GMA	Internal	XP Pro	3-yr	No	May 07
M55e	9637-QHU	4x4	Core 2 Duo E4300	1.80 2MB	Dual	1GB	80GB	DVD	GMA	Internal	XP Pro	3-yr	No	May 07
M55e	9637-QPU	4x4	Core 2 Duo E4300	1.80 2MB	Dual	1GB	80GB	Combo	GMA	Internal	XP Pro	3-yr	No	May 07
M55e	9637-QEU	4x4	Core 2 Duo E4400	2.00 2MB	Dual	1GB	160GB	Combo	GMA	Internal	XP Pro	3-yr	No	May 07

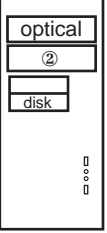
Positioning Processor	<p><i>Mainstream enterprise stability and manageability</i> Intel® Celeron® Processor 420 with single-core, Intel 64 Tech, Execute Disable Bit, 800MHz bus, and 512KB L2 cache or Intel Pentium® Dual-Core Processor E2140 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Core™ 2 Duo Processor E4300 or E4400 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB L2 cache (shared) Processor and L2 cache in FC-LGA4/LGA6 in LGA775 socket</p>							<p>Tower</p> <ul style="list-style-type: none"> • Business black color • 6.9"W X 16.7" D X 16.14"H • 175mm W X 424mm D X 410mm H • 22.0 lb (10.0 kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 			
Implementation	<p>512MB or 1GB std / 4GB max⁸ / PC2-5300 667MHz DDR2, non-parity, dual-channel capable, two 240-pin DIMM sockets; <i>Non-italics</i>: standard memory in one socket; one socket available</p>							<p>Bay ① 5.25", 1.6" high, access, standard optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, optional diskette Bay ④ 3.5", 1" high, no access, standard disk</p>		<p>Slot 1: half-length, full-height, PCI Express x16 (75w max) Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)</p>	
Memory	<p>Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display</p>							<p>Security</p> <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect 			
Graphics	<p>80 or 160GB / SATA 3.0Gb/s 7200 rpm / vibration dampening Serial ATA / SATA 3.0Gb/s / integrated in ICH7 One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar <i>Some</i>: 16X-48X Max⁴ DVD-ROM / single-layer <i>Some</i>: 48X/32X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7) One 1-drop EIDE cable to optical / 1 planar connector</p>							<p>Chipset</p> <p>Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / ITE Tech® IT8718 Super I/O</p>			
SATA disk	<p>Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)</p>							<p>Limited Warranty¹</p> <ul style="list-style-type: none"> ⇒ 3-year parts and labor ⇒ International Warranty Service⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇒ ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ Post warranty maintenance services available ⇒ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 			
SATA controller	<p>Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)</p>							<p>Keyboard</p> <p>Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo</p>		<p>Mouse</p> <p>Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo</p>	
SATA cables	<p>Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)</p>							<p>Power supply</p> <p>280 watts with variable speed fan / manual switch / 2 diagnostic LEDs</p>			
EIDE DVD	<p>High Definition (HD) Audio / AD1986A codec / SoundMAX® software</p>							<p>Preloaded operating system²⁰</p> <ul style="list-style-type: none"> - Microsoft® Windows® XP Professional ◇ Disk-to-Disk Recovery (in hidden protected area) 		<p>Accessories</p> <ul style="list-style-type: none"> 512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 Super Multi-Burner DL DVD±RW EIDE Drive 41N5581 USB Gemplus GemPC Smart Card Reader 41N3040 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 Essential Memory Key 4GB 45J7904 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 USB 2.0 Portable 120GB Hard Disk 41N8379 USB 2.0 Super Multi-Burner Drive 41N5565 ThinkVision® L193p 19" LCD Monitor 4431HB2 ThinkVision L197 Wide 19" LCD Monitor 4434HE1 ThinkVision L200p Wide 20.1" LCD Monitor 4438HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 ADD2 DVI-I PCIe Connection Adapter 73P2516 Acc Guide in pdf lenovo.com/accessoriesguide Other accessories at lenovo.com/accessories 	
EIDE Combo	<p>Some: [Ext spks] 2-piece speakers, 6 watts (3 watts each), black, Infinity logo</p>							<p>Speaker</p> <p>Some: [Internal] one internal speaker for business audio</p>			
EIDE controller	<p>Gigabit ethernet on planar / Broadcom® BCM5786 / PCIe x1 / Wake on LAN®</p>							<p>Ethernet</p> <p>Modem</p>			
EIDE cables	<p>Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo</p>							<p>Keyboard</p> <p>Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo</p>		<p>Supports ThinkVantage® technologies</p>	
Diskette drive	<p>280 watts with variable speed fan / manual switch / 2 diagnostic LEDs</p>							<p>Preloaded applications⁵</p> <ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Symantec® Client Security™ • Diskeeper® Lite • PC-Doctor™ (diagnostics) • Adobe® Reader • Windows Live™ Toolbar • Windows Live Search • Picasa from Google • Multimedia Center for Think Offerings (combo, DVD) • Sonic RecordNow and Drive Letter Access (combo) • InterVideo WinDVD (combo, DVD) 		<p>Preloaded applications⁵</p> <ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Symantec® Client Security™ • Diskeeper® Lite • PC-Doctor™ (diagnostics) • Adobe® Reader • Windows Live™ Toolbar • Windows Live Search • Picasa from Google • Multimedia Center for Think Offerings (combo, DVD) • Sonic RecordNow and Drive Letter Access (combo) • InterVideo WinDVD (combo, DVD) 	

See footnotes for important warranty information
 US models announced May 1 or June 5, 2007
 US models withdrawn effective June 2008

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 (ACIN11-7) June 2008

ThinkCentre® M55e Tower (9637) - Vista® - withdrawn

Personal Systems Reference (PSREF)


Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Memory ⁸	SATA disk	EIDE optical	Graphics	Vista preload	Vista logo	Limited warranty ¹	Workhorse Gbl Educ	Avail date
M55e	9637-3BU	4x4	Celeron 420	1.60	512KB	1GB	80GB ²	DVD	GMA	Business	Basic	3-yr		Jun 07
M55e	9637-3CU	4x4	Pentium E2140	1.60	1MB	1GB	80GB	Combo	GMA	Business	Basic	3-yr		Jun 07
M55e	9637-FDU	4x4	Pentium D 925	3.00	2x2MB	1GB	80GB	DVD	GMA	Business	Basic	3-yr	Global	Feb 07
M55e	9637-QGU	4x4	Core 2 Duo E4300	1.80	2MB	1GB	80GB	DVD	GMA	Business	Premium	3-yr		May07
M55e	9637-QJU	4x4	Core 2 Duo E4300	1.80	2MB	1GB	80GB	Combo	GMA	Business	Premium	3-yr		May07
M55e	9637-QFU	4x4	Core 2 Duo E4400	2.00	2MB	1GB	160GB	Combo	GMA	Business	Premium	3-yr		May07
M55e	9637-P8U	4x4	Core 2 Duo E6300	1.86	2MB	1GB	80GB	DVD	GMA	Business	Basic	3-yr	Global	Feb 07
Positioning Processor	Mainstream enterprise stability and manageability Intel® Celeron® Processor 420 with single-core, Intel 64 Tech, Execute Disable Bit, 800MHz bus, and 512KB L2 cache or Intel Pentium® Dual-Core Processor E2140 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Pentium D Processor 925 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2x2MB L2 cache or Intel Core™ 2 Duo Processor E4300 or E4400 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB L2 cache (shared) or Intel Core 2 Duo Processor E6300 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, and 1066MHz system bus with 2MB L2 cache (shared) Processor and L2 cache in FC-LGA6 in LGA775 socket								Tower <ul style="list-style-type: none"> • Business black color • 6.9"W X 16.7" D X 16.14"H • 175mm W X 424mm D X 410mm H • 22.0 lb (10.0 kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 					
Implementation	1GB std / 4GB max⁸ / two 240-pin DIMM sockets, non-parity, dual-channel capable; <i>Feb models:</i> PC2-4200 533MHz DDR2 , standard memory in 1 socket; 1 socket available; <i>May models:</i> (<i>italics</i>) PC2-5300 667MHz DDR2 , std memory in both sockets; no sockets available; <i>Jun models:</i> PC2-5300 667MHz DDR2 , standard memory in 1 socket; 1 socket available								Bay ① 5.25", 1.6" high, access, standard optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, optional diskette Bay ④ 3.5", 1" high, no access, standard disk		Security <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, serial, parallel, diskette enable or disable • Diskette write protect • USB port disablement 			
Memory	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display								Slot 1: half-length, full-height, PCI Express x16 (75w max) Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)					
Graphics	80GB or 160GB / SATA 3.0Gb/s 7200 rpm / rubber vibration dampening mounts Serial ATA / SATA 3.0Gb/s / integrated in ICH7 One SATA cable (one 1-drop to disk) / 2 planar connectors <i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer <i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7) One 1-drop EIDE cable to optical / 1 planar connector Diskette drive None Media reader None								Supports ThinkVantage® technologies					
SATA disk	Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / SMSC® SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)													
SATA controller	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)													
SATA cables	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)													
EIDE DVD	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)													
EIDE Combo	High Definition (HD) Audio / AD1986A codec / SoundMAX® software													
EIDE controller	<i>Jun models:</i> 2-piece speakers, 6 watts (3 watts each), black, Infinity logo													
EIDE cables	<i>Feb/May models:</i> one internal speaker for business audio													
Diskette drive	Gigabit ethernet on planar / Broadcom BCM5786 / PCIe x1 / Wake on LAN®													
Media reader	None													
Chipset	None													
Keyboard	<i>Feb models:</i> 104-key Preferred Pro Full-size keyboard (PS/2 connector) <i>May/June models:</i> Preferred Pro USB Keyboard (USB connector), 104-key													
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo													
Power supply	280 watts with variable speed fan / manual switch / 2 diagnostic LEDs													
Preloaded operating system²⁰ - Microsoft® Windows® Vista Business Edition (32-bit)														
Preloaded applications⁵ <ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Lenovo Multimedia Center • Norton Internet Security™ (90 days of virus definitions) • Diskeeper® Home • PC-Doctor™ (diagnostics) • Adobe® Reader • Windows Live™ Toolbar • Windows Live Search • Picasa from Google 														
Limited Warranty¹ <ul style="list-style-type: none"> ⇒ 3-year parts and labor ⇒ International Warranty Service⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇒ ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ Post warranty maintenance services available ⇒ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 														

See footnotes for important warranty information
 US models announced January 30, May 1, or June 5, 2007
 US models withdrawn effective June 2008

ThinkCentre® M55e Small (9645) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Memory ^a	SATA disk	SATA optical	Graphics	Preload	Limited warranty ¹	Workhorse Gbl Educ	Avail date
M55e	9645-F1U	2x3	Pentium D 915	2.80	2x2MB	512MB	80GB ²	DVD	GMA 3000	XP Pro	3-yr		Jan 07
M55e	9645-F3U	2x3	Pentium D 915	2.80	2x2MB	1GB	80GB	Combo	GMA 3000	XP Pro	3-yr		Jan 07
M55e	9645-G1U	2x3	Pentium D 925	3.00	2x2MB	512MB	80GB	DVD	GMA 3000	XP Pro	3-yr		Jan 07
M55e	9645-G2U	2x3	Pentium D 925	3.00	2x2MB	1GB	80GB	Combo	GMA 3000	XP Pro	3-yr		Jan 07
M55e	9645-J1U	2x3	Pentium D 945	3.40	2x2MB	1GB	80GB	DVD	GMA 3000	XP Pro	3-yr		Jan 07
M55e	9645-J2U	2x3	Pentium D 945	3.40	2x2MB	1GB	80GB	Combo	GMA 3000	XP Pro	3-yr		Jan 07
M55e	9645-K1U	2x3	Core 2 Duo E6300	1.86	2MB	1GB	80GB	DVD	GMA 3000	XP Pro	3-yr	Global	Jan 07
M55e	9645-K2U	2x3	Core 2 Duo E6300	1.86	2MB	1GB	80GB	Combo	GMA 3000	XP Pro	3-yr		Jan 07
M55e	9645-Q1U	2x3	Core 2 Duo E4300	1.80	2MB	1GB	80GB	DVD	GMA 3000	XP Pro	3-yr	Global	Jan 07
M55e	9645-Q2U	2x3	Core 2 Duo E4300	1.80	2MB	512MB	80GB	Combo	GMA 3000	XP Pro	3-yr		Jan 07
M55e	9645-QHU	2x3	Core 2 Duo E4300	1.80	2MB	1GB	80GB	Combo	GMA 3000	XP Pro	3-yr		May 07
M55e	9645-QNU	2x3	Core 2 Duo E4300	1.80	2MB	1GB	160GB	Combo	GMA 3000	XP Pro	3-yr		May 07

Positioning Processor	<i>Mainstream enterprise stability and manageability</i> Intel® Pentium® D Processor 915, 925, or 945 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2x2MB L2 cache or Intel Core™ 2 Duo Processor E4300 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB L2 cache (shared) or Intel Core 2 Duo Processor E6300 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, and 1066MHz system bus with 2MB L2 cache (shared) Processor and L2 cache in FC-LGA6 in LGA775 socket	Small	
Implementation	Processor and L2 cache in FC-LGA6 in LGA775 socket	Bay ① 3.5", slim .5", access, opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports opt DVI-I PCIe ADD2 adptr only)	
Memory - std/max ^a	512MB or 1GB std / 4GB max		
Memory	Two 240-pin DIMM sockets / one socket used / PC2-5300 667MHz DDR2 / non-parity / CAS latency 5 (CL5) / unbuffered / dual-channel capable		
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display		
SATA disk	80GB or 160GB / SATA 3.0Gb/s 7200 rpm / dampening mounts		
SATA controller	Serial ATA / SATA 3.0Gb/s / integrated in ICH7		
SATA combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
SATA DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer		
SATA cables	Two SATA cable (each 1-drop to device) / 2 SATA connectors on planar		
Diskette drive	None		
Media reader	None		
Chipset	Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / SMSC [®] SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)		
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Six USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX [®] software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on planar / Broadcom BCM5786 / PCIe x1 / Wake on LAN [®]		
Modem	None		
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo		
Power supply	225 watts with variable speed fan / manual switch / 2 diagnostic LEDs		
Preloaded operating system²⁰	- Microsoft [®] Windows [®] XP Professional ↔ Disk-to-Disk Recovery (in hidden protected area)		
Preloaded applications⁵	<ul style="list-style-type: none"> Rescue and Recovery™ Client Security Solution™ ThinkVantage Productivity Center ThinkVantage System Update System Migration Assistant Symantec[®] Client Security™ Diskeeper[®] Lite PC-Doctor™ (diagnostics) Adobe[®] Reader Google Toolbar Google Desktop Picasa from Google Multimedia Center for Think Offerings (combo, DVD) Sonic RecordNow and Drive Letter Access (combo) 		
Accessories	1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 DVD-ROM DL SATA 1.5Gb/s 16X-48X Max ⁴ 41N5618 CD-RW/DVD-ROM Combo SATA 1.5Gb/s 41N5619 USB 2.0 Portable 120GB Hard Disk 41N8379 Super Multi-Burner DL DVD±RW SATA Drive 41N5620 USB Portable Diskette Drive 05K9276 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 USB 2.0 Super Multi-Burner Drive 41N5565 ThinkVision [®] L190x 19" LCD Monitor 4439HB2 ThinkVision L193p 19" LCD Monitor 4431HB2 ThinkVision L197 Wide 19" LCD Monitor 4434HE1 ThinkVision L200p Wide 20.1" LCD Monitor 4438HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 ADD2 DVI-I PCIe Connection Adapter 73P2516 Other accessories at lenovo.com/accessories		
			Security <ul style="list-style-type: none"> Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement
			Supports ThinkVantage [®] technologies
			Limited Warranty¹ <ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ ThinkPlus services at lenovo.com/thinkplus/warranty ↔ Post warranty maintenance services available ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378

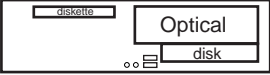
See footnotes for important warranty information
 US models announced January 16 or May 1, 2007
 US models withdrawn effective March 2007, January 2008, or June 2008

ThinkCentre® M55e Small (9645) - Vista® - withdrawn

Personal Systems Reference (PSREF)

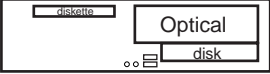
Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Memory ⁸	SATA disk	SATA optical	Graphics	Vista preload	Vista logo	Limited warranty ¹	Workhorse Gbl Educ	Avail date
M55e	9645-F5U	2x3	Pentium D 915	2.80	2x2MB	1GB	80GB ²	Combo	GMA 3000	Business	Premium	3-yr		Jan 07
M55e	9645-G5U	2x3	Pentium D 925	3.00	2x2MB	1GB	80GB	Combo	GMA 3000	Business	Premium	3-yr		Jan 07
M55e	9645-J6U	2x3	Pentium D 945	3.40	2x2MB	1GB	160GB	Combo	GMA 3000	Business	Premium	3-yr		Jan 07
M55e	9645-J7U	2x3	Pentium D 945	3.40	2x2MB	1GB	160GB	DVD	GMA 3000	Business	Premium	3-yr	Global	Jan 07
M55e	9645-K7U	2x3	Core 2 Duo E6300	1.86	2MB	1GB	80GB	DVD	GMA 3000	Business	Premium	3-yr	Global	Jan 07
M55e	9645-K9U	2x3	Core 2 Duo E6300	1.86	2MB	1GB	160GB	Combo	GMA 3000	Business	Premium	3-yr		Jan 07
M55e	9645-Q4U	2x3	Core 2 Duo E4300	1.80	2MB	1GB	80GB	Combo	GMA 3000	Business	Premium	3-yr		Jan 07
M55e	9645-Q5U	2x3	Core 2 Duo E4300	1.80	2MB	1GB	80GB	DVD	GMA 3000	Business	Premium	3-yr	Global	Jan 07
M55e	9645-QJU	2x3	Core 2 Duo E6400	2.13	2MB	1GB	160GB	Combo	GMA 3000	Business	Basic	3-yr		May 07

• These models have a 3-year limited warranty¹

Positioning Processor	<i>Mainstream enterprise stability and manageability</i> Intel® Pentium® D Processor 915, 925, or 945 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2x2MB L2 cache or Intel Core™ 2 Duo Processor E4300 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB L2 cache (shared) or Intel Core 2 Duo Processor E6300 or E6400 with dual-core , Intel 64 Technology, Virtualization Technology, EDBit, EIST, and 1066MHz system bus with 2MB L2 cache (shared)	Small	
Implementation	Processor and L2 cache in FC-LGA6 in LGA775 socket	<p>Bay ① 3.5", slim .5", access, opt diskette</p> <p>Bay ② 5.25", HH 1.6", access, std optical</p> <p>Bay ③ 3.5", SL 1", no access, std disk</p> <p>Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)</p> <p>Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports opt DVI-I PCIe ADD2 adptr only)</p>	
Memory	1GB std / 4GB max⁸ / two 240-pin DIMM sockets, non-parity, dual-channel capable; <i>Italics:</i> standard memory in both sockets; no sockets available; <i>Non-italics:</i> standard memory in one socket; one socket available	<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1" D X 3.3" H (3.4" H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • No system floor stand for vertical orientation ships std 	
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display		
SATA disk	80 or 160 GB / SATA 3.0Gb/s 7200 rpm / vibration dampening		
SATA controller	Serial ATA / SATA 3.0Gb/s / integrated in ICH7		
SATA combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
SATA DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer		
SATA cables	Two SATA cable (each 1-drop to device) / 2 SATA connectors on planar		
Diskette drive	None		
Media reader	None		
Chipset	Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / SMSC® SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)		
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Six USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on planar / Broadcom BCM5786 / PCIe x1 / Wake on LAN®		
Modem	None		
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo		
Power supply	225 watts with variable speed fan / manual switch / 2 diagnostic LEDs		
Preloaded operating system²⁰	- Microsoft® Windows® Vista Business Edition (32-bit)		
Preloaded applications⁵ (only some listed)	<ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Norton Internet Security™ (90 days of virus definitions) • Diskeeper® Home • PC-Doctor™ (diagnostics) • Adobe® Reader • Picasa from Google 		
Accessories	<ul style="list-style-type: none"> 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 DVD-ROM DL SATA 1.5Gb/s 16X-48X Max⁴ 41N5618 CD-RW/DVD-ROM Combo SATA 1.5Gb/s 41N5619 Super Multi-Burner DL DVD±RW SATA Drive 41N5620 USB Portable Diskette Drive 05K9276 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 USB 2.0 Super Multi-Burner Drive 41N5565 ThinkVision® L190x 19" LCD Monitor 4439HB2 ThinkVision L193p 19" LCD Monitor 4431HB2 ThinkVision L197 Wide 19" LCD Monitor 4434HE1 ThinkVision L200p Wide 20.1" LCD Monitor 4438HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 ADD2 DVI-I PCIe Connection Adapter 73P2516 Acc Guide in pdf lenovo.com/accessoriesguide Other accessories at lenovo.com/accessories 		
			<p>Security</p> <ul style="list-style-type: none"> • Security slot (in rear for attachment of optional Kensington® Microsaver® cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, serial, parallel, diskette enable or disable • Diskette write protect • USB port disablement <p>Supports ThinkVantage® technologies</p> <p>Limited Warranty¹</p> <ul style="list-style-type: none"> ⇒ 3-year parts and labor ⇒ International Warranty Service⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇒ ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ Post warranty maintenance services available ⇒ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378

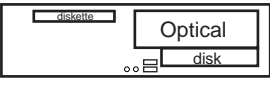
See footnotes for important warranty information
 US models announced January 30 or May 1, 2007
 US models withdrawn effective January or June 2008

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Memory ⁸	SATA disk	SATA optical	Graphics	Preload	Limited warranty ¹	Workhorse Gbl Educ	Avail date
M55e	9645-22U	2x3	Celeron 420	1.60	512KB	Single	1GB	80GB ²	DVD	GMA 3000	XP Pro	3-yr	No	Jun 07
M55e	9645-23U	2x3	Pentium E2140	1.60	1MB	Dual	1GB	80GB	Combo	GMA 3000	XP Pro	3-yr	No	Jun 07
M55e	9645-25U	2x3	Core 2 Duo E4300	1.80	2MB	Dual	1GB	80GB	DVD	GMA 3000	XP Pro	3-yr	No	Jun 07
M55e	9645-26U	2x3	Core 2 Duo E4300	1.80	2MB	Dual	1GB	80GB	DVD	GMA 3000	XP Pro	3-yr	No	Jun 07
M55e	9645-QMU	2x3	Core 2 Duo E4400	2.00	2MB	Dual	1GB	80GB	Combo	GMA 3000	XP Pro	3-yr	No	Jun 07

Positioning Processor	<i>Mainstream enterprise stability and manageability</i> Intel® Celeron® Processor 420 with single-core, Intel 64 Tech, Execute Disable Bit, 800MHz bus, and 512KB L2 cache or Intel Pentium® Dual-Core Processor E2140 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Core™ 2 Duo Processor E4300 or E4400 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB shared L2 cache		Small		
Implementation	Processor and L2 cache in FC-LGA6 in LGA775 socket		Bay ① 3.5", slim .5", access, opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports opt DVI-I PCIe ADD2 adptr only)		
Memory	1GB std / 4GB max ⁸ / PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, two 240-pin DIMM sockets; <i>Non-italics</i> : standard memory in one socket; one socket available		<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1" D X 3.3" H (3.4" H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • No system floor stand for vertical orientation ships std 		
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display		Security <ul style="list-style-type: none"> • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, serial, parallel, diskette enable or disable • Diskette write protect • USB port disablement 		
SATA disk	80GB / SATA 3.0Gb/s 7200 rpm / dampening mounts		Supports ThinkVantage® technologies Limited Warranty¹ ⇨ 3-year parts and labor ⇨ International Warranty Service⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇨ ThinkPlus services at lenovo.com/thinkplus/warranty ⇨ Post warranty maintenance services available ⇨ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378		
SATA controller	Serial ATA / SATA 3.0Gb/s / integrated in ICH7				
SATA combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo				
SATA DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer				
SATA cables	Two SATA cable (each 1-drop to device) / 2 SATA connectors on planar				
Diskette drive	None		⇨ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378		
Media reader	None				
Chipset	Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / SMSC® SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)				
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)				
Rear ports	Six USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)				
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		⇨ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378		
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software				
Speaker	One internal speaker for business audio				
Ethernet	Gigabit ethernet on planar / Broadcom BCM5786 / PCIe x1 / Wake on LAN®				
Modem	None				
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo		⇨ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo				
Power supply	225 watts with variable speed fan / manual switch / 2 diagnostic LEDs				
Preloaded operating system²⁰		Accessories			
- Microsoft® Windows® XP Professional ⇨ Disk-to-Disk Recovery (in hidden protected area) Preloaded applications⁵ <ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Symantec® Client Security™ • Diskeeper® Lite • PC-Doctor™ (diagnostics) • Adobe® Reader • Windows Live™ Toolbar • Windows Live Search • Picasa from Google • Multimedia Center for Think Offerings (combo, DVD) • Sonic RecordNow and Drive Letter Access (combo) • InterVideo WinDVD (combo, DVD) 		1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 DVD-ROM DL SATA 1.5Gb/s 16X-48X Max ⁴ 41N5618 CD-RW/DVD-ROM Combo SATA 1.5Gb/s 41N5619 Super Multi-Burner DL DVD±RW SATA Drive 41N5620 USB Portable Diskette Drive 05K9276 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Essential Memory Key 4GB 45J7904 USB 2.0 Security Memory Key 1GB 41U5118 USB 2.0 Security Memory Key 2GB 41U5119 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 USB 2.0 Super Multi-Burner Drive 41N5565 ThinkVision® L190x 19" LCD Monitor 4439HB2 ThinkVision L193p 19" LCD Monitor 4431HB2 ThinkVision L197 Wide 19" LCD Monitor 4434HE1 ThinkVision L200p Wide 20.1" LCD Monitor 4438HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 ADD2 DVI-I PCIe Connection Adapter 73P2516 Other accessories at lenovo.com/accessories			

See footnotes for important warranty information
 US models announced June 5, 2007
 US models withdrawn effective June 2008

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Memory ⁸	SATA disk	SATA optical	Graphics	Vista preload	Vista logo	Limited warranty ¹	Workhorse Gbl Educ	Avail date
M55e	9645-QWU	2x3	Celeron 420	1.60	512KB	Single	1GB	80GB ²	DVD	GMA	Business 32	Basic	3-yr		Jun 07
M55e	9645-24U	2x3	Pentium E2140	1.60	1MB	Dual	1GB	80GB	Combo	GMA	Business 32	Basic	3-yr		Jun 07
M55e	9645-27U	2x3	Core 2 Duo E4300	1.80	2MB	Dual	1GB	80GB	DVD	GMA	Business 32	Basic	3-yr	K12	Jun 07
M55e	9645-31U	2x3	Core 2 Duo E4300	1.80	2MB	Dual	1GB	80GB	DVD	GMA	Business 32	Basic	3-yr	HE	Jun 07
M55e	9645-QKU	2x3	Core 2 Duo E4400	2.00	2MB	Dual	1GB	80GB	DVD	GMA	Business 32	Basic	3-yr		Jun 07
M55e	9645-QLU	2x3	Core 2 Duo E4400	2.00	2MB	Dual	1GB	80GB	Combo	GMA	Business 32	Basic	3-yr		Jun 07

Positioning Processor	<i>Mainstream enterprise stability and manageability</i> Intel® Celeron® Processor 420 with single-core, Intel 64 Tech, Execute Disable Bit, 800MHz bus, and 512KB L2 cache or Intel Pentium® Dual-Core Processor E2140 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Core™ 2 Duo Processor E4300 or E4400 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB shared L2 cache	Small	
Implementation	Processor and L2 cache in FC-LGA6 in LGA775 socket	Bay ① 3.5", slim .5", access, opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports opt DVI-I PCIe ADD2 adptr only)	
Memory	1GB std / 4GB max⁸ / PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, two 240-pin DIMM sockets; <i>Non-italics</i> : standard memory in one socket; one socket available	<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1" D X 3.3" H (3.4" H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • No system floor stand for vertical orientation ships std 	
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display		
SATA disk	80GB / SATA 3.0Gb/s 7200 rpm / vibration dampening mounts		
SATA controller	Serial ATA / SATA 3.0Gb/s / integrated in ICH7		
SATA DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer		
SATA combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
SATA cables	Two SATA cable (each 1-drop to device) / 2 SATA connectors on planar		
Diskette drive	None		
Media reader	None		
Chipset	Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / SMSC® SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)		
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Six USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on planar / Broadcom BCM5786 / PCIe x1 / Wake on LAN®		
Modem	None		
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo		
Power supply	225 watts with variable speed fan / manual switch / 2 diagnostic LEDs		
Preloaded operating system²⁰ - Microsoft® Windows® Vista Business Edition (32-bit)			
Preloaded applications⁵ <ul style="list-style-type: none"> • <i>Some (K12):</i> K-12 education software <ul style="list-style-type: none"> - VitalSource Library School Edition - Adobe® Instructor Resource Center - Adobe Digital School Collection <ul style="list-style-type: none"> - Photoshop Elements 5 (and CD) - Premier Elements 3 (and DVD) - Acrobat 8 Professional (and CD) - Contribute 4 (and CD) • <i>Some (HE):</i> Higher education software <ul style="list-style-type: none"> - VitalSource Library College Edition - Adobe® Instructor Resource Center - Adobe Photoshop Elements 5 (and CD) - Adobe Premier Elements 3 (and DVD) 		<ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Lenovo Multimedia Center • Norton Internet Security™ (90 days of virus definitions) • Diskeeper® Home • PC-Doctor™ (diagnostics) • Adobe® Reader • Windows Live™ Toolbar • Windows Live Search • Picasa from Google 	
Limited Warranty¹ ⇨ 3-year parts and labor ⇨ International Warranty Service⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇨ ThinkPlus services at lenovo.com/thinkplus/warranty ⇨ Post warranty maintenance services available ⇨ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378			

See footnotes for important warranty information
 US models announced June 5, 2007
 US models withdrawn effective June 2008

Partial list of accessories supported on ThinkCentre M55e, M55, and M55p

Memory

512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983	ann 06/28/05
1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	ann 06/28/05
2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985	ann 09/26/06

Only supported with Q965 with M55 Desktop 8810, M55 Tower 8811, M55p Small 8808, and M55p Tower 8811:

512MB PC2-6400 NP DDR2 UDIMM ⁴⁸	41U2976	ann 09/26/06
1GB PC2-6400 NP DDR2 UDIMM ⁴⁸	41U2977	ann 09/26/06
2GB PC2-6400 NP DDR2 UDIMM ⁴⁸	41U2978	ann 01/08/08

⁴⁸ When PC2-6400 is installed with systems that have PC2-5300 memory, PC2-6400 will operate at the PC2-5300 memory speed.

Optical

M55 Ultra Small 8807 uses Ultrabay™ Enhanced [12.7mm high] and Ultrabay Slim [9.5mm high] EIDE optical drives:

CD-RW/DVD Combo Ultrabay Enhanced (cur) ⁴⁷	73P3275	ann 10/07/03
ThinkPad DVD Ultrabay Slim Burner (flat) ⁴⁷	41N5643	ann 05/31/07

⁴⁷ Not supported by Lenovo

M55e Small 9645, M55 Small 8808/9168, M55p Small 8808, M55 Desktop 8810/9166, M55 Tower 8811/9167, and M55p Tower 8811 support Serial ATA optical drives:

DVD-ROM DL SATA 1.5Gb/s 16X-48X Max ⁴	41N5618	ann 09/26/06
CD-RW/DVD-ROM Combo SATA 1.5Gb/s	41N5619	ann 09/26/06
Super Multi-Burner DL DVD±RW SATA Drive	41N5620	ann 09/26/06

M55e Desktop 9632 and M55e Tower 9637 support EIDE optical drives:

16X Max ⁴ DVD-ROM (black)	22P6950	
Super Multi-Burner DL DVD±RW EIDE Drive	41N5581	ann 05/30/06

Storage and removable storage

80GB SATA 3.0Gb/s Disk (7200 rpm)	09N4253	ann 05/19/03
160GB SATA 3.0Gb/s Disk (7200 rpm)	09N4254	ann 05/19/03
250GB SATA 3.0Gb/s Disk (7200 rpm)	41N3015	ann 01/24/06
500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990	ann 11/06/07

USB Portable Diskette Drive	05K9276	ann 06/05/00
USB 2.0 Essential Memory Key 1GB	41U4940	ann 01/23/07
USB 2.0 Essential Memory Key 2GB	41U4944	ann 01/23/07
USB 2.0 Essential Memory Key 4GB	45J7904	ann 06/24/08
USB 2.0 Security Memory Key 1GB	41U5118	ann 07/17/07
USB 2.0 Security Memory Key 2GB	41U5119	ann 07/17/07
USB 2.0 Security Memory Key 4GB	41U5120	ann 07/17/07
USB 2.0 Portable 80GB Hard Disk	41N8378	ann 04/17/07
USB 2.0 Portable 120GB Hard Disk	41N8379	ann 04/17/07
USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637	ann 01/05/06
USB 2.0 Super Multi-Burner Drive	41N5565	ann 01/23/07

Graphics

M55e Small 9645 supports:

ADD2 DVI-I PCIe Connection Adapter ⁴⁰	73P2516	ann 06/28/05
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⁴⁰ No dual independent display with Intel 946GZ

M55 Small 8808/9168 and M55p Small 8808 support:

ADD2 DVI-I PCIe Connection Adapter	73P2516	ann 06/28/05
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M55e Desktop 9632 supports Low Profile 25 watts max:

ADD2 DVI-I PCIe Connection Adapter ⁴⁰	73P2516	ann 06/28/05
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⁴⁰ No dual independent display with Intel 946GZ

M55 Desktop 8810/9166 support Low Profile 25 watts max:

ADD2 DVI-I PCIe Connection Adapter	73P2516	ann 06/28/05
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M55e Tower 9637 supports 75 watts max:

ADD2 DVI-I PCIe Connection Adapter ⁴⁰	73P2516	ann 06/28/05
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⁴⁰ No dual independent display with Intel 946GZ

M55 Tower 8811/9167 and M55p Tower 8811 support 75 watts max:

ADD2 DVI-I PCIe Connection Adapter	73P2516	ann 06/28/05
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Keyboard

Preferred Pro USB Keyboard	73P5220	ann 06/21/05
Enhanced Performance USB Keyboard	73P2620	ann 03/23/04
Wireless Kbd & Opt Wheel Mouse (via USB)	73P4067	ann 12/07/04
Preferred Pro USB Fingerprint Keyboard	73P4730	ann 02/22/05

Mouse

Optical Wheel Mouse (USB)	06P4069	ann 05/21/03
Optical ScrollPoint® Mouse (USB, PS/2)	31P7405	ann 08/27/02
Laser Tilt Wheel Mouse (USB, PS/2)	41U3074	ann 01/23/07

Multimedia

USB 2.0 Lenovo Multimedia Headset	40Y8518	ann 06/27/06
USB 2.0 Lenovo Webcam	40Y8519	ann 08/29/06

Security

Kensington® Cable Lock from Lenovo	73P2582	ann 12/29/03
USB Gemplus GemPC Smart Card Reader	41N3040	ann 02/21/06

Mounting Device

M55 Ultra Small 8807 supports under desk mounting device:

ThinkCentre Ultra Small Under Desk Mount	40Y8625	ann 09/06/05
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Monitors

Lenovo E75 17" CRT Monitor (16.0" vis) blk	6307BTN	ann 01/16/07
ThinkVision® L151 15" LCD Monitor	9165AC6	ann 10/23/07
ThinkVision L171p 17" LCD Monitor	9417HC2	ann 10/31/06
ThinkVision L174 17" LCD Monitor	9227AE1	ann 04/15/08
ThinkVision L190x 19" LCD Monitor	4439HB2	ann 10/23/07
ThinkVision L193p 19" LCD Monitor	4431HB2	ann 10/23/07
ThinkVision L197 Wide 19" LCD Monitor	4434HE1	ann 04/15/08
ThinkVision L200p Wide 20.1" LCD Monitor	4438HB6	ann 04/15/08
ThinkVision L220x Wide 22" LCD Monitor	4433HB2	ann 10/23/07

Monitor Accessories⁴⁶

ThinkVision USB Soundbar	40Y7616	ann 08/23/05
Kensington Cable Lock from Lenovo	73P2582	ann 12/29/03
Radial Arm	19K4464	ann 05/05/00

⁴⁶ Compatible on selected Lenovo and ThinkVision monitors.

Medialess License Key (MLK)

Microsoft® Office 2007 Basic, English	43R1528	ann 01/31/07
Microsoft Office 2007 Small Business, Engl	43R1534	ann 01/31/07
Microsoft Office 2007 Professional, English	43R1531	ann 01/31/07

Other accessories at lenovo.com/accessories

Accessories Guide pdf at lenovo.com/accessoriesguide

Need to buy accessories no longer marketed by Lenovo? See www.itxchange.com/lenovo for the Options Continuation Program.

ThinkPlus™.7 service upgrade options⁷ for 3-year warranty models:

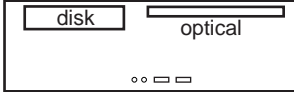
3-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9192
3-year Lenovo Onsite Repair (LOR) 24x7 4 hour response	41C9193
4-year Lenovo Onsite Repair (LOR) 9x5 Next Business Day	41C9194
4-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9195
4-year Lenovo Onsite Repair (LOR) 24x7 4 hour response	41C9196

Post-warranty annual maintenance agreements at lenovo.com/thinkplus/warranty

ThinkCentre® M55 Ultra Small (8807) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Memory ^a	SATA disk	EIDE optical	Graphics	Chipset	Security chip	Intel AMT	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
M55	8807-E3U	1x2	Pentium E2140	1.60	1MB	1GB	80GB ²	Combo	GMA	Q963	Yes	No	XP Pro	3-yr	Gbl	Jun 07
M55	8807-52U	1x2	Pentium D 925	3.00	2x2MB	1GB	80GB	Combo	GMA	Q963	Yes	No	XP Pro	3-yr	Gbl	Sep 06
M55	8807-65U	1x2	Pentium D 945	3.40	2x2MB	512MB	80GB	Combo	GMA	Q963	Yes	No	XP Pro	3-yr	WH	Sep 06
M55	8807-66U	1x2	Pentium D 945	3.40	2x2MB	1GB	80GB	Combo	GMA	Q963	Yes	No	XP Pro	3-yr	Gbl	Sep 06
M55	8807-DRU	1x2	Core 2 Duo E4300	1.80	2MB	1GB	80GB	Combo	GMA	Q963	Yes	No	XP Pro	3-yr		May 07
M55	8807-DPU	1x2	Core 2 Duo E4300	1.80	2MB	1GB	160GB	DVD±RW	GMA	Q963	Yes	No	XP Pro	3-yr		May 07
M55	8807-93U	1x2	Core 2 Duo E6300	1.86	2MB	1GB	80GB	Combo	GMA	Q963	Yes	No	XP Pro	3-yr	Gbl	Sep 06
M55	8807-97U	1x2	Core 2 Duo E6300	1.86	2MB	1GB	160GB	DVD±RW	GMA	Q963	Yes	No	XP Pro	3-yr		Sep 06
M55	8807-D2U	1x2	Core 2 Duo E6400	2.13	2MB	512MB	80GB	Combo	GMA	Q963	Yes	No	XP Pro	3-yr		Sep 06
M55	8807-D5U	1x2	Core 2 Duo E6400	2.13	2MB	1GB	80GB	Combo	GMA	Q963	Yes	No	XP Pro	3-yr		Sep 06

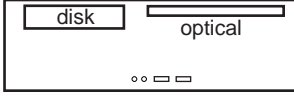
Positioning Processor	<p><i>Stability and manageability for the enterprise</i></p> <p>Intel® Pentium® Dual-Core Processor E2140 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Pentium D Processor 925 or 945 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, and 800MHz system bus with 2x2MB L2 cache or Intel Core™ 2 Duo Processor E4300 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB shared L2 cache or Intel Core 2 Duo Processor E6300 or E6400 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, and 1066MHz system bus with 2MB shared L2 cache</p> <p>Processor in FC-LGA6 package in LGA775 socket</p>		<p>Ultra Small</p>  <p>Bay ① 3.5", SL 1", no access, std disk (desktop) Bay ② 5.25", *slim .5", access, std optical (notebook)</p> <p>* Optical bay is Ultrabay™ Enhanced 12.7mm high (uses select ThinkPad-based Ultrabay Enhanced [12.7mm high] and Ultrabay Slim [9.5mm high] devices)</p> <p>Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)</p> <ul style="list-style-type: none"> • Business black color; metal case • 10.8" W X 10.8" D X 3.4" H • 275mm W X 275mm D X 87.5mm H • 13.2 to 14.0 lb (6.0 to 6.4 kg) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk and optical drive removal • Bays 1 and 2 flip up (latched and pivoting) • Toolless PCI slot and riser card retention • Steel chassis supports 100 lb (45kg) monitor on top • No system floor stand for vertical orientation ships std
Memory	<p>512MB or 1GB std / 4GB max⁸ / PC2-5300 667MHz DDR2, non-parity, dual-channel capable, two 240-pin DIMM sockets; <i>Non-italics</i>: standard memory in one socket; one socket available</p>		<p>Security</p> <ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect • USB port disablement
Graphics	<p>Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in Q963 / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector</p>		
SATA disk	<p>80 or 160GB / SATA300 7200 rpm / vibration dampening mounts</p>		<p>Supports ThinkVantage® technologies</p>
SATA controller	<p>Serial ATA / 300 MB/sec SATA300 / integrated in ICH8</p>		
SATA cables	<p>One SATA cable (1-drop to disk) / one SATA connector on planar</p>		<p>Limited Warranty¹</p> <ul style="list-style-type: none"> ⇒ 3-year parts and labor ⇒ International Warranty Service⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇒ ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ Post warranty maintenance services available ⇒ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378
EIDE Combo	<p><i>Some</i>: 24X/24X/24X/8X Max¹¹ CD-RW/DVD-ROM Combo Drive / Ultrabay Enhanced (12.7mm high)</p>		
EIDE DVD±RW	<p><i>Some</i>: Multi-Burner DL DVD±RW Drive / Ultrabay Enhanced (12.7mm high)</p>		
EIDE controller	<p>Enhanced IDE / ATA-100 / via EIDE bridge SIL3811 from ICH8</p>		
EIDE cables	<p>One cable (one 1-drop Ultrabay Enhanced cable to optical) / one EIDE connector (Ultrabay Enhanced) on systemboard</p>		
Diskette drive	<p>None</p>		
Chipset	<p>Intel Q963 Express Chipset / 82801HB I/O Controller Hub 8 (ICH8) for SATA300, PCI Express x1, ethernet (MAC), PCI 2.3, USB, LPC bus / SMSC® SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)</p>		
Front ports	<p>Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)</p>		
Rear ports	<p>Six USB 2.0, serial (9-pin), parallel (25-pin), ethernet (RJ-45), monitor (DB-15)</p>		
Rear audio ports	<p>Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)</p>		
Audio	<p>High Definition (HD) Audio / AD1983HD codec / SoundMAX® software</p>		
Speaker	<p>One internal speaker for business audio</p>		
Ethernet	<p>Gigabit ethernet on planar / Broadcom® BCM5755 (PHY/MAC) / PCIe x1</p>		
Intel AMT	<p>None</p>		
Modem	<p>None</p>		
Security chip	<p>Trusted Platform Module / in Broadcom® BCM5755 / TCG 1.2-compliant</p>		
Keyboard	<p>Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo</p>		
Mouse	<p>Optical Wheel Mouse (USB connector), black, Lenovo logo</p>		
Power supply	<p>225 watts with variable speed fan / autosensing / two diagnostic LEDs</p>		
<p>Preload with Windows XP Professional⁵ Accessories</p>			
Microsoft® Windows® XP Professional	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	
- Disk-to-Disk Recovery (in hidden protected area)	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985	
	250GB Serial ATA300 Disk (7200 rpm)	41N3015	
	500GB Serial ATA300 Disk (7200 rpm)	43R1990	
Preloaded (only some listed)	USB Portable Diskette Drive	05K9276	
• Rescue and Recovery™	USB 2.0 Security Memory Key 2GB	41U5119	
• Client Security Solution™	USB 2.0 Security Memory Key 4GB	41U5120	
• ThinkVantage System Update	USB 2.0 Super Multi-Burner Drive	41N5565	
• System Migration Assistant	ThinkVision® L193p 19" LCD Monitor	4431HB2	
• Symantec® Client Security™	ThinkVision L194 Wide 19" LCD Monitor	4434HB6	
• PC-Doctor™ (diagnostics)	ThinkVision L220x Wide 22" LCD Monitor	4433HB2	
• Multimedia Center for Think Offerings (combo, DVD±RW)	ThinkCentre Ultra Small Under Desk Mount	40Y8625	
• Sonic RecordNow and Drive Letter Access (combo, DVD±RW)	Kensington® Cable Lock from Lenovo	73P2582	
• InterVideo WinDVD (combo, DVD±RW)	Laser Tilt Wheel Mouse (USB, PS/2)	41U3074	
	Wireless Kbd & Opt Wheel Mouse (via USB)	73P4067	
	Other accessories at lenovo.com/accessories		

See footnotes for important warranty information
 US models announced September 26 or October 24, 2006, or May 1 or June 5, 2007
 US models withdrawn effective May 2008

ThinkCentre® M55 Ultra Small (8807) - Vista® - withdrawn

Personal Systems Reference (PSREF)

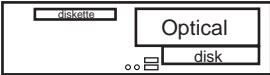
Name	Type-model	Slot x bay	Processor	L2 cache	Memory ⁸	SATA disk	EIDE optical	Graphics	Security chip	Intel AMT	Vista preload	Vista logo	Limited warranty ¹	Global Educ	Avail date
M55	8807-E2U	1x2	Pentium E2140	1.60	1MB	1GB	80GB	Combo	GMA	Q963	Yes	No	Business Basic	3-yr	Jun 07
M55	8807-DQU	1x2	Core 2 Duo E4300	1.80	2MB	1GB	80GB	Combo	GMA	Q963	Yes	No	Business Premium	3-yr	May 07
M55	8807-DNU	1x2	Core 2 Duo E4300	1.80	2MB	1GB	160GB	DVD±RW	GMA	Q963	Yes	No	Business Premium	3-yr	May 07
M55	8807-9JU	1x2	Core 2 Duo E6300	1.86	2MB	1GB	80GB	Combo	GMA	Q963	Yes	No	Business Premium	3-yr	Gbl Feb 07

Positioning Processor	<p><i>Stability and manageability for the enterprise</i></p> <p>Intel® Pentium® Dual-Core Processor E2140 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Core™ 2 Duo Processor E4300 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB L2 cache (shared) or Intel Core 2 Duo Processor E6300 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, and 1066MHz system bus with 2MB L2 cache (shared) Processor in FC-LGA6 package in LGA775 socket</p>		<p>Ultra Small</p> 
Implementation	<p>Processor in FC-LGA6 package in LGA775 socket</p>		<p>Bay ① 3.5", SL 1", no access, std disk (desktop) Bay ② 5.25", *slim .5", access, std optical (notebook) * Optical bay is Ultrabay™ Enhanced 12.7mm high (uses select ThinkPad-based Ultrabay Enhanced [12.7mm high] and Ultrabay Slim [9.5mm high] devices)</p>
Memory	<p>1GB std / 4GB max⁸ / PC2-5300 667MHz DDR2, non-parity, dual-channel capable, two 240-pin DIMM sockets; <i>Italics:</i> standard memory in both sockets; no sockets available; <i>Non-italics:</i> standard memory in one socket; one socket available</p>		<p>Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)</p> <ul style="list-style-type: none"> • Business black color; metal case • 10.8" W X 10.8" D X 3.4" H • 275mm W X 275mm D X 87.5mm H • 13.2 to 14.0 lb (6.0 to 6.4 kg) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk and optical drive removal • Bays 1 and 2 flip up (latched and pivoting) • Toolless PCI slot and riser card retention • Steel chassis supports 100 lb (45kg) monitor on top • No system floor stand for vertical orientation ships std
Graphics	<p>Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in Q963 / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector</p>		<p>Security</p> <ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect • USB port disablement
SATA disk	<p>80GB or 160GB / SATA300 7200 rpm / vibration dampening mounts</p>		
SATA controller	<p>Serial ATA / 300 MB/sec SATA300 / integrated in ICH8</p>		<p>Limited Warranty¹</p> <ul style="list-style-type: none"> ↪ 3-year parts and labor ↪ International Warranty Service⁹ ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↪ ThinkPlus services at lenovo.com/thinkplus/warranty ↪ Post warranty maintenance services available ↪ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378
SATA cables	<p>One SATA cable (1-drop to disk) / one SATA connector on planar</p>		
EIDE Combo	<p><i>Some:</i> 24X/24X/24X/8X Max¹¹ CD-RW/DVD-ROM Combo Drive / Ultrabay Enhanced (12.7mm high)</p>		
EIDE DVD±RW	<p><i>Some:</i> Multi-Burner DL DVD±RW Drive / Ultrabay Enhanced (12.7mm high)</p>		
EIDE controller	<p>Enhanced IDE / ATA-100 / via EIDE bridge SIL3811 from ICH8</p>		
EIDE cables	<p>One cable (one 1-drop Ultrabay Enhanced cable to optical) / one EIDE connector (Ultrabay Enhanced) on systemboard</p>		
Diskette drive	<p>None</p>		
Chipset	<p>Intel Q963 Express Chipset / 82801HB I/O Controller Hub 8 (ICH8) for SATA300, PCI Express x1, ethernet (MAC), PCI 2.3, USB, LPC bus / SMC[®] SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)</p>		
Front ports	<p>Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)</p>		
Rear ports	<p>Six USB 2.0, serial (9-pin), parallel (25-pin), ethernet (RJ-45), monitor (DB-15)</p>		
Rear audio ports	<p>Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)</p>		
Audio	<p>High Definition (HD) Audio / AD1983HD codec / SoundMAX[®] software</p>		
Speaker	<p>One internal speaker for business audio</p>		
Ethernet	<p>Gigabit ethernet on planar / Broadcom[®] BCM5755 (PHY/MAC) / PCIe x1</p>		
Intel AMT	<p>None</p>		
Modem	<p>None</p>		
Security chip	<p>Trusted Platform Module / in Broadcom[®] BCM5755 / TCG 1.2-compliant</p>		
Keyboard	<p>Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo</p>		
Mouse	<p>Optical Wheel Mouse (USB connector), black, Lenovo logo</p>		
Power supply	<p>225 watts with variable speed fan / autosensing / two diagnostic LEDs</p>		
Preloaded operating system²⁰	<p>Accessories</p>		
- Microsoft® Windows® Vista Business Edition (32-bit)	<p>512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 250GB Serial ATA300 Disk (7200 rpm) 41N3015 500GB Serial ATA300 Disk (7200 rpm) 43R1990 USB Portable Diskette Drive 05K9276 USB Gemplus GemPC Smart Card Reader 41N3040 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 Security Memory Key 1GB 41U5118 USB 2.0 Security Memory Key 2GB 41U5119 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 Super Multi-Burner Drive 41N5565 ThinkVision® L193p 19" LCD Monitor 4431HB2 ThinkVision L194 Wide 19" LCD Monitor 4434HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 ThinkCentre Ultra Small Under Desk Mount 40Y8625 Kensington® Cable Lock from Lenovo 73P2582 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 Preferred Pro USB Fingerprint Keyboard 73P4730 Acc Guide in pdf lenovo.com/accessoriesguide Other accessories at lenovo.com/accessories</p>		

See footnotes for important warranty information
 US models announced February 6, May 1, or June 5, 2007
 US models withdrawn effective May 2008

ThinkCentre® M55 Small (8808) - withdrawn

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Memory ⁸	SATA disk	SATA optical	Graphics	Chipset	Security chip	Intel AMT	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
M55	8808-KWU	2x3	Pentium E2140	1.60	1MB	1GB	80GB ²	DVD	GMA	Q963	None	No	XP Pro	3-yr	Gbl	Sep 07
M55	8808-KGU	2x3	Pentium E2140	1.60	1MB	1GB	80GB	Combo	GMA	Q963	None	No	XP Pro	3-yr		Jun 07
M55	8808-H3U	2x3	Pentium D 925	3.00	2x2MB	1GB	80GB	DVD	GMA	Q963	None	No	XP Pro	3-yr	Gbl	Oct 06
M55	8808-8HU	2x3	Pentium D 945	3.40	2x2MB	1GB	80GB	DVD	GMA	Q963	None	No	XP Pro	3-yr	Gbl	Sep 06
M55	8808-8NU	2x3	Pentium D 945	3.40	2x2MB	1GB	80GB	Combo	GMA	Q963	None	No	XP Pro	3-yr		Sep 06
M55	8808-F9U	2x3	Core 2 Duo E4300	1.80	2MB	512MB	80GB	DVD	GMA	Q963	None	No	XP Pro	3-yr		May 07
M55	8808-FAU	2x3	Core 2 Duo E4300	1.80	2MB	1GB	80GB	Combo	GMA	Q963	None	No	XP Pro	3-yr		May 07
M55	8808-94U	2x3	Core 2 Duo E6300	1.86	2MB	1GB	80GB	DVD	GMA	Q963	None	No	XP Pro	3-yr	Gbl	Sep 06
M55	8808-9DU	2x3	Core 2 Duo E6300	1.86	2MB	1GB	160GB	DVD±RW	GMA	Q963	None	No	XP Pro	3-yr		Sep 06
M55	8808-D2U	2x3	Core 2 Duo E6400	2.13	2MB	1GB	80GB	Combo	GMA	Q963	None	No	XP Pro	3-yr		Sep 06

Positioning Processor	<p><i>Stability and manageability for the enterprise</i></p> <p>Intel® Pentium® Dual-Core Processor E2140 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Pentium D Processor 925 or 945 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, and 800MHz system bus with 2x2MB L2 cache or Intel Core™ 2 Duo Processor E4300 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB shared L2 cache or Intel Core 2 Duo Processor E6300 or E6400 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, and 1066MHz system bus with 2MB shared L2 cache</p> <p>Processor in FC-LGA6 package in LGA775 socket</p>		<p>Small</p>  <p>Bay ① 3.5", slim .5", access, opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk</p> <p>Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports opt DVI-I PCIe ADD2 adptry only)</p> <ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1" D X 3.3" H (3.4" H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • No system floor stand for vertical orientation ships std 																																																		
Implementation	Processor in FC-LGA6 package in LGA775 socket		<p>Security</p> <ul style="list-style-type: none"> • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, serial, parallel, diskette enable or disable • Diskette write protect • USB port disablement <p>Supports ThinkVantage® technologies</p> <p>Limited Warranty¹</p> <ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ ThinkPlus services at lenovo.com/thinkplus/warranty ↔ Post warranty maintenance services available ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 																																																		
Memory	<p>512MB or 1GB std, 4GB max⁸, PC2-5300 667MHz DDR2, non-parity, dual-channel capable, two 240-pin DIMM sockets; <i>Non-italics</i>: standard memory in one socket; one socket available</p>																																																				
Graphics	<p>Intel Graphics Media Accelerator 3000 (GMA 3000), integrated graphics in Q963, uses main memory (up to 256MB), 400MHz, one 15-pin analog D-sub connector, supports dual independent display with optional ADD2 adapter</p>																																																				
SATA disk	<p>80 or 160GB, SATA300 7200 rpm, vibration dampening mounts</p>																																																				
SATA controller	<p>Serial ATA, 300 MB/sec SATA300, integrated in ICH8</p>																																																				
SATA DVD	<p><i>Some</i>: DVD-ROM DL SATA150 16-48X Max⁴ Drive (41N5618)</p>																																																				
SATA Combo	<p><i>Some</i>: CD-RW/DVD-ROM Combo SATA150 Drive (41N5619)</p>																																																				
SATA DVD±RW	<p><i>Some</i>: Super Multi-Burner DL DVD±RW SATA150 Drv (41N5620)</p>																																																				
SATA cables	<p>Two SATA cables (each 1-drop to device), 2 SATA connectors</p>																																																				
EIDE controller	<p>None</p>																																																				
Diskette drive	<p>None</p>																																																				
Chipset	<p>Intel Q963 Express Chipset, 82801HB I/O Controller Hub 8 (ICH8) for SATA300, PCI Express x1, ethernet (MAC), PCI 2.3, USB, LPC bus / SMSC® SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)</p>																																																				
Front ports	<p>Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)</p>																																																				
Rear ports	<p>Six USB 2.0, serial (9-pin), parallel (25-pin), ethernet (RJ-45), monitor (DB-15)</p>																																																				
Rear audio ports	<p>Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)</p>																																																				
Audio	<p>High Definition (HD) Audio, AD1983HD codec, SoundMAX® software</p>																																																				
Speaker	<p>One internal speaker for business audio</p>																																																				
Ethernet	<p>Gigabit ethernet on planar, Broadcom® BCM5787 (PHY/MAC), PCIe x1</p>																																																				
Intel AMT	<p>None</p>																																																				
Modem	<p>None</p>																																																				
Security chip	<p>None</p>																																																				
Keyboard	<p>Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo</p>																																																				
Mouse	<p>Optical Wheel Mouse (USB connector), black, Lenovo logo</p>																																																				
Power supply	<p>225 watts with variable speed fan, manual switch, 2 diagnostic LEDs</p>																																																				
Preload with Windows XP Professional⁵	<p>Accessories</p> <table border="0"> <tr> <td>Microsoft® Windows® XP Professional</td> <td>512MB PC2-5300 CL5 NP DDR2 UDIMM</td> <td>73P4983</td> </tr> <tr> <td>- Disk-to-Disk Recovery (in hidden protected area)</td> <td>1GB PC2-5300 CL5 NP DDR2 UDIMM</td> <td>73P4984</td> </tr> <tr> <td></td> <td>2GB PC2-5300 CL5 NP DDR2 UDIMM</td> <td>73P4985</td> </tr> <tr> <td></td> <td>500GB Serial ATA300 Disk (7200 rpm)</td> <td>43R1990</td> </tr> <tr> <td></td> <td>USB Portable Diskette Drive</td> <td>05K9276</td> </tr> <tr> <td></td> <td>USB 2.0 Lenovo Webcam</td> <td>40Y8519</td> </tr> <tr> <td></td> <td>USB 2.0 Security Memory Key 4GB</td> <td>41U5120</td> </tr> <tr> <td></td> <td>USB 2.0 Super Multi-Burner Drive</td> <td>41N5565</td> </tr> <tr> <td></td> <td>CD-RW/DVD-ROM Combo SATA150 Drive</td> <td>41N5619</td> </tr> <tr> <td></td> <td>Super Multi-Burner DL DVD±RW SATA Drive</td> <td>41N5620</td> </tr> <tr> <td></td> <td>ThinkVision® L194 Wide 19" LCD Monitor</td> <td>4434HB6</td> </tr> <tr> <td></td> <td>ThinkVision L220x Wide 22" LCD Monitor</td> <td>4433HB2</td> </tr> <tr> <td></td> <td>Laser Tilt Wheel Mouse (USB, PS/2)</td> <td>41U3074</td> </tr> <tr> <td></td> <td>Kensington® Cable Lock from Lenovo</td> <td>73P2582</td> </tr> <tr> <td></td> <td>ADD2 DVI-I PCIe Connection Adapter</td> <td>73P2516</td> </tr> <tr> <td></td> <td>Acc Guide in pdf lenovo.com/accessoriesguide</td> <td></td> </tr> <tr> <td></td> <td>Other accessories at lenovo.com/accessories</td> <td></td> </tr> </table>		Microsoft® Windows® XP Professional	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983	- Disk-to-Disk Recovery (in hidden protected area)	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984		2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985		500GB Serial ATA300 Disk (7200 rpm)	43R1990		USB Portable Diskette Drive	05K9276		USB 2.0 Lenovo Webcam	40Y8519		USB 2.0 Security Memory Key 4GB	41U5120		USB 2.0 Super Multi-Burner Drive	41N5565		CD-RW/DVD-ROM Combo SATA150 Drive	41N5619		Super Multi-Burner DL DVD±RW SATA Drive	41N5620		ThinkVision® L194 Wide 19" LCD Monitor	4434HB6		ThinkVision L220x Wide 22" LCD Monitor	4433HB2		Laser Tilt Wheel Mouse (USB, PS/2)	41U3074		Kensington® Cable Lock from Lenovo	73P2582		ADD2 DVI-I PCIe Connection Adapter	73P2516		Acc Guide in pdf lenovo.com/accessoriesguide			Other accessories at lenovo.com/accessories	
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See footnotes for important warranty information
 US models announced Sep 26 or Oct 24, 2006, or May 1, Jun 5, or Sep 4, 2007
 US models withdrawn effective May 2008

ThinkCentre® M55 Small (8808) - Vista® - withdrawn

Personal Systems Reference (PSREF)


Name	Type-model bay	Slot x Processor	L2 GHz cache	Memory ^o	SATA disk	SATA optical	Graphics	Chipset	Security chip	Intel AMT	Vista preload	Vista logo	Limited warranty ¹	Global Educ	Avail date
M55	8808-KFU	2x3 Pentium E2140	1.60	1MB	1GB	80GB	Combo	GMA	Q963	None	No	Business Basic	3-yr		Jun 07
M55	8808-FBU	2x3 Core 2 Duo E4300	1.80	2MB	1GB	80GB	Combo	GMA	Q963	None	No	Business Premium	3-yr		May 07
M55	8808-FCU	2x3 Core 2 Duo E4300	1.80	2MB	1GB	160GB	DVD±RW	GMA	Q963	None	No	Business Premium	3-yr		May 07
M55	8808-EJU	2x3 Core 2 Duo E6300	1.86	2MB	1GB	80GB	DVD	GMA	Q963	None	No	Business Premium	3-yr	Gbl	Feb 07
Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Pentium® Dual-Core Processor E2140 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Core™ 2 Duo Processor E4300 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB L2 cache (shared) or Intel Core 2 Duo Processor E6300 with dual-core , Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, and 1066MHz system bus with 2MB L2 cache (shared) Processor in FC-LGA6 package in LGA775 socket								Small						
Implementation	Processor in FC-LGA6 package in LGA775 socket								Bay ① 3.5", slim .5", access, opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports opt DVI-I PCIe ADD2 adptr only)		<ul style="list-style-type: none"> Business black color; metal case 12.2" W X 14.1" D X 3.3" H (3.4" H with feet) 310mm W X 358mm D X 85mm H (87.5mm H with feet) 18.7 to 20.0 lb (8.5 to 9.1 kg) Bays 1 and 2/3 flip up (latched and pivoting) Toolless cover flips up and tilts backward on rear hinges Toolless disk, diskette drive, optical drive removal Two slots on riser card (PCI and PCI Express x1) Toolless PCI slots and riser card retention Toolless systemboard retention Steel chassis supports 100 lb (45kg) monitor on top No system floor stand for vertical orientation ships std 				
Memory	1GB std / 4GB max^o / PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, two 240-pin DIMM sockets; <i>Italics:</i> standard memory in both sockets; no sockets available; <i>Non-italics:</i> standard memory in one socket; one socket available								Security <ul style="list-style-type: none"> Security slot (in rear for attachment of optional Kensington Microsaver cable) <ul style="list-style-type: none"> optional cable also locks the cover by deactivating the cover release buttons Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in Q963 / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports dual independent display with optional ADD2 adapter								Security <ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
SATA disk	80GB or 160GB / SATA300 7200 rpm / vibration dampening mounts SATA controller Serial ATA / 300 MB/sec SATA300 / integrated in ICH8 SATA DVD DVD-ROM DL SATA150 16-48X Max ⁴ Drive (41N5618) SATA cables Two SATA cables (each 1-drop to device) / 2 SATA connectors IDE controller None Diskette drive None								Security <ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
Chipset	Intel Q963 Express Chipset / 82801HB I/O Controller Hub 8 (ICH8) for SATA300, PCI Express x1, ethernet (MAC), PCI 2.3, USB, LPC bus / SMSC [®] SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)								Security <ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)								Security <ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
Rear ports	Six USB 2.0, serial (9-pin), parallel (25-pin), ethernet (RJ-45), monitor (DB-15)								Security <ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)								Security <ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
Audio	High Definition (HD) Audio / AD1983HD codec / SoundMAX [®] software								Security <ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
Speaker	One internal speaker for business audio								Security <ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
Ethernet	Gigabit ethernet on planar / Broadcom [®] BCM5787 (PHY/MAC) / PCIe x1								Security <ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
Intel AMT	None								Security <ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
Modem	None								Security <ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
Security chip	None								Security <ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo								Security <ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
Mouse	Optical Wheel Mouse (USB connector), black, Lenovo logo								Security <ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
Power supply	225 watts with variable speed fan / manual switch / 2 diagnostic LEDs								Security <ul style="list-style-type: none"> Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 						
Preloaded operating system ²⁰	- Microsoft [®] Windows [®] Vista Business Edition (32-bit)								Limited Warranty¹ <ul style="list-style-type: none"> 3-year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3-year LOR 9x5, 4 hour response (ThinkPlus[™] part number 41C9192) 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ThinkPlus services at lenovo.com/thinkplus/warranty Post warranty maintenance services available 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 						
Preloaded applications ⁵	<ul style="list-style-type: none"> Rescue and Recovery[™] Client Security Solution[™] ThinkVantage Productivity Center ThinkVantage System Update System Migration Assistant Norton Internet Security[™] (90 days of virus definitions) Diskeeper[®] Home PC-Doctor[™] (diagnostics) Adobe[®] Reader Windows Live[™] Toolbar Windows Live Search Picasa from Google 								Limited Warranty¹ <ul style="list-style-type: none"> 3-year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3-year LOR 9x5, 4 hour response (ThinkPlus[™] part number 41C9192) 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ThinkPlus services at lenovo.com/thinkplus/warranty Post warranty maintenance services available 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 						
Accessories	<ul style="list-style-type: none"> 512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 250GB Serial ATA300 Disk (7200 rpm) 41N3015 500GB Serial ATA300 Disk (7200 rpm) 43R1990 USB Portable Diskette Drive 05K9276 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 Super Multi-Burner Drive 41N5565 DVD-ROM DL SATA150 16X-48X Max⁴ Drive 41N5618 CD-RW/DVD-ROM Combo SATA150 Drive 41N5619 Super Multi-Burner DL DVD±RW SATA Drive 41N5620 ThinkVision[®] L171p 17" LCD Monitor 9417HC2 ThinkVision L190x 19" LCD Monitor 4439HB2 ThinkVision L193p 19" LCD Monitor 4431HB2 ThinkVision L194 Wide 19" LCD Monitor 4434HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 Preferred Pro USB Fingerprint Keyboard 73P4730 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 Kensington[®] Cable Lock from Lenovo 73P2582 ADD2 DVI-I PCIe Connection Adapter 73P2516 Acc Guide in pdf lenovo.com/accessoriesguide Other accessories at lenovo.com/accessories 								Limited Warranty¹ <ul style="list-style-type: none"> 3-year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3-year LOR 9x5, 4 hour response (ThinkPlus[™] part number 41C9192) 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ThinkPlus services at lenovo.com/thinkplus/warranty Post warranty maintenance services available 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 						

See footnotes for important warranty information
 US models announced February 6, May 1, or June 5, 2007
 US models withdrawn effective May 2008

ThinkCentre® M55 Small (9168) - ENERGY STAR® 4.0 - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 GHz cache	Memory ⁹	SATA disk	SATA optical	Graphics	Chipset	Security chip	ENERGY STAR 4.0	Intel AMT	Preload	Limited warranty ¹	Global Educ	Avail date
M55	9168-A1U	2x3	Core 2 Duo E6300	1.86 2MB	1GB	80GB ²	Combo	GMA	Q963	No	ES40	No	Business32	3-yr	No	Sep07
M55	9168-A2U	2x3	Core 2 Duo E6300	1.86 2MB	1GB	80GB	DVD	GMA	Q963	No	ES40	No	XP Pro	3-yr	No	Sep07

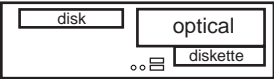
Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Core™ 2 Duo Processor E6300 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, and 1066MHz system bus with 2MB L2 cache (shared)		Small	
Implementation	Processor in FC-LGA6 package in LGA775 socket			
Memory	1GB std , 4GB max ⁸ , PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, two 240-pin DIMM sockets; <i>Non-italics:</i> standard memory in one socket; one socket available		Bay ① 3.5", slim .5", access, opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk	
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) , integrated graphics in Q963, uses main memory (up to 256MB), 400MHz, one 15-pin analog D-sub connector, supports dual independent display with optional ADD2 adapter		Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports opt DVI-I PCIe ADD2 adptr only)	
SATA disk	80GB , SATA300 7200 rpm, vibration dampening mounts		<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1" D X 3.3" H (3.4" H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • No system floor stand for vertical orientation ships std 	
SATA controller	Serial ATA, 300 MB/sec SATA300, integrated in ICH8			
SATA DVD	<i>Some:</i> DVD-ROM DL SATA150 16-48X Max ⁴ Drive (41N5618)			
SATA Combo	<i>Some:</i> CD-RW/DVD-ROM Combo SATA150 Drive (41N5619)			
SATA cables	Two SATA cables (each 1-drop to device), 2 SATA connectors			
EIDE controller	None			
Diskette drive	None			
Chipset	Intel Q963 Express Chipset , 82801HB I/O Controller Hub 8 (ICH8) for SATA300, PCI Express x1, ethernet (MAC), PCI 2.3, USB, LPC bus / SMSC® SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)			
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)			
Rear ports	Six USB 2.0, serial (9-pin), parallel (25-pin), ethernet (RJ-45), monitor (DB-15)			
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)			
Audio	High Definition (HD) Audio, AD1983HD codec, SoundMAX® software			
Speaker	One internal speaker for business audio			
Ethernet	Gigabit ethernet on planar, Broadcom® BCM5787 (PHY/MAC), PCIe x1			
Intel AMT	None			
Modem	None			
Security chip	None			
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo			
Mouse	Optical Wheel Mouse (USB connector), black, Lenovo logo			
Power supply	275W, variable speed fan, autosensing, 80 PLUS®, ENERGY STAR 4.0-compliant			
Preloaded operating system²⁰	Accessories		Security <ul style="list-style-type: none"> • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, serial, parallel, diskette enable or disable • Diskette write protect • USB port disablement 	
- <i>Some:</i> Microsoft® Windows® XP Professional	512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983			
- <i>Some:</i> Microsoft Windows Vista® Business Edition (32-bit)	1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984			
◇ <i>Vista model:</i> Vista Basic logo	2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985			
Preloaded applications⁹ (all OSes)	160GB Serial ATA300 Disk (7200 rpm) 09N4254			
• Rescue and Recovery™	250GB Serial ATA300 Disk (7200 rpm) 41N3015			
• Client Security Solution™	500GB Serial ATA300 Disk (7200 rpm) 43R1990			
• ThinkVantage Productivity Center	USB Portable Diskette Drive 05K9276			
• ThinkVantage System Update	USB 2.0 Lenovo Multimedia Headset 40Y8518			
• System Migration Assistant	USB 2.0 Lenovo Webcam 40Y8519			
• Symantec® Client Security™ (XP)	USB 2.0 Essential Memory Key 1GB 41U4940			
• Norton Internet Security™ (90 days of virus definitions) (Vista)	USB 2.0 Essential Memory Key 2GB 41U4944			
• Diskeeper® Lite (XP)	USB 2.0 Security Memory Key 1GB 41U5118			
• Diskeeper Home (Vista)	USB 2.0 Security Memory Key 2GB 41U5119			
• PC-Doctor™ (diagnostics)	USB 2.0 Security Memory Key 4GB 41U5120			
• Adobe® Reader	USB 2.0 Super Multi-Burner Drive 41N5565			
• Windows Live™ Toolbar	DVD-ROM DL SATA150 16X-48X Max ⁴ Drive 41N5618			
• Windows Live Search	CD-RW/DVD-ROM Combo SATA150 Drive 41N5619			
• Picasa from Google	Super Multi-Burner DL DVD±RW SATA Drive 41N5620			
• Microsoft Office 2007 Trial	ThinkVision® L171p 17" LCD Monitor 9417HC2			
• Multimedia Center for Think Offerings (XP)	ThinkVision L190x 19" LCD Monitor 4439HB2			
• Sonic RecordNow and Drive Letter Access (combo)	ThinkVision L193p 19" LCD Monitor 4431HB2			
• InterVideo WinDVD (combo, DVD)	ThinkVision L194 Wide 19" LCD Monitor 4434HB6			
	ThinkVision L220x Wide 22" LCD Monitor 4433HB2			
	Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067			
	Preferred Pro USB Fingerprint Keyboard 73P4730			
	Laser Tilt Wheel Mouse (USB, PS/2) 41U3074			
	Kensington® MicroSaver® Desktop Lock 06P3839			
	ADD2 DVI-I PCIe Connection Adapter 73P2516			
	Acc Guide in pdf lenovo.com/accessoriesguide			
	Other accessories at lenovo.com/accessories			
Supports ThinkVantage® technologies				
Limited Warranty¹				
<ul style="list-style-type: none"> ⇨ 3-year parts and labor ⇨ International Warranty Service⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇨ ThinkPlus services at lenovo.com/thinkplus/warranty ⇨ Post warranty maintenance services available ⇨ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 				

See footnotes for important warranty information
 US models announced July 17, 2007
 US models withdrawn effective May 2008

ThinkCentre® M55 Desktop (8810) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Memory ^a	SATA disk	SATA optical	Graphics	Chipset	Security chip	Intel AMT	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
M55	8810-H2U	3x3	Pentium E2140	1.60	1MB	1GB	80GB ²	Combo	GMA	Q965	Yes	No	XP Pro	3-yr		Jun 07
M55	8810-F4U	3x3	Pentium D 925	3.00	2x2MB	512MB	80GB	DVD	GMA	Q965	Yes	No	XP Pro	3-yr	Gbl	Oct 06
M55	8810-FBU	3x3	Pentium D 925	3.00	2x2MB	1GB	80GB	DVD	GMA	Q965	Yes	No	XP Pro	3-yr	Gbl	Oct 06
M55	8810-6EU	3x3	Pentium D 945	3.40	2x2MB	1GB	80GB	DVD	GMA	Q965	Yes	No	XP Pro	3-yr	Gbl	Sep 06
M55	8810-6FU	3x3	Pentium D 945	3.40	2x2MB	1GB	80GB	Combo	GMA	Q965	Yes	No	XP Pro	3-yr		Sep 06
M55	8810-ESU	3x3	Core 2 Duo E4300	1.80	2MB	1GB	80GB	DVD	GMA	Q965	Yes	No	XP Pro	3-yr		May 07
M55	8810-EPU	3x3	Core 2 Duo E4300	1.80	2MB	1GB	80GB	Combo	GMA	Q965	Yes	No	XP Pro	3-yr		May 07
M55	8810-93U	3x3	Core 2 Duo E6300	1.86	2MB	512MB	80GB	Combo	GMA	Q965	Yes	No	XP Pro	3-yr		Sep 06
M55	8810-94U	3x3	Core 2 Duo E6300	1.86	2MB	1GB	80GB	DVD	GMA	Q965	Yes	No	XP Pro	3-yr	Gbl	Sep 06
M55	8810-9AU	3x3	Core 2 Duo E6300	1.86	2MB	1GB	160GB	DVD±RW	GMA	Q965	Yes	No	XP Pro	3-yr		Sep 06
M55	8810-D1U	3x3	Core 2 Duo E6400	2.13	2MB	512MB	80GB	Combo	GMA	Q965	Yes	No	XP Pro	3-yr		Sep 06
M55	8810-D2U	3x3	Core 2 Duo E6400	2.13	2MB	512MB	80GB	DVD	GMA	Q965	Yes	No	XP Pro	3-yr		Sep 06
M55	8810-D3U	3x3	Core 2 Duo E6400	2.13	2MB	1GB	160GB	DVD±RW	GMA	Q965	Yes	No	XP Pro	3-yr		Sep 06
M55	8810-D7U	3x3	Core 2 Duo E6400	2.13	2MB	1GB	80GB	Combo	GMA	Q965	Yes	No	XP Pro	3-yr	Gbl	Oct 06

Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Pentium® Dual-Core Processor E2140 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Pentium D Processor 925 or 945 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST, and 800MHz system bus with 2x2MB L2 cache or Intel Core™ 2 Duo Processor E4300 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB shared L2 cache or Intel Core 2 Duo Processor E6300 or E6400 with dual-core , Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, and 1066MHz system bus with 2MB shared L2 cache	Desktop	
Implementation	Processor in FC-LGA6 package in LGA775 socket	Bay ① 5.25", HH 1.6", access, std optical Bay ② 3.5", SL 1", access, opt diskette Bay ③ 3.5", SL 1", no access, std disk Slot 1: Low Profile, PCI Express x16 (25w max), supports optional ADD2 card Slot 2: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)	
Memory	512MB or 1GB std / 8GB max ⁸ / PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Non-italics</i> : standard memory in one socket; three sockets available	• Business black color; metal case • 13.8" W X 15.2" D X 4.2" H • 350mm W X 385mm D X 108mm H • With vertical stand: 5.9" W X 15.2" D X 15.0" H • 18.5 to 22.0 lb (8.4 to 10.0 kg) • All three bays flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI 2.3) • Toolless systemboard and adapter retention • Steel chassis supports 100 lb (45kg) monitor on top • No system floor stand for vertical orientation ships std	
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in Q965 / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports dual independent display with optional ADD2 adapter		
SATA disk	80GB or 160GB / SATA300 7200 rpm / vibration dampening mounts		
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH8		
SATA DVD	<i>Some:</i> DVD-ROM DL SATA150 16-48X Max ⁴ Drive (41N5618)		
SATA Combo	<i>Some:</i> CD-RW/DVD-ROM Combo SATA150 Drive (41N5619)		
SATA DVD±RW	<i>Some:</i> Super Multi-Burner DL DVD±RW SATA150 Drv (41N5620)		
SATA cables	Two SATA cables (each 1-drop to device) / 3 SATA connectors		
EIDE controller	None		
Diskette drive	None		
Chipset	Intel Q965 Express Chipset / 82801HB I/O Controller Hub 8 (ICH8) for SATA300, PCI Express x1, ethernet (MAC), PCI 2.3, USB, LPC bus / SMSC® SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)		
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Eight USB 2.0, serial (9-pin), parallel (25-pin), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1983HD codec / SoundMAX® software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on planar / Broadcom® BCM5755 (PHY/MAC) / PCIe x1		
Intel AMT	None		
Security chip	Trusted Platform Module / in Broadcom® BCM5755 / TCG 1.2-compliant		
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo		
Mouse	Optical Wheel Mouse (USB connector), black, Lenovo logo		
Power supply	225 watts with variable speed fan / manual switch / 2 diagnostic LEDs		
Preload with Windows XP Professional⁵ Accessories			
Microsoft® Windows® XP Professional	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	
- Disk-to-Disk Recovery (in hidden protected area)	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985	
	1GB PC2-6400 NP DDR2 UDIMM	41U2977	
	2GB PC2-6400 NP DDR2 UDIMM	41U2978	
Preloaded (only some listed)	250GB Serial ATA300 Disk (7200 rpm)	41N3015	
• Rescue and Recovery™	500GB Serial ATA300 Disk (7200 rpm)	43R1990	
• Multimedia Center for Think Offerings (combo, DVD, DVD±RW)	USB 2.0 Lenovo Webcam	40Y8519	
• Sonic RecordNow and Drive Letter Access (combo, DVD±RW)	USB 2.0 Security Memory Key 4GB	41U5120	
• InterVideo WinDVD (combo, DVD, DVD±RW)	Super Multi-Burner DL DVD±RW SATA Drive	41N5620	
• InterVideo WinDVD Creator (DVD±RW)	ThinkVision® L194 Wide 19" LCD Monitor	4434HB6	
	ThinkVision L220x Wide 22" LCD Monitor	4433HB2	
	ADD2 DVI-I PCIe Connection Adapter	73P2516	
	Other accessories at lenovo.com/accessories		
		Security	
		<ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • U-bolt anchoring feature (U-bolt is optional; supports optional padlock) • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, serial, parallel, diskette enable or disable • Diskette write protect • USB port disablement 	
		Supports ThinkVantage® technologies	
		Limited Warranty¹	
		<ul style="list-style-type: none"> ↪ 3-year parts and labor ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) ↪ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↪ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 	

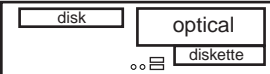
See footnotes for important warranty information
US models announced Sep 26 or Oct 24, 2006, or May 1 or June 5, 2007
US models withdrawn effective May 2008

ThinkCentre® M55 Desktop (8810) - Vista® - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Memory ⁸	SATA disk	SATA optical	Graphics	Security Chipset	Intel AMT	Vista preload	Vista logo	Limited warranty ¹	Global Educ	Avail date
M55	8810-H1U	3x3	Pentium E2140	1.60	1MB	1GB	80GB ²	Combo GMA	Q965	Yes	No	Business Basic	3-yr		Jun 07
M55	8810-ERU	3x3	Core 2 Duo E4300	1.80	2MB	1GB	80GB	DVD GMA	Q965	Yes	No	Business Premium	3-yr		May 07
M55	8810-EQU	3x3	Core 2 Duo E4300	1.80	2MB	1GB	80GB	Combo GMA	Q965	Yes	No	Business Premium	3-yr		May 07
M55	8810-9NU	3x3	Core 2 Duo E6300	1.86	2MB	1GB	80GB	DVD GMA	Q965	Yes	No	Business Premium	3-yr	Gbl	Sep 06

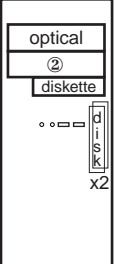
• These models have a 3-year limited warranty¹

Positioning Processor	<p><i>Stability and manageability for the enterprise</i></p> <p>Intel® Pentium® Dual-Core Processor E2140 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Core™ 2 Duo Processor E4300 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB shared L2 cache or Intel Core 2 Duo Processor E6300 or E6400 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, 1066MHz system bus, and 2MB shared L2 cache</p> <p>Processor in FC-LGA6 package in LGA775 socket</p>		<p>Desktop</p>  <p>Bay ① 5.25", HH 1.6", access, std optical Bay ② 3.5", SL 1", access, opt diskette Bay ③ 3.5", SL 1", no access, std disk</p> <p>Slot 1: Low Profile, PCI Express x16 (25w max), supports optional ADD2 card Slot 2: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)</p> <ul style="list-style-type: none"> • Business black color; metal case • 13.8" W X 15.2" D X 4.2" H • 350mm W X 385mm D X 108mm H • With vertical stand: 5.9" W X 15.2" D X 15.0" H • 18.5 to 22.0 lb (8.4 to 10.0 kg) • All three bays flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI 2.3) • Toolless systemboard and adapter retention • Steel chassis supports 100 lb (45kg) monitor on top • No system floor stand for vertical orientation ships std 																																								
Memory	<p>1GB std / 8GB max⁸ / PC2-5300 667MHz DDR2, non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Italics:</i> standard memory in two sockets; two sockets available; <i>Non-italics:</i> standard memory in one socket; three socket available</p>																																										
Graphics	<p>Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in Q965 / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports dual independent display with optional ADD2 adapter</p>																																										
SATA disk	<p>80GB / SATA300 7200 rpm / vibration dampening mounts</p>																																										
SATA controller	<p>Serial ATA / 300 MB/sec SATA300 / integrated in ICH8</p>																																										
SATA DVD	<p><i>Some:</i> DVD-ROM DL SATA150 16-48X Max⁴ Drive (41N5618)</p>																																										
SATA Combo	<p><i>Some:</i> CD-RW/DVD-ROM Combo SATA150 Drive (41N5619)</p>																																										
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EIDE controller	<p>None</p>																																										
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Modem	<p>None</p>																																										
Security chip	<p>Trusted Platform Module / in Broadcom® BCM5755 / TCG 1.2-compliant</p>		<p>Security</p> <ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • U-bolt anchoring feature (U-bolt is optional; supports optional padlock) • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, serial, parallel, diskette enable or disable • Diskette write protect • USB port disablement 																																								
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Power supply	<p>225 watts with variable speed fan / manual switch / 2 diagnostic LEDs</p>																																										
Preloaded operating system²⁰	<p>- Microsoft® Windows® Vista Business Edition (32-bit)</p>																																										
Preloaded applications⁵	<ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Norton Internet Security™ (90 days of virus definitions) • Diskeeper® Home • PC-Doctor™ (diagnostics) • Adobe® Reader • Windows Live™ Toolbar • Windows Live Search • Picasa from Google 																																										
	<p>Accessories</p> <table border="0"> <tr><td>512MB PC2-5300 CL5 NP DDR2 UDIMM</td><td>73P4983</td></tr> <tr><td>1GB PC2-5300 CL5 NP DDR2 UDIMM</td><td>73P4984</td></tr> <tr><td>2GB PC2-5300 CL5 NP DDR2 UDIMM</td><td>73P4985</td></tr> <tr><td>512MB PC2-6400 NP DDR2 UDIMM</td><td>41U2976</td></tr> <tr><td>1GB PC2-6400 NP DDR2 UDIMM</td><td>41U2977</td></tr> <tr><td>2GB PC2-6400 NP DDR2 UDIMM</td><td>41U2978</td></tr> <tr><td>250GB Serial ATA300 Disk (7200 rpm)</td><td>41N3015</td></tr> <tr><td>500GB Serial ATA300 Disk (7200 rpm)</td><td>43R1990</td></tr> <tr><td>USB 2.0 Lenovo Multimedia Headset</td><td>40Y8518</td></tr> <tr><td>USB 2.0 Lenovo Webcam</td><td>40Y8519</td></tr> <tr><td>USB 2.0 Security Memory Key 4GB</td><td>41U5120</td></tr> <tr><td>USB 2.0 Super Multi-Burner Drive</td><td>41N5565</td></tr> <tr><td>CD-RW/DVD-ROM Combo SATA150 Drive</td><td>41N5619</td></tr> <tr><td>Super Multi-Burner DL DVD±RW SATA Drive</td><td>41N5620</td></tr> <tr><td>Wireless Kbd & Opt Wheel Mouse (via USB)</td><td>73P4067</td></tr> <tr><td>Preferred Pro USB Fingerprint Keyboard</td><td>73P4730</td></tr> <tr><td>Laser Tilt Wheel Mouse (USB, PS/2)</td><td>41U3074</td></tr> <tr><td>ThinkVision® L194 Wide 19" LCD Monitor</td><td>4434HB6</td></tr> <tr><td>ThinkVision L220x Wide 22" LCD Monitor</td><td>4433HB2</td></tr> <tr><td>ADD2 DVI-I PCIe Connection Adapter</td><td>73P2516</td></tr> </table> <p>Other accessories at lenovo.com/accessories</p>		512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985	512MB PC2-6400 NP DDR2 UDIMM	41U2976	1GB PC2-6400 NP DDR2 UDIMM	41U2977	2GB PC2-6400 NP DDR2 UDIMM	41U2978	250GB Serial ATA300 Disk (7200 rpm)	41N3015	500GB Serial ATA300 Disk (7200 rpm)	43R1990	USB 2.0 Lenovo Multimedia Headset	40Y8518	USB 2.0 Lenovo Webcam	40Y8519	USB 2.0 Security Memory Key 4GB	41U5120	USB 2.0 Super Multi-Burner Drive	41N5565	CD-RW/DVD-ROM Combo SATA150 Drive	41N5619	Super Multi-Burner DL DVD±RW SATA Drive	41N5620	Wireless Kbd & Opt Wheel Mouse (via USB)	73P4067	Preferred Pro USB Fingerprint Keyboard	73P4730	Laser Tilt Wheel Mouse (USB, PS/2)	41U3074	ThinkVision® L194 Wide 19" LCD Monitor	4434HB6	ThinkVision L220x Wide 22" LCD Monitor	4433HB2	ADD2 DVI-I PCIe Connection Adapter	73P2516	
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2GB PC2-6400 NP DDR2 UDIMM	41U2978																																										
250GB Serial ATA300 Disk (7200 rpm)	41N3015																																										
500GB Serial ATA300 Disk (7200 rpm)	43R1990																																										
USB 2.0 Lenovo Multimedia Headset	40Y8518																																										
USB 2.0 Lenovo Webcam	40Y8519																																										
USB 2.0 Security Memory Key 4GB	41U5120																																										
USB 2.0 Super Multi-Burner Drive	41N5565																																										
CD-RW/DVD-ROM Combo SATA150 Drive	41N5619																																										
Super Multi-Burner DL DVD±RW SATA Drive	41N5620																																										
Wireless Kbd & Opt Wheel Mouse (via USB)	73P4067																																										
Preferred Pro USB Fingerprint Keyboard	73P4730																																										
Laser Tilt Wheel Mouse (USB, PS/2)	41U3074																																										
ThinkVision® L194 Wide 19" LCD Monitor	4434HB6																																										
ThinkVision L220x Wide 22" LCD Monitor	4433HB2																																										
ADD2 DVI-I PCIe Connection Adapter	73P2516																																										
			<p>Supports ThinkVantage® technologies</p> <p>Limited Warranty¹</p> <ul style="list-style-type: none"> ⇒ 3-year parts and labor ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇒ Other ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 																																								

See footnotes for important warranty information
 US models announced February 6, May 1, or June 5, 2007
 US models withdrawn effective May 2008

ThinkCentre® M55 Tower (8811) - withdrawn

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Memory ⁸	SATA disk	SATA optical	Graphics	Chipset	Security chip	Intel AMT	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
M55	8811-GQU	4x5	Pentium E2140	1.60	1MB	1GB	80GB ²	DVD	GMA	Q965	Yes	No	XP Pro	3-yr	Gbl	Sep 07
M55	8811-GBU	4x5	Pentium E2140	1.60	1MB	1GB	80GB	Combo	GMA	Q965	Yes	No	XP Pro	3-yr		Jun 07
M55	8811-FHU	4x5	Pentium D 925	3.00	2x2MB	1GB	80GB	Combo	GMA	Q965	Yes	No	XP Pro	3-yr	Gbl	Oct 06
M55	8811-6CU	4x5	Pentium D 945	3.40	2x2MB	1GB	80GB	DVD	GMA	Q965	Yes	No	XP Pro	3-yr	W Gbl	Sep 06
M55	8811-6HU	4x5	Pentium D 945	3.40	2x2MB	1GB	80GB	Combo	GMA	Q965	Yes	No	XP Pro	3-yr		Oct 06
M55	8811-6JU	4x5	Pentium D 945	3.40	2x2MB	512MB	80GB	DVD	GMA	Q965	Yes	No	XP Pro	3-yr		Oct 06
M55	8811-FSU	4x5	Core 2 Duo E4300	1.80	2MB	1GB	80GB	DVD	GMA	Q965	Yes	No	XP Pro	3-yr		May 07
M55	8811-FVU	4x5	Core 2 Duo E4300	1.80	2MB	1GB	160GB	Combo	GMA	Q965	Yes	No	XP Pro	3-yr		May 07
M55	8811-95U	4x5	Core 2 Duo E6300	1.86	2MB	512MB	80GB	Combo	GMA	Q965	Yes	No	XP Pro	3-yr		Sep 06
M55	8811-96U	4x5	Core 2 Duo E6300	1.86	2MB	1GB	80GB	DVD	GMA	Q965	Yes	No	XP Pro	3-yr	Gbl	Sep 06
M55	8811-D1U	4x5	Core 2 Duo E6400	2.13	2MB	512MB	80GB	Combo	GMA	Q965	Yes	No	XP Pro	3-yr		Sep 06
M55	8811-D2U	4x5	Core 2 Duo E6400	2.13	2MB	512MB	80GB	DVD	GMA	Q965	Yes	No	XP Pro	3-yr		Sep 06

Positioning Processor	Stability and manageability for the enterprise Intel® Pentium® Dual-Core Processor E2140 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Pentium D Processor 925 or 945 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, and 800MHz system bus with 2x2MB L2 cache or Intel Core™ 2 Duo Processor E4300 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB shared L2 cache or Intel Core 2 Duo Processor E6300 or E6400 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, 1066MHz system bus, and 2MB shared L2 cache Processor in FC-LGA6 package in LGA775 socket										Tower <ul style="list-style-type: none"> Business black color 7.0" W X 17.7" D X 17.0" H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 		
Implementation	Processor in FC-LGA6 package in LGA775 socket										Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, opt diskette Bay ④ 3.5", SL 1", no access, std disk Bay ⑤ 3.5", SL 1", no access, opt disk		
Memory	512MB or 1GB std, 8GB max ⁸ , PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Non-italics:</i> standard memory in one socket; three sockets available										Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)		
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) , integrated graphics in Q965, uses main memory (up to 256MB), 400MHz, one 15-pin analog D-sub connector, supports dual independent display with optional ADD2 adapter										Security <ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® Microsaver® cable) Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement Supports ThinkVantage® technologies		
SATA disk	80GB or 160GB , SATA300 7200 rpm, vibration dampening										Limited Warranty¹ ⇨ 3-year parts and labor ⇨ International Warranty Service⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) ⇨ Other ThinkPlus services at lenovo.com/thinkplus/warranty ⇨ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378		
SATA controller	Serial ATA / 300 MB/sec SATA300, integrated in ICH8												
SATA DVD	<i>Some:</i> DVD-ROM DL SATA150 16-48X Max ⁴ Drive (41N5618)												
SATA Combo	<i>Some:</i> CD-RW/DVD-ROM Combo SATA150 Drive (41N5619)												
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors												
EIDE controller	None										Supports ThinkVantage® technologies Limited Warranty¹ ⇨ 3-year parts and labor ⇨ International Warranty Service⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) ⇨ Other ThinkPlus services at lenovo.com/thinkplus/warranty ⇨ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378		
Diskette drive	None												
Chipset	Intel Q965 Express Chipset , 82801HB I/O Controller Hub 8 (ICH8) for SATA300, PCI Express x1, ethernet (MAC), PCI 2.3, USB, LPC bus / SMC [®] SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)												
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)												
Rear ports	Eight USB 2.0, serial (9-pin), parallel (25-pin), ethernet (RJ-45), monitor (DB-15)												
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)												
Audio	High Definition (HD) Audio, AD1983HD codec, SoundMAX [®] software												
Speaker	One internal speaker for business audio												
Ethernet	Gigabit ethernet on planar, Broadcom [®] BCM5755 (PHY/MAC), PCIe x1												
Intel AMT	None												
Modem	None												
Security chip	Trusted Platform Module , in Broadcom [®] BCM5755, TCG 1.2-compliant												
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo										⇨ 3-year parts and labor ⇨ International Warranty Service⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) ⇨ Other ThinkPlus services at lenovo.com/thinkplus/warranty ⇨ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378		
Mouse	Optical Wheel Mouse (USB connector), black, Lenovo logo												
Power supply	310 watts with variable speed fan, manual switch, 2 diagnostic LEDs												
Preload with Windows XP Professional⁵	Accessories												
Microsoft® Windows® XP Professional	512MB PC2-5300 CL5 NP DDR2 UDIMM					73P4983							
- Disk-to-Disk Recovery (in hidden protected area)	1GB PC2-5300 CL5 NP DDR2 UDIMM					73P4984							
	2GB PC2-5300 CL5 NP DDR2 UDIMM					73P4985							
Preloaded (only some listed)	512MB PC2-6400 NP DDR2 UDIMM					41U2976							
• Rescue and Recovery™	1GB PC2-6400 NP DDR2 UDIMM					41U2977							
• Client Security Solution™	2GB PC2-6400 NP DDR2 UDIMM					41U2978							
• ThinkVantage Productivity Center	250GB Serial ATA300 Disk (7200 rpm)					41N3015							
• ThinkVantage System Update	500GB Serial ATA300 Disk (7200 rpm)					43R1990							
• System Migration Assistant	USB 2.0 Lenovo Webcam					40Y8519							
• Symantec® Client Security™	USB 2.0 Security Memory Key 4GB					41U5120							
• PC-Doctor™ (diagnostics)	Super Multi-Burner DL DVD±RW SATA Drive					41N5620							
• Multimedia Center for Think Offerings (combo, DVD)	ThinkVision® L194 Wide 19" LCD Monitor					4434HB6							
• Sonic RecordNow and Drive Letter Access (combo, DVD)	ThinkVision L220x Wide 22" LCD Monitor					4433HB2							
	Laser Tilt Wheel Mouse (USB, PS/2)					41U3074							
	ADD2 DVI-I PCIe Connection Adapter					73P2516							
	Other accessories at lenovo.com/accessories												

See footnotes for important warranty information
 US models announced Sep 26 or Oct 24, 2006, or May 1, Jun 5, or Sep 4, 2007
 US models withdrawn effective May 2008

ThinkCentre® M55 Tower (8811) - Vista® - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	GHz	Memory ^a	SATA disk	SATA optical	Graphics	Chipset	Security chip	Intel AMT	Vista preload	Vista logo	Limited warranty ¹	Global Educ	Avail date
M55	8811-GAU	4x5	Pentium E2140	1MB	1.60	1GB	80GB ²	Combo	GMA	Q965	Yes	No	Business	Basic	3-yr		Jun 07
M55	8811-6SU	4x5	Pentium D 945	2x2MB	3.40	1GB	80GB	DVD	GMA	Q965	Yes	No	Business	Premium	3-yr		Feb 07
M55	8811-6TU	4x5	Pentium D 945	2x2MB	3.40	1GB	80GB	Combo	GMA	Q965	Yes	No	Business	Premium	3-yr		Feb 07
M55	8811-FTU	4x5	Core 2 Duo E4300	2MB	1.80	1GB	80GB	DVD	GMA	Q965	Yes	No	Business	Premium	3-yr		May 07
M55	8811-FUU	4x5	Core 2 Duo E4300	2MB	1.80	1GB	160GB	Combo	GMA	Q965	Yes	No	Business	Premium	3-yr		May 07
M55	8811-B5U	4x5	Core 2 Duo E6300	2MB	1.86	1GB	80GB	DVD	GMA	Q965	Yes	No	Business	Premium	3-yr	Gbl	Feb 07

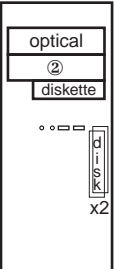
Positioning Processor	<p><i>Stability and manageability for the enterprise</i> Intel® Pentium® Dual-Core Processor E2140 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Pentium D Processor 925 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, and 800MHz system bus with 2x2MB L2 cache or Intel Core™ 2 Duo Processor E4300 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB shared L2 cache or Intel Core 2 Duo Processor E6300 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, 1066MHz system bus, and 2MB shared L2 cache Processor in FC-LGA6 package in LGA775 socket</p>										<p>Tower</p> <ul style="list-style-type: none"> Business black color 7.0" W X 17.7" D X 17.0" H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 		
Implementation	<p>Processor in FC-LGA6 package in LGA775 socket</p>										<p>Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, opt diskette Bay ④ 3.5", SL 1", no access, std disk Bay ⑤ 3.5", SL 1", no access, opt disk</p>		
Memory	<p>1GB std / 8GB max⁸ / PC2-5300 667MHz DDR2, non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Italics:</i> standard memory in two sockets; two sockets available; <i>Non-italics:</i> standard memory in one socket; three socket available</p>										<p>Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)</p>		
Graphics	<p>Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in Q965 / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports dual independent display with optional ADD2 adapter</p>												
SATA disk	<p>80GB or 160GB / SATA300 7200 rpm / vibration dampening</p>										<p>Security</p> <ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® Microsaver® cable) No keylock Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement 		
SATA controller	<p>Serial ATA / 300 MB/sec SATA300 / integrated in ICH8</p>												
SATA DVD	<p><i>Some:</i> DVD-ROM DL SATA150 16-48X Max⁴ Drive (41N5618)</p>												
SATA Combo	<p><i>Some:</i> CD-RW/DVD-ROM Combo SATA150 Drive (41N5619)</p>												
SATA cables	<p>Two SATA cables (each 1-drop to device) / four SATA connectors</p>												
EIDE controller	<p>None</p>												
Diskette drive	<p>None</p>												
Chipset	<p>Intel Q965 Express Chipset / 82801HB I/O Controller Hub 8 (ICH8) for SATA300, PCI Express x1, ethernet (MAC), PCI 2.3, USB, LPC bus / SMSC® SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)</p>												
Front ports	<p>Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)</p>												
Rear ports	<p>Eight USB 2.0, serial (9-pin), parallel (25-pin), ethernet (RJ-45), monitor (DB-15)</p>												
Rear audio ports	<p>Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)</p>												
Audio	<p>High Definition (HD) Audio / AD1983HD codec / SoundMAX® software</p>												
Speaker	<p>One internal speaker for business audio</p>												
Ethernet	<p>Gigabit ethernet on planar / Broadcom® BCM5755 (PHY/MAC) / PCIe x1</p>												
Intel AMT	<p>None</p>												
Modem	<p>None</p>												
Security chip	<p>Trusted Platform Module / in Broadcom® BCM5755 / TCG 1.2-compliant</p>												
Keyboard	<p>Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo</p>										<p>Supports ThinkVantage® technologies</p>		
Mouse	<p>Optical Wheel Mouse (USB connector), black, Lenovo logo</p>												
Power supply	<p>310 watts with variable speed fan / manual switch / 2 diagnostic LEDs</p>												
Preloaded operating system²⁰	<p>- Microsoft® Windows® Vista Business Edition (32-bit)</p>										<p>Limited Warranty¹</p> <ul style="list-style-type: none"> 3-year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ThinkPlus services at lenovo.com/thinkplus/warranty Post warranty maintenance services available 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 		
Preloaded applications⁵	<ul style="list-style-type: none"> Rescue and Recovery™ Client Security Solution™ ThinkVantage Productivity Center ThinkVantage System Update System Migration Assistant Norton Internet Security™ (90 days of virus definitions) Diskeeper® Home PC-Doctor™ (diagnostics) Adobe® Reader Windows Live™ Toolbar Windows Live Search Picasa from Google 												
Accessories	<ul style="list-style-type: none"> 512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 512MB PC2-6400 NP DDR2 UDIMM 41U2976 1GB PC2-6400 NP DDR2 UDIMM 41U2977 2GB PC2-6400 NP DDR2 UDIMM 41U2978 250GB Serial ATA300 Disk (7200 rpm) 41N3015 500GB Serial ATA300 Disk (7200 rpm) 43R1990 USB Gemplus GemPC Smart Card Reader 41N3040 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Essential Memory Key 2GB 41U4944 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 Super Multi-Burner Drive 41N5565 DVD-ROM DL SATA150 16X-48X Max⁴ Drive 41N5618 CD-RW/DVD-ROM Combo SATA150 Drive 41N5619 Super Multi-Burner DL DVD±RW SATA Drive 41N5620 ThinkVision® L194 Wide 19" LCD Monitor 4434HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 ADD2 DVI-I PCIe Connection Adapter 73P2516 Other accessories at lenovo.com/accessories 												

See footnotes for important warranty information
 US models announced February 6, May 1, or June 5, 2007
 US models withdrawn effective May 2008

ThinkCentre® M55 Tower (9167) - ENERGY STAR® 4.0 - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	GHz	Memory ⁸	SATA disk	SATA optical	Graphics	Chipset	Security chip	ENERGY STAR 4.0	Intel AMT Preload	Limited warranty ¹	Global Educ	Avail date
M55	9167-A1U	4x5	Core 2 Duo E6300	1.86	2MB	1GB	80GB ²	Combo	GMA	Q965	Yes	ES40	No Business	32	3-yr	No Aug 07
M55	9167-A2U	4x5	Core 2 Duo E6300	1.86	2MB	1GB	80GB	DVD	GMA	Q965	Yes	ES40	No XP Pro	3-yr	No Aug 07	

Positioning Processor	<i>Stability and manageability for the enterprise</i> Intel® Core™ 2 Duo Processor E6300 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, 1066MHz system bus, and 2MB shared L2 cache	Tower <ul style="list-style-type: none"> Business black color 7.0" W X 17.7" D X 17.0" H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 
Implementation	Processor in FC-LGA6 package in LGA775 socket	
Memory	1GB std , 8GB max ⁸ , PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Non-italics</i> : standard memory in one socket; three sockets available	
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) , integrated graphics in Q965, uses main memory (up to 256MB), 400MHz, one 15-pin analog D-sub connector, supports dual independent display with optional ADD2 adapter	
SATA disk	80GB , SATA300 7200 rpm, vibration dampening	Bay ① 5.25", HH 1.6", access, std optical
SATA controller	Serial ATA, 300 MB/sec SATA300, integrated in ICH8	Bay ② 5.25", HH 1.6", access, open
SATA DVD	<i>Some</i> : DVD-ROM DL SATA150 16-48X Max ⁴ Drive (41N5618)	Bay ③ 3.5", SL 1", access, opt diskette
SATA Combo	<i>Some</i> : CD-RW/DVD-ROM Combo SATA150 Drive (41N5619)	Bay ④ 3.5", SL 1", no access, std disk
SATA cables	Two SATA cables (each 1-drop to device) / four SATA connectors	Bay ⑤ 3.5", SL 1", no access, opt disk
EIDE controller	None	Slot 1: full-length, full-height, PCI Express x16 (75w max)
Diskette drive	None	Slot 2: full-length, full-height, PCI Express x1
Chipset	Intel Q965 Express Chipset , 82801HB I/O Controller Hub 8 (ICH8) for SATA300, PCI Express x1, ethernet (MAC), PCI 2.3, USB, LPC bus / SMSC [®] SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)	Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)
Rear ports	Eight USB 2.0, serial (9-pin), parallel (25-pin), ethernet (RJ-45), monitor (DB-15)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)	
Audio	High Definition (HD) Audio, AD1983HD codec, SoundMAX [®] software	
Speaker	One internal speaker for business audio	
Ethernet	Gigabit ethernet on planar, Broadcom [®] BCM5755 (PHY/MAC), PCIe x1	
Intel AMT	None	
Modem	None	
Security chip	Trusted Platform Module , in Broadcom [®] BCM5755, TCG 1.2-compliant	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo	
Mouse	Optical Wheel Mouse (USB connector), black, Lenovo logo	
Power supply	280W, variable speed fan, autosensing, 80 PLUS [®] , ENERGY STAR 4.0-compliant	
Preloaded operating system²⁰	<ul style="list-style-type: none"> <i>Some</i>: Microsoft[®] Windows[®] XP Professional <i>Some</i>: Microsoft Windows Vista[®] Business Edition (32-bit) ◇ <i>Vista model</i>: Vista Basic logo 	
Preloaded applications⁵ (all OSes)	<ul style="list-style-type: none"> Rescue and Recovery[™] Client Security Solution[™] ThinkVantage Productivity Center ThinkVantage System Update System Migration Assistant Symantec[®] Client Security[™] (XP) Norton Internet Security[™] (90 days of virus definitions) (Vista) Diskeeper[®] Lite (XP) Diskeeper Home (Vista) PC-Doctor[™] (diagnostics) Adobe[®] Reader Windows Live[™] Toolbar Windows Live Search Picasa from Google Microsoft Office 2007 Trial Multimedia Center for Think Offerings (XP) Sonic RecordNow and Drive Letter Access (combo) InterVideo WinDVD (combo, DVD) 	
Accessories	<ul style="list-style-type: none"> 512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 250GB Serial ATA300 Disk (7200 rpm) 41N3015 500GB Serial ATA300 Disk (7200 rpm) 43R1990 USB Gemplus GemPC Smart Card Reader 41N3040 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Essential Memory Key 1GB 41U4940 USB 2.0 Essential Memory Key 2GB 41U4944 USB 2.0 Security Memory Key 1GB 41U5118 USB 2.0 Security Memory Key 2GB 41U5119 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 Super Multi-Burner Drive 41N5565 DVD-ROM DL SATA150 16X-48X Max⁴ Drive 41N5618 CD-RW/DVD-ROM Combo SATA150 Drive 41N5619 Super Multi-Burner DL DVD±RW SATA Drive 41N5620 ThinkVision[®] L151 15" LCD Monitor 9165AC6 ThinkVision L171p 17" LCD Monitor 9417HC2 ThinkVision L190x 19" LCD Monitor 4439HB2 ThinkVision L193p 19" LCD Monitor 4431HB2 ThinkVision L194 Wide 19" LCD Monitor 4434HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 ADD2 DVI-I PCIe Connection Adapter 73P2516 Acc Guide in pdf lenovo.com/accessoriesguide Other accessories at lenovo.com/accessories 	
		Security
		<ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington[®] Microsaver[®] cable) Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, serial, parallel, diskette enable or disable Diskette write protect USB port disablement
		Supports ThinkVantage [®] technologies
		Limited Warranty¹
		<ul style="list-style-type: none"> ⇨ 3-year parts and labor ⇨ International Warranty Service⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus[™] part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇨ ThinkPlus services at lenovo.com/thinkplus/warranty ⇨ Post warranty maintenance services available ⇨ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378

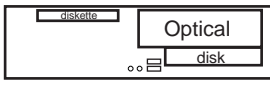
See footnotes for important warranty information
 US models announced July 17, 2007
 US models withdrawn effective May 2008

ThinkCentre® M55p Small (8808) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Memory ⁸	SATA disk	SATA optical	Graphics	Chipset	Security chip	Intel AMT	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
M55p	8808-9HU	2x3	Core 2 Duo E6300	1.86	2MB	1GB	80GB ²	DVD	GMA	Q965	Yes	IAMT	XP Pro	3-yr	Gbl	Sep 06
M55p	8808-9JU	2x3	Core 2 Duo E6300	1.86	2MB	512MB	80GB	Combo	GMA	Q965	Yes	IAMT	XP Pro	3-yr		Sep 06
M55p	8808-9WU	2x3	Core 2 Duo E6300	1.86	2MB	1GB	80GB	Combo	GMA	Q965	Yes	IAMT	XP Pro	3-yr	Gbl	Dec 06
M55p	8808-KLU	2x3	Core 2 Duo E6300	1.86	2MB	1GB	80GB	Combo	GMA	Q965	Yes	IAMT	XP Pro	3-yr	K12	Jun 07
M55p	8808-KKU	2x3	Core 2 Duo E6300	1.86	2MB	1GB	80GB	Combo	GMA	Q965	Yes	IAMT	XP Pro	3-yr	HE	Jun 07
M55p	8808-D7U	2x3	Core 2 Duo E6400	2.13	2MB	512MB	80GB	DVD	GMA	Q965	Yes	IAMT	XP Pro	3-yr		Sep 06
M55p	8808-D8U	2x3	Core 2 Duo E6400	2.13	2MB	512MB	80GB	Combo	GMA	Q965	Yes	IAMT	XP Pro	3-yr		Sep 06
M55p	8808-E2U	2x3	Core 2 Duo E6600	2.40	4MB	512MB	80GB	DVD	GMA	Q965	Yes	IAMT	XP Pro	3-yr		Sep 06
M55p	8808-E3U	2x3	Core 2 Duo E6600	2.40	4MB	512MB	80GB	Combo	GMA	Q965	Yes	IAMT	XP Pro	3-yr		Sep 06
M55p	8808-EFU	2x3	Core 2 Duo E6600	2.40	4MB	1GB	80GB	DVD	GMA	Q965	Yes	IAMT	XP Pro	3-yr	Gbl	Oct 06
M55p	8808-J3U	2x3	Core 2 Duo E6300	1.86	2MB	2GB	80GB	DVD±RW	GMA	Q965	Yes	IAMT	XP Pro	3-yr	Gbl	May 07
M55p	8808-J9U	2x3	Core 2 Duo E6400	2.13	2MB	1GB	80GB	Combo	GMA	Q965	Yes	IAMT	XP Pro	3-yr		May 07
M55p	8808-JAU	2x3	Core 2 Duo E6600	2.40	4MB	1GB	160GB	Combo	GMA	Q965	Yes	IAMT	XP Pro	3-yr		May 07

- **Intel Core 2 Processor with vPro™ Technology (includes Intel Active Management Technology)**
- **These models have a 3-year limited warranty¹**

Positioning Processor	<i>Ultimate enterprise manageability</i> Intel® Core™ 2 Duo Processor E6300, E6400, or E6600 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, 1066MHz system bus, and 2MB or 4MB shared L2 cache	Small	
Implementation	Processor in FC-LGA6 package in LGA775 socket	Bay ① 3.5", slim .5", access, opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk	
Memory	512MB, 1GB, or 2GB std / 4GB max⁸ / PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, two 240-pin DIMM sockets; <i>Italics:</i> standard memory in both sockets; no sockets available; <i>Non-italics:</i> standard memory in one socket; one socket available	Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports opt DVI-I PCIe ADD2 adptr only)	
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in Q965 / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports dual independent display with optional ADD2 adapter	<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1" D X 3.3" H (3.4" H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • No system floor stand for vertical orientation ships std 	
SATA disk	80GB or 160GB / SATA300 7200 rpm / vibration dampening		
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH8		
SATA DVD	<i>Some:</i> DVD-ROM DL SATA150 16-48X Max ⁴ Drive (41N5618)		
SATA Combo	<i>Some:</i> CD-RW/DVD-ROM Combo SATA150 Drive (41N5619)		
SATA DVD±RW	<i>Some:</i> Super Multi-Burner DL DVD±RW SATA150 Drv (41N5620)		
SATA cables	Two SATA cables (each 1-drop to device) / 2 SATA connectors		
EIDE controller	None		
Diskette drive	None		
Chipset	Intel Q965 Express Chipset / 82801HDO I/O Controller Hub 8 Digital Office (ICH8DO) for SATA300, PCI Express x1, ethernet (MAC), PCI 2.3, USB, LPC bus / SMSC® SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)		Security
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		<ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, serial, parallel, diskette enable or disable • Diskette write protect • USB port disablement
Rear ports	Six USB 2.0, serial (9-pin), parallel (25-pin), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1983HD codec / SoundMAX® software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on planar / Intel 82566DM (PHY layer; MAC in ICH8DO) / PCIe x1 / Intel AMT / Wake on LAN® / ASF 2.0 / PXE 2.0		
Intel AMT	Intel Active Management Technology (iAMT)		
Modem	None		
Security chip	Trusted Platform Module, in Atmel® AT97SC3203 chip, TCG 1.2-compliant		
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo		Supports ThinkVantage® technologies
Mouse	Optical Wheel Mouse (USB connector), black, Lenovo logo		
Power supply	225 watts with variable speed fan / manual switch / 2 diagnostic LEDs		
Preload with Windows XP Professional⁵	<ul style="list-style-type: none"> • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Symantec® Client Security™ • Diskeeper® Lite • PC-Doctor™ (diagnostics) • Adobe® Reader • Windows Live™ Toolbar • Windows Live Search • Picasa from Google • Multimedia Center for Think Offerings (combo, DVD, DVD±RW) • Sonic RecordNow and Drive Letter Access (combo, DVD±RW) • InterVideo WinDVD (combo, DVD, DVD±RW) • InterVideo WinDVD Creator (DVD±RW) 		Limited Warranty¹
Microsoft® Windows® XP Professional	<ul style="list-style-type: none"> - Disk-to-Disk Recovery (in hidden protected area) 		<ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹
Preloaded	<ul style="list-style-type: none"> • <i>Some (K12):</i> K-12 education software <ul style="list-style-type: none"> - VitalSource Library School Edition - Adobe® Instructor Resource Center - Adobe Digital School Collection <ul style="list-style-type: none"> - Photoshop Elements 5 (and CD) - Premier Elements 3 (and DVD) - Acrobat 8 Professional (and CD) - Contribute 4 (and CD) • <i>Some (HE):</i> Higher education software <ul style="list-style-type: none"> - VitalSource Library College Edition - Adobe® Instructor Resource Center - Adobe Photoshop Elements 5 (and CD) - Adobe Premier Elements 3 (and DVD) • Rescue and Recovery™ 		

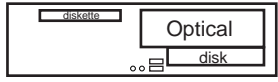
See footnotes for important warranty information
US models announced Sep 26, Oct 24, or Nov 21, 2006, or May 1 or June 5, 2007
US models withdrawn effective May 2008

ThinkCentre® M55p Small (8808) - Vista® - withdrawn

Personal Systems Reference (PSREF)

Name	Slot x Type-model bay	Processor	L2 GHz cache	Memory ⁸	SATA disk	SATA optical	Graphics	Chipset	Security chip	Intel AMT	Vista preload	Vista logo	Limited warranty ¹	Global Educ	Avail date
M55p	8808-KMU2x3	Core 2 Duo E6300	1.86 2MB	1GB	80GB ²	Combo	GMA Q965	Yes	IAMT	Business	Basic	3-yr	K12	Jun 07	
M55p	8808-KNU2x3	Core 2 Duo E6300	1.86 2MB	1GB	80GB ²	Combo	GMA Q965	Yes	IAMT	Business	Basic	3-yr	HE	Jun 07	
M55p	8808-HBU2x3	Core 2 Duo E6300	1.86 2MB	1GB	80GB ²	DVD	GMA Q965	Yes	IAMT	Business	Premium	3-yr	Gbl	Feb 07	
M55p	8808-FVU2x3	Core 2 Duo E6300	1.86 2MB	1GB	80GB	DVD	GMA Q965	Yes	IAMT	Business	Premium	3-yr		May 07	
M55p	8808-FWU2x3	Core 2 Duo E6400	2.13 2MB	1GB	80GB	Combo	GMA Q965	Yes	IAMT	Business	Premium	3-yr		May 07	
M55p	8808-FSU2x3	Core 2 Duo E6600	2.40 4MB	1GB	160G	DVD±RW	GMA Q965	Yes	IAMT	Business	Premium	3-yr		May 07	

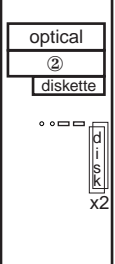
• Intel Core 2 Processor with vPro™ Technology (includes Intel Active Management Technology)
• These models have a 3-year limited warranty¹

Positioning Processor	<i>Ultimate enterprise manageability</i> Intel® Core™ 2 Duo Processor E6300, E6400, or E6600 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, and 1066MHz system bus; <i>E6300/E6400: 2MB L2 shared cache;</i> <i>E6600: 4MB L2 shared cache</i>	Small  Bay ① 3.5", slim .5", access, opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk
Implementation	Processor in FC-LGA6 package in LGA775 socket	
Memory	1GB std / 4GB max⁸ / PC2-5300 667MHz DDR2 non-parity, dual-channel capable, two 240-pin DIMM sockets; <i>Italics:</i> standard memory in both sockets; no sockets avail; <i>Non-italics:</i> standard memory in one socket; one socket available	Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports opt DVI-I PCIe ADD2 adptr only)
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in Q965 / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports dual independent display with optional ADD2 adapter	<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1" D X 3.3" H (3.4" H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • No system floor stand for vertical orientation ships std
SATA disk	80GB or 160GB / SATA300 7200 rpm / dampening mounts	Security <ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, serial, parallel, diskette enable or disable • Diskette write protect • USB port disablement
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH8	
SATA DVD	<i>Some:</i> DVD-ROM DL SATA150 16-48X Max ⁴ Drive (41N5618)	
SATA Combo	<i>Some:</i> CD-RW/DVD-ROM Combo SATA150 Drive (41N5619)	
SATA DVD±RW	<i>Some:</i> Super Multi-Burner DL DVD±RW SATA150 Drv (41N5620)	
SATA cables	Two SATA cables (each 1-drop to device) / 2 SATA connectors	Supports ThinkVantage® technologies
EIDE controller	None	
Diskette drive	None	Limited Warranty¹ <ul style="list-style-type: none"> ⇒ 3-year parts and labor ⇒ International Warranty Service⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇒ ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ Post warranty maintenance services available ⇒ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378
Chipset	Intel Q965 Express Chipset / 82801HDO I/O Controller Hub 8 Digital Office (ICH8DO) for SATA300, PCI Express x1, ethernet (MAC), PCI 2.3, USB, LPC bus / SMSC [®] SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)	
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	Other accessories at lenovo.com/accessories
Rear ports	Six USB 2.0, serial (9-pin), parallel (25-pin), ethernet (RJ-45), monitor (DB-15)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)	
Audio	High Definition (HD) Audio / AD1983HD codec / SoundMAX [®] software	
Speaker	One internal speaker for business audio	
Ethernet	Gigabit ethernet on planar / Intel 82566DM (PHY layer; MAC in ICH8DO) / PCIe x1 / Intel AMT / Wake on LAN [®] / ASF 2.0 / PXE 2.0	
Intel AMT	Intel Active Management Technology (iAMT)	
Modem	None	
Security chip	Trusted Platform Module, in Atmel [®] AT97SC3203 chip, TCG 1.2-compliant	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo	
Mouse	Optical Wheel Mouse (USB connector), black, Lenovo logo	
Power supply	225 watts with variable speed fan / manual switch / 2 diagnostic LEDs	
Preloaded operating system²⁰	- Microsoft [®] Windows [®] Vista Business Edition (32-bit)	
Preloaded applications⁵ (only some listed)	- VitalSource Library School Edition - Adobe [®] Instructor Resource Center - Adobe Digital School Collection - Photoshop Elements 5 (and CD) - Premier Elements 3 (and DVD) - Acrobat 8 Professional (and CD) - Contribute 4 (and CD)	
Some (K12): K-12 education software		
Some (HE): Higher education software		
- VitalSource Library College Edition		
- Adobe [®] Instructor Resource Center		
- Adobe Photoshop Elements 5 (and CD)		
- Adobe Premier Elements 3 (and DVD)		
• Rescue and Recovery™		
• Client Security Solution™		
• Norton Internet Security™		

See footnotes for important warranty information
 US models announced February 6, May 1, or June 5, 2007
 US models withdrawn effective May 2008

Name	Type-model	Slot x bay	Processor	L2 cache	Memory ⁸	SATA disk	SATA optical	Graphics	Chipset	Security chip	Intel AMT	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
M55p	8811-9SU	4x5	Core 2 Duo E6300	1.86	2MB 1GB	80GB ²	DVD	GMA	Q965	Yes	IAMT	XP Pro	3-yr	Gbl	Sep 06
M55p	8811-9TU	4x5	Core 2 Duo E6300	1.86	2MB 512MB	80GB	Combo	GMA	Q965	Yes	IAMT	XP Pro	3-yr		Sep 06
M55p	8811-FJU	4x5	Core 2 Duo E6300	1.86	2MB 1GB	80GB	Combo	GMA	Q965	Yes	IAMT	XP Pro	3-yr	Gbl	Dec 06
M55p	8811-D6U	4x5	Core 2 Duo E6400	2.13	2MB 512MB	80GB	DVD	GMA	Q965	Yes	IAMT	XP Pro	3-yr		Sep 06
M55p	8811-D7U	4x5	Core 2 Duo E6400	2.13	2MB 512MB	80GB	Combo	GMA	Q965	Yes	IAMT	XP Pro	3-yr		Sep 06
M55p	8811-DEU	4x5	Core 2 Duo E6400	2.13	2MB 1GB	80GB	Combo	GMA	Q965	Yes	IAMT	XP Pro	3-yr	Gbl	Oct 06
M55p	8811-E3U	4x5	Core 2 Duo E6600	2.40	4MB 512MB	80GB	DVD	GMA	Q965	Yes	IAMT	XP Pro	3-yr		Sep 06
M55p	8811-E4U	4x5	Core 2 Duo E6600	2.40	4MB 512MB	80GB	Combo	GMA	Q965	Yes	IAMT	XP Pro	3-yr		Sep 06
M55p	8811-ECU	4x5	Core 2 Duo E6600	2.40	4MB 1GB	80GB	DVD	GMA	Q965	Yes	IAMT	XP Pro	3-yr	Gbl	Oct 06
M55p	8811-DNU	4x5	Core 2 Duo E6600	2.40	4MB 1GB	160GB	DVD±RW	GMA	Q965	Yes	IAMT	XP Pro	3-yr		May 07
M55p	8811-GHU	4x5	Core 2 Duo E6600	2.40	4MB 1GB	160GB	DVD±RW	GMA	Q965	Yes	IAMT	XP Pro	3-yr	K12	Jun 07
M55p	8811-GJU	4x5	Core 2 Duo E6600	2.40	4MB 1GB	160GB	DVD±RW	GMA	Q965	Yes	IAMT	XP Pro	3-yr	HE	Jun 07

- Intel Core 2 Processor with vPro™ Technology (includes Intel Active Management Technology)
- These models have a 3-year limited warranty¹

Positioning	<i>Ultimate enterprise manageability</i>		Tower
Processor	Intel® Core™ 2 Duo Processor E6300, E6400, or E6600 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, 1066MHz system bus, and 2MB or 4MB shared L2 cache Processor in FC-LGA6 package in LGA775 socket		
Implementation			
Memory	512MB or 1GB std / 8GB max⁸ / PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Non-italics</i> : standard memory in one socket; three sockets available		
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in Q965 / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports dual independent display with optional ADD2 adapter		
SATA disk	80GB or 160GB / SATA300 7200 rpm / vibration dampening mounts		<ul style="list-style-type: none"> • Business black color • 7.0" W X 17.7" D X 17.0" H • 178mm W X 450mm D X 432mm H • 25.0 to 27.5 lb (11.3 to 12.5 kg) • Handle on top front • Toolless install and removal of disk, optical, diskette • Toolless install and removal of side cover • Toolless install and removal of adapter cards <p>Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, opt diskette Bay ④ 3.5", SL 1", no access, std disk Bay ⑤ 3.5", SL 1", no access, opt disk</p> <p>Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)</p>
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH8		
SATA DVD	<i>Some</i> : DVD-ROM DL SATA150 16-48X Max ⁴ Drive (41N5618)		
SATA Combo	<i>Some</i> : CD-RW/DVD-ROM Combo SATA150 Drive (41N5619)		
SATA DVD±RW	<i>Some</i> : Super Multi-Burner DL DVD±RW SATA150 Drv (41N5620)		
SATA cables	Two SATA cables (each 1-drop to device) / four SATA connectors		
EIDE controller	None		
Diskette drive	None		
Chipset	Intel Q965 Express Chipset / 82801HDO I/O Controller Hub 8 Digital Office (ICH8DO) for SATA300, PCI Express x1, ethernet (MAC), PCI 2.3, USB, LPC bus / SMSC® SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)		
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Eight USB 2.0, serial (9-pin), parallel (25-pin), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1983HD codec / SoundMAX® software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on planar / Intel 82566DM (PHY layer; MAC in ICH8DO) / PCIe x1 / Intel AMT / Wake on LAN® / ASF 2.0 / PXE 2.0		
Intel AMT	Intel Active Management Technology (IAMT)		
Modem	None		
Security chip	Trusted Platform Module , in Atmel® AT97SC3203, TCG 1.2-compliant		
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo		
Mouse	Optical Wheel Mouse (USB connector), black, Lenovo logo		
Power supply	310 watts with variable speed fan / manual switch / 2 diagnostic LEDs		
Preload with Windows XP Professional⁵ Microsoft® Windows® XP Professional - Disk-to-Disk Recovery (in hidden protected area) Preloaded • <i>Some (K12)</i> : K-12 education software - VitalSource Library School Edition - Adobe® Instructor Resource Center - Adobe Digital School Collection - Photoshop Elements 5 (and CD) - Premier Elements 3 (and DVD) - Acrobat 8 Professional (and CD) - Contribute 4 (and CD) • <i>Some (HE)</i> : Higher education software - VitalSource Library College Edition - Adobe® Instructor Resource Center - Adobe Photoshop Elements 5 (and CD) - Adobe Premier Elements 3 (and DVD) • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center			Security <ul style="list-style-type: none"> • <i>Some</i>: security chip (see info on left) • One lock to secure both cover and entire system to fixed object: - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, serial, parallel, diskette enable or disable • Diskette write protect • USB port disablement
Supports ThinkVantage® technologies			Limited Warranty¹ <ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹

See footnotes for important warranty information
 US models announced Sep 26, Oct 24, or Nov 21, 2006 or May 1 or June 5, 2007
 US models withdrawn effective May 2008

ThinkCentre® M55p Tower (8811) - Vista® - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	GHz	Memory ^a	SATA disk	SATA optical	Graphics	Security Chipset	Intel AMT	Vista preload	Vista logo	Limited warranty ¹	Global Educ	Avail date
M55p	8811-FMU	4x5	Core 2 Duo E6300	1.86	2MB	1GB	80GB ²	DVD	GMA Q965	Yes	IAMT	Business	Premium	3-yr	Gbl	Feb 07
M55p	8811-DKU	4x5	Core 2 Duo E6300	1.86	2MB	1GB	80GB	Combo	GMA Q965	Yes	IAMT	Business	Premium	3-yr		May 07
M55p	8811-DLU	4x5	Core 2 Duo E6400	2.13	2MB	1GB	80GB	Combo	GMA Q965	Yes	IAMT	Business	Premium	3-yr		May 07
M55p	8811-DMU	4x5	Core 2 Duo E6600	2.40	4MB	1GB	160GB	Combo	GMA Q965	Yes	IAMT	Business	Premium	3-yr		May 07
M55p	8811-GGU	4x5	Core 2 Duo E6600	2.40	4MB	1GB	160GB	DVD±RW	GMA Q965	Yes	IAMT	Business	Basic	3-yr	K12	Jun 07
M55p	8811-GFU	4x5	Core 2 Duo E6600	2.40	4MB	1GB	160GB	DVD±RW	GMA Q965	Yes	IAMT	Business	Basic	3-yr	HE	Jun 07

- **Intel Core 2 Processor with vPro™ Technology (includes Intel Active Management Technology)**
- **These models have a 3-year limited warranty¹**

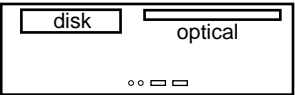
Positioning Processor	<i>Ultimate enterprise manageability</i> Intel® Core™ 2 Duo Processor E6300, E6400, or E6600 with dual-core , Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, and 1066MHz system bus; <i>E6300/E6400:</i> 2MB shared L2 cache; <i>E6600:</i> 4MB shared L2 cache		Tower		
Implementation	Processor in FC-LGA6 package in LGA775 socket		<ul style="list-style-type: none"> • Business black color • 7.0" W X 17.7" D X 17.0" H • 178mm W X 450mm D X 432mm H • 25.0 to 27.5 lb (11.3 to 12.5 kg) • Handle on top front • Toolless install and removal of disk, optical, diskette • Toolless install and removal of side cover • Toolless install and removal of adapter cards 		
Memory	1GB std / 8GB max³ / PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Italics:</i> standard memory in two sockets; two sockets available; <i>Non-italics:</i> standard memory in one socket; three socket available		Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, opt diskette Bay ④ 3.5", SL 1", no access, std disk Bay ⑤ 3.5", SL 1", no access, opt disk Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)		
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in Q965 / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports dual independent display with optional ADD2 adapter				
SATA disk	80GB or 160GB / SATA300 7200 rpm / vibration dampening				
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH8				
SATA DVD	<i>Some:</i> DVD-ROM DL SATA150 16-48X Max ⁴ Drive (41N5618)				
SATA Combo	<i>Some:</i> CD-RW/DVD-ROM Combo SATA150 Drive (41N5619)				
SATA DVD±RW	<i>Some:</i> Super Multi-Burner DL DVD±RW SATA150 Drv (41N5620)				
SATA cables	Two SATA cables (each 1-drop to device) / five SATA connectors				
EIDE controller	None				
Diskette drive	None				
Chipset	Intel Q965 Express Chipset / 82801HDO I/O Controller Hub 8 Digital Office (ICH8DO) for SATA300, PCI Express x1, ethernet (MAC), PCI 2.3, USB, LPC bus / SMSC ⁵ SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)				
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)				Security <ul style="list-style-type: none"> • <i>Some:</i> security chip (see info on left) • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington[®] Microsaver[®] cable) • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, serial, parallel, diskette enable or disable • Diskette write protect • USB port disablement
Rear ports	Eight USB 2.0, serial (9-pin), parallel (25-pin), ethernet (RJ-45), monitor (DB-15)				
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)				
Audio	High Definition (HD) Audio / AD1983HD codec / SoundMAX [®] software				
Speaker	One internal speaker for business audio				
Ethernet	Gigabit ethernet on planar / Intel 82566DM (PHY layer; MAC in ICH8DO) / PCIe x1 / Intel AMT / Wake on LAN [®] / ASF 2.0 / PXE 2.0				
Intel AMT	Intel Active Management Technology (iAMT)				
Modem	None				
Security chip	Trusted Platform Module , Atmel [®] AT97SC3203 chip, TCG 1.2-compliant				
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo				
Mouse	Optical Wheel Mouse (USB connector), black, Lenovo logo				
Power supply	310 watts with variable speed fan / manual switch / 2 diagnostic LEDs				
Preloaded operating system²⁰	Accessories				Supports ThinkVantage [®] technologies Limited Warranty¹ <ul style="list-style-type: none"> ⇒ 3-year parts and labor ⇒ International Warranty Service⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus[™] part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇒ Other ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ Post warranty maintenance services available ⇒ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378
- Microsoft [®] Windows [®] Vista Business Edition (32-bit)	512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983				
Preloaded applications⁵ (only some listed)	1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984				
<i>Some (K12):</i> K-12 education software	2GB PC2-5300 CL5 NP DDR2 UDIMM 41U2976				
- VitalSource Library School Edition	512MB PC2-6400 NP DDR2 UDIMM 41U2977				
- Adobe [®] Instructor Resource Center	1GB PC2-6400 NP DDR2 UDIMM 41U2978				
- Adobe Digital School Collection	2GB PC2-6400 NP DDR2 UDIMM 41N2978				
- Photoshop Elements 5 (and CD)	250GB Serial ATA300 Disk (7200 rpm) 41N3015				
- Premier Elements 3 (and DVD)	500GB Serial ATA300 Disk (7200 rpm) 43R1990				
- Acrobat 8 Professional (and CD)	USB Portable Diskette Drive 05K9276				
- Contribute 4 (and CD)	USB Gemplus GemPC Smart Card Reader 41N3040				
• <i>Some (HE):</i> Higher education software	USB 2.0 Lenovo Multimedia Headset 40Y8518				
- VitalSource Library College Edition	USB 2.0 Lenovo Webcam 40Y8519				
- Adobe [®] Instructor Resource Center	USB 2.0 Essential Memory Key 2GB 41U4944				
- Adobe Photoshop Elements 5 (and CD)	USB 2.0 Security Memory Key 4GB 41U5120				
- Adobe Premier Elements 3 (and DVD)	USB 2.0 Super Multi-Burner Drive 41N5565				
• Rescue and Recovery [™]	CD-RW/DVD-ROM Combo SATA150 Drive 41N5619				
• Client Security Solution [™]	Super Multi-Burner DL DVD±RW SATA Drive 41N5620				
• Norton Internet Security [™]	Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067				
	ThinkVision [®] L194 Wide 19" LCD Monitor 4434HB6				
	ThinkVision [®] L220x Wide 22" LCD Monitor 4433HB2				
	ADD2 DVI-I PCIe Connection Adapter 73P2516				
	Acc Guide in pdf lenovo.com/accessoriesguide				
	Other accessories at lenovo.com/accessories				

See footnotes for important warranty information
 US models announced February 6, May 1, or June 5, 2007
 US models withdrawn effective May 2008

ThinkCentre® S50 (8086) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	Diskette Memory [®]	EIDE drive	EIDE disk	EIDE optical	Graphics in GMCH	Security chip	Workhorse Ethernet Preload	Gbl, Education	Avail date
S50	8086-A5U	1x2	Celeron® D 330	2.66 256KB	533		256MB	None	40GB ²	CD	Extreme™ 2	Gigabit XP Pro ⁵	No	Aug 2004	
S50	8086-A3U	1x2	Celeron D 335	2.80 256KB	533		256MB	None	40GB		Extreme 2	Gigabit XP Pro	No	Aug 2004	
S50	8086-15U	1x2	Pentium® 4	2.8A 1MB	533		256MB	None	40GB	CD	Extreme 2	Gigabit XP Pro	No	Aug 2004	
S50	8086-16U	1x2	Pentium 4	2.8A 1MB	533		512MB	None	40GB	CD	Extreme 2	Chip Gigabit XP Pro	No	Aug 2004	
S50	8086-17U	1x2	Pentium 4	2.8A 1MB	533		512MB	None	40GB		Extreme 2	Gigabit XP Pro	No	Aug 2004	
S50	8086-18U	1x2	Pentium 4	2.8E 1MB	800	HT	256MB	None	40GB	CD	Extreme 2	Gigabit XP Pro	No	Aug 2004	
S50	8086-19U	1x2	Pentium 4	2.8E 1MB	800	HT	512MB	None	40GB	CD	Extreme 2	Chip Gigabit XP Pro	No	Aug 2004	
S50	8086-21U	1x2	Pentium 4	3.0E 1MB	800	HT	512MB	None	40GB	CD	Extreme 2	Gigabit XP Pro	No	Aug 2004	
S50	8086-22U	1x2	Pentium 4	3.0E 1MB	800	HT	256MB	None	40GB		Extreme 2	Gigabit XP Pro	No	Aug 2004	
S50	8086-24U	1x2	Pentium 4	3.0E 1MB	800	HT	512MB	None	40GB	CD	Extreme 2	Chip Gigabit XP Pro	No	Aug 2004	
S50	8086-25U	1x2	Pentium 4	3.0E 1MB	800	HT	512MB	None	40GB	Combo	Extreme 2	Gigabit XP Pro	No	Aug 2004	
S50	8086-32U	1x2	Pentium 4	3.2E 1MB	800	HT	512MB	None	40GB	Combo	Extreme 2	Gigabit XP Pro	No	Aug 2004	
S50	8086-34U	1x2	Pentium 4	3.2E 1MB	800	HT	512MB	None	40GB	Combo	Extreme 2	Chip Gigabit XP Pro	No	Aug 2004	
S50	8086-35U	1x2	Pentium 4	3.2E 1MB	800	HT	256MB	None	40GB	CD	Extreme 2	Gigabit XP Pro	No	Aug 2004	
S50	8086-36U	1x2	Pentium 4	3.2E 1MB	800	HT	512MB	None	40GB	CD	Extreme 2	Gigabit XP Pro	W G	Aug 2004	

Positioning	<i>Smallest ThinkCentre desktop without compromise</i>		Ultra Small Form Factor 
Processor	Intel® Celeron D Processor 330 (2.66GHz) or 335 (2.80GHz) with 533MHz system bus or Pentium 4 at 2.8, 3.0 or 3.2GHz with 533 or 800MHz system bus <i>Some:</i> Hyper-Threading (HT) technology Celeron D: 256KB std and max / ECC / full speed Pentium 4: 1MB std and max / ECC / full speed		
Hyper-Threading L2 cache	Processor and L2 cache in FC-PGA2 in mPGA478B socket		Bay ① 3.5", SL 1", access, std disk (desktop) Bay ② 5.25", *slim .5", access, std/opt optical (notebook) * Optical bay is Ultrabay™ Enhanced 12.5mm high (same as used in select ThinkPad notebooks) Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)
Implementation	Memory - std/max ⁵ 256 or 512MB std / 2GB max Memory - sockets Two 184-pin gold plated DIMM sockets / one socket used Memory - type 533MHz system bus: PC2700 333MHz DDR1 (CL2.5); 800MHz system bus: PC3200 400MHz DDR1 (CL3); All: non-parity / ind std / unbuffered / dual channel capable		
Graphics	Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865GV GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector		<ul style="list-style-type: none"> • Up to 75% less space than desktop chassis • Business black color; metal case • 10.8" W X 10.8"D X 3.4"H • 275mm W X 275mm D X 87.5mm H • With vertical stand: 4.9" W X 10.6"D X 11.7"H • With vertical stand: 125mm W X 270mm D X 298mm H • 13.2 to 14.0 lb (6.0 to 6.4 kg) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk and optical drive removal • Bays 1 and 2 flip up (latched and pivoting) • Toolless PCI slot and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • System stand ships standard for vertical orientation
EIDE disk	40GB, ATA-100, 7200 rpm, rubber vibration dampening mounts Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5) EIDE controller Two cables (one 1-drop 80-conductor cable to disk; one 1-drop Ultrabay Enhanced cable to optical) / 2 EIDE connectors on planar EIDE cables <i>Some:</i> 24X-10X ⁴ CD-ROM / EIDE / Ultrabay Enhanced		
CD	<i>Some:</i> 24X/10X ⁴ CD-ROM / EIDE / Ultrabay Enhanced		SYSTEMS MANAGEMENT <ul style="list-style-type: none"> • PC 2001-compliant • Advanced Power Management 1.2 • Advanced Configuration and Power Interface (ACPI) 2.0b • SMBIOS 2.3.1-compliant • DMI 2.0-compliant • Security chip models: Asset ID™, 19 (system-specific info in chip)
Combo	<i>Some:</i> 24X/24X/24X/8X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE / Ultrabay Enhanced		
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5		SECURITY <ul style="list-style-type: none"> • Security slot (in rear for optional Kensington Microsaver cable) - optional cable locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Boot sequence control • Boot without keyboard or mouse • USB, ethernet, SATA, EIDE, serial, parallel enable or disable • Disk, removable, and network device boot password • Security chip models: security chip providing C2 tamper switch, Asset ID¹⁹, and other features
SATA cables	No SATA cables / one SATA connector on systemboard		
Diskette drive	None / use optional external USB-based 3.5" 1.44MB diskette drive		LIMITED WARRANTY¹ <ul style="list-style-type: none"> ↔ 3 year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ ThinkPlus™ services at lenovo.com/thinkplus/warranty ↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹
Chipset	Intel 865GV chipset / 82865GV Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC[®] LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temperature sensor		
Ports	Front: two USB (Version 2.0), microphone in (stereo), headphone out (stereo) Back: four USB (Version 2.0), one serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Audio connectors	Back: line-in (stereo), line-out (stereo) [all 3.5mm]		
Audio	Integrated digital audio / SoundMAX [®] Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec		
Speaker	One internal speaker for business audio		
Ethernet	10/100/1000 gigabit ethernet on planar / Intel 82541Ei PHY (physical layer) and MAC / Intel Pro/1000MT Network Connection / 32-bit PCI 2.2 / Wake on LAN [®]		
Security chip	<i>Some:</i> Embedded Security Subsystem 2.0¹⁸ / hardware key storage / multi-factor authentication / local file encryption / Atmel [®] chip / TCG-compliant		
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Optical Wheel Mouse (USB only), optical, 400 dpi, black		
Cooling fans	Three variable speed fans (front, back, power supply)		
Power supply	200 watts with variable speed fan / universal / autosensing / two diagnostic LEDs		
Preload with Windows XP Professional⁵	Accessories		
Microsoft® Windows® XP Professional	533MHz:	128MB PC2700 CL2.5 NP DDR1 31P8854	
- Disk-to-Disk Recovery (in hidden protected area)	533MHz:	256MB PC2700 CL2.5 NP DDR1 31P8855	
	533MHz:	512MB PC2700 CL2.5 NP DDR1 31P8856	
	533:	1GB PC2700 CL2.5 NP DDR1 UDIMM 31P8857	
Preloaded	800MHz:	128MB PC3200 CL3 NP DDR1 22P9271	
• Access Program	800MHz:	256MB PC3200 CL3 NP DDR1 73P2685	
• Rescue and Recovery™	800MHz:	512MB PC3200 CL3 NP DDR1 73P2686	
• Update Connector™.15	800:	1GB PC3200 CL3 NP DDR1 UDIMM 22P9272	
• Adobe Reader		CD-RW/DVD Combo Ultrabay Enhanced 73P3275	
• Norton AntiVirus (OEM version)		Multi-Burner Plus Ultrabay Enhanced Drive 73P3312	
• PC-Doctor™ (diagnostics)		160Gb Serial ATA150 Disk (7200 rpm) 09N4254	
• RecordNow and DLA (combo)		120GB IDE Disk ATA-100 (7200 rpm) 09N4249	
• InterVideo WinDVD (combo)		USB Portable Diskette Drive 05K9276	
		ThinkVision® L151 15" Monitor (black) 9205AB2	
		ThinkCentre Ultra Small Under Desk Mount 40Y8625	
		Other options at lenovo.com/options	

See footnotes for important warranty information

US models announced July 13, 2004

US models withdrawn effective June or December 2005

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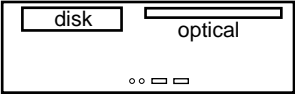
ThinkCentre® S50 (8086) - November 2004 - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus Hyper-Thread	Memory ⁸	Diskette drive	EIDE disk	EIDE optical	Graphics in GMCH	Security chip	Workhorse Ethernet Preload	Gbl, Education	Avail date
S50	8086-AJU	1x2	Celeron® D 330	2.66 256KB	533	512MB	None	40GB ² CD		Extreme™ 2		Gigabit XP Pro ⁵	Educ	Nov 2004
S50	8086-AKU	1x2	Celeron D 335	2.80 256KB	533	512MB	None	40GB CD		Extreme 2		Gigabit XP Pro	No	Nov 2004
S50	8086-1AU	1x2	Pentium® 4	2.8A 1MB	533	512MB	None	40GB DVD		Extreme 2		Gigabit XP Pro	No	Nov 2004
S50	8086-ABU	1x2	Pentium 4	2.8A 1MB	533	512MB	None	80GB Combo		Extreme 2		Gigabit XP Pro	No	Nov 2004
S50	8086-2FU	1x2	Pentium 4	3.0E 1MB	800	512MB	None	40GB DVD		Extreme 2		Gigabit XP Pro	No	Nov 2004
S50	8086-2JU	1x2	Pentium 4	3.0E 1MB	800	512MB	None	80GB Combo		Extreme 2		Gigabit XP Pro	Educ	Nov 2004
S50	8086-3AU	1x2	Pentium 4	3.2E 1MB	800	512MB	None	40GB DVD		Extreme 2	Chip	Gigabit XP Pro	No	Nov 2004
S50	8086-3DU	1x2	Pentium 4	3.2E 1MB	800	512MB	None	80GB Combo		Extreme 2		Gigabit XP Pro	No	Nov 2004
S50	8086-42U	1x2	Pentium 4	3.4E 1MB	800	512MB	None	40GB CD		Extreme 2		Gigabit XP Pro	No	Nov 2004
S50	8086-43U	1x2	Pentium 4	3.4E 1MB	800	512MB	None	40GB CD		Extreme 2	Chip	Gigabit XP Pro	No	Nov 2004
S50	8086-46U	1x2	Pentium 4	3.4E 1MB	800	512MB	None	80GB Combo		Extreme 2		Gigabit XP Pro	No	Nov 2004
S50	8086-49U	1x2	Pentium 4	3.4E 1MB	800	512MB	None	80GB DVD		Extreme 2		Gigabit XP Pro	No	Nov 2004

Positioning Processor	<i>Smallest ThinkCentre desktop without compromise</i> Intel® Celeron D Processor 330 (2.66GHz) or 335 (2.80GHz) with 533MHz system bus or Pentium 4 at 2.8, 3.0, 3.2, or 3.4GHz with 533 or 800MHz bus
Hyper-Threading L2 cache	<i>Some:</i> Hyper-Threading (HT) technology <i>Celeron D:</i> 256KB std and max / ECC / full speed <i>Pentium 4:</i> 1MB std and max / ECC / full speed
Implementation	Processor and L2 cache in FC-PGA2 in mPGA478B socket
Memory - std/max ⁸	512MB std / 2GB max
Memory - sockets	Two 184-pin gold plated DIMM sockets / one socket used
Memory - type	<i>533MHz system bus:</i> PC2700 333MHz DDR1 (CL2.5); <i>800MHz system bus:</i> PC3200 400MHz DDR1 (CL3); <i>All:</i> non-parity / ind std / unbuffered / dual channel capable
Graphics	Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865GV GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector
EIDE disk	40 or 80GB , ATA-100, 7200 rpm, rubber vibration dampening mounts
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5)
EIDE cables	Two cables (one 1-drop 80-conductor cable to disk; one 1-drop Ultrabay Enhanced cable to optical) / 2 EIDE connectors on planar
CD	<i>Some:</i> 24X-10X ⁴ CD-ROM / EIDE / Ultrabay Enhanced
DVD	<i>Some:</i> 8X-3.3X Max ⁴ DVD-ROM / EIDE / Ultrabay Enhanced
Combo	<i>Some:</i> 24X/24X/24X/8X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE / Ultrabay Enhanced
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5
SATA cables	No SATA cables / one SATA connector on systemboard
Diskette drive	None / use optional external USB-based 3.5" 1.44MB diskette drive
Chipset	Intel 865GV chipset / 82865GV Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temperature sensor
Ports	<i>Front:</i> two USB (Version 2.0), microphone in (stereo), headphone out (stereo) <i>Back:</i> four USB (Version 2.0), one serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)
Audio connectors	<i>Back:</i> line-in (stereo), line-out (stereo) [all 3.5mm]
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec
Speaker	One internal speaker for business audio
Ethernet	10/100/1000 gigabit ethernet on planar / Intel 82541EI PHY (physical layer) and MAC / Intel Pro/1000MT Network Connection / 32-bit PCI 2.2 / Wake on LAN®
Security chip	<i>Some:</i> Embedded Security Subsystem 2.0 ¹⁸ / hardware key storage / multi-factor authentication / local file encryption / Atmel® chip / TCG-compliant
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black
Mouse	Optical Wheel Mouse (USB only), optical, 400 dpi, black
Cooling fans	Three variable speed fans (front, back, power supply)
Power supply	200 watts with variable speed fan / universal / autosensing / two diagnostic LEDs

Ultra Small Form Factor



Bay ① 3.5", SL 1", access, std disk (desktop)
Bay ② 5.25", *slim .5", access, std/opt optical (notebook)
* Optical bay is Ultrabay™ Enhanced 12.5mm high (same as used in select ThinkPad notebooks)

Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)

- Up to 75% less space than desktop chassis
- Business black color; metal case
- 10.8" W X 10.8" D X 3.4" H
- 275mm W X 275mm D X 87.5mm H
- With vertical stand: 4.9" W X 10.6" D X 11.7" H
- With vertical stand: 125mm W X 270mm D X 298mm H
- 13.2 to 14.0 lb (6.0 to 6.4 kg)
- Toolless cover flips up and tilts backward on rear hinges
- Toolless disk and optical drive removal
- Bays 1 and 2 flip up (latched and pivoting)
- Toolless PCI slot and riser card retention
- Toolless systemboard retention
- Steel chassis supports 100 lb (45kg) monitor on top
- System stand ships standard for vertical orientation

SYSTEMS MANAGEMENT

- PC 2001-compliant
- Advanced Power Management 1.2
- Advanced Configuration and Power Interface (ACPI) 2.0b
- SMBIOS 2.3.1-compliant
- DMI 2.0-compliant
- *Security chip models:* Asset ID™¹⁹ (system-specific info in chip)

SECURITY

- Security slot (in rear for optional Kensington Microsaver cable) - optional cable locks the cover by deactivating the cover release buttons
- Power-on password
- Administrator password
- Boot sequence control
- Boot without keyboard or mouse
- USB, ethernet, SATA, EIDE, serial, parallel enable or disable
- Disk, removable, and network device boot password
- *Security chip models:* security chip providing C2 tamper switch, Asset ID¹⁹, and other features

LIMITED WARRANTY¹

- ⇒ 3 year parts and labor
- ⇒ International Warranty Service⁹
- ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)
- ⇒ ThinkPlus™ services at lenovo.com/thinkplus/warranty
- ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹

Preload with Windows XP Professional ⁵	Accessories
Microsoft® Windows® XP Professional with Service Pack 2	533MHz: 128MB PC2700 CL2.5 NP DDR1 31P8854
- Disk-to-Disk Recovery (in hidden protected area)	533MHz: 256MB PC2700 CL2.5 NP DDR1 31P8855
Preloaded	533MHz: 512MB PC2700 CL2.5 NP DDR1 31P8856
• <i>Some:</i> contains additional module with a specialized education preload image in the base preload package from Vital Source Technologies™ software	533: 1GB PC2700 CL2.5 NP DDR1 UDIMM 31P8857
• Access Program	800MHz: 128MB PC3200 CL3 NP DDR1 22P9271
• Rescue and Recovery™	800MHz: 256MB PC3200 CL3 NP DDR1 73P2685
• Adobe Reader	800MHz: 512MB PC3200 CL3 NP DDR1 73P2686
• Norton AntiVirus (OEM version)	800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272
• PC-Doctor™ (diagnostics)	CD-RW/DVD Combo Ultrabay Enhanced 73P3275
• RecordNow and DLA (combo)	Multi-Burner Plus Ultrabay Enhanced Drive 73P3312
• InterVideo WinDVD (combo, DVD)	160GB Serial ATA150 Disk (7200 rpm) 09N4254
	USB Portable Diskette Drive 05K9276
	USB 2.0 Portable Multi-Burner Drive 22P9163
	ThinkVision® L151 15" Monitor (black) 9205AB2
	ThinkCentre Ultra Small Under Desk Mount 40Y8625
	Other options at lenovo.com/options

See footnotes for important warranty information
US models announced November 16, 2004
US models withdrawn effective June or December 2005

ThinkCentre™ S50 (8183) - February 2004 - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Bus Hyper-MHz	Thread	Memory ⁶	Diskette drive	EIDE disk	EIDE optical	Graphics in GMCH	Security chip	Ethernet	Preload	Workhorse Education	Gbl, Avail date
S50	8183-AKU	2x3	Celeron®	2.6	128KB	400		256MB	Diskette	40GB ²	CD	Extreme™ 2		Gigabit	XP Pro ⁵	Educ	Feb 2004
S50	8183-ALU	2x3	Celeron	2.8	128KB	400		256MB	Diskette	40GB	CD	Extreme 2		10/100	XP Pro	No	Feb 2004
S50	8183-BMU	2x3	Pentium® 4	2.8C	512KB	800	HT	512MB	Diskette	40GB	Combo	Extreme 2		Gigabit	XP Pro	Educ	Mar 2004
S50	8183-BNU	2x3	Pentium 4	2.8C	512KB	800	HT	512MB	Diskette	40GB		Extreme 2		Gigabit	XP Pro	Educ	Mar 2004
S50	8183-BAU	2x3	Pentium 4	2.8E	1MB	800	HT	512MB	Diskette	40GB	CD	Extreme 2		Gigabit	XP Pro	No	Feb 2004
S50	8183-BFU	2x3	Pentium 4	2.8E	1MB	800	HT	256MB		40GB	CD	Extreme 2		10/100	XP Pro	No	Feb 2004
S50	8183-D7U	2x3	Pentium 4	3.0E	1MB	800	HT	512MB	Diskette	40GB	CD	Extreme 2		Gigabit	XP Pro	W G	Feb 2004
S50	8183-D9U	2x3	Pentium 4	3.0E	1MB	800	HT	256MB		40GB	CD	Extreme 2		10/100	XP Pro	No	Feb 2004
S50	8183-DBU	2x3	Pentium 4	3.0E	1MB	800	HT	512MB	Diskette	40GB	CD-RW	Extreme 2		Gigabit	XP Pro	No	Feb 2004
S50	8183-DEU	2x3	Pentium 4	3.0E	1MB	800	HT	512MB	Diskette	40GB	CD	Extreme 2	Chip	Gigabit	XP Pro	No	Feb 2004
S50	8183-DGU	2x3	Pentium 4	3.0E	1MB	800	HT	512MB	Diskette	40GB	Combo	Extreme 2		Gigabit	XP Pro	Educ	Feb 2004
S50	8183-DHU	2x3	Pentium 4	3.0E	1MB	800	HT	512MB	Diskette	40GB		Extreme 2		Gigabit	XP Pro	Educ	Feb 2004
S50	8183-G4U	2x3	Pentium 4	3.2	512KB	800	HT	512MB	Diskette	80GB	Combo	Extreme 2		Gigabit	XP Pro	Educ	Feb 2004
S50	8183-BPU	2x3	Pentium 4	2.8A	1MB	533		512MB	Diskette	40GB	CD	Extreme 2		Gigabit	XP Pro	No	Aug 2004
S50	8183-BQU	2x3	Pentium 4	2.8A	1MB	533		256MB	Diskette	40GB	CD	Extreme 2		10/100	XP Pro	No	Aug 2004
S50	8183-DRU	2x3	Pentium 4	3.0E	1MB	800	HT	512MB	Diskette	40GB	DVD	Extreme 2		Gigabit	XP Pro	No	Aug 2004

Positioning Processor *Smallest ThinkCentre desktop without compromise*
Intel® Celeron at 2.4 or 2.6 with 400MHz system bus or **Pentium 4 at 2.8, 3.0 or 3.2GHz** with 533 or 800MHz system bus
Hyper-Threading L2 cache *Some: Hyper-Threading (HT) technology*
Celeron: 128KB std and max / ECC / full speed
Pentium 4: 512KB or 1MB std and max / ECC / full speed
Implementation Processor and L2 cache in FC-PGA2 in mPGA478B socket

Memory - std/max⁶ 256 or 512MB std / 2GB max
Memory - sockets Two 184-pin gold plated DIMM sockets / one socket used
Memory - type PC2700 333MHz DDR1 (DDR-SDRAM) / non-parity / industry std / unbuffered / CAS latency 2.5 (CL2.5) / dual channel capable

Graphics **Integrated Intel Extreme™ Graphics 2** / Direct AGP / in 865G GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector

EIDE disk 40 or 80GB, ATA-100, 7200 rpm, rubber vibration dampening mounts
EIDE controller Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5)
EIDE cables One EIDE 80-conductor cable (one 2-drop cable to optical and disk) / one EIDE connector on systemboard
Some: 48X-20X⁴ CD-ROM / EIDE
CD *Some: 48X-20X⁴ CD-ROM / single-layer / EIDE*
DVD *Some: 16X-48X Max⁴ DVD-ROM / single-layer / EIDE*
CD-RW *Some: 48X/32X/48X Max⁴ CD-RW / EIDE*
Combo *Some: 48X/32X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo / EIDE*
SATA controller Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5
SATA cables No SATA cables / two SATA connectors on systemboard
Diskette drive *Some: 3.5" 1.44MB diskette drive*

Chipset **Intel 865G chipset** / 82865G Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMC[®] LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temperature sensor

Ports *Front: two USB (Version 2.0), microphone in (stereo), headphone out (stereo)*
Back: six USB (Version 2.0), two serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)

Audio connectors *Back: line-in (stereo), line-out (stereo) [all 3.5mm]*
Audio Integrated digital audio / SoundMAX[®] Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec
Speaker One internal speaker for business audio

Ethernet *Some: 10/100 ethernet on planar / ICH5 (MAC layer) with Intel 82562 PHY (physical layer) / Intel Pro/100VE Network Connection / 32-bit PCI 2.2*
Some: 10/100/1000 gigabit ethernet on planar / Intel 82541EI PHY (physical layer) and MAC / Intel Pro/1000MT Network Connection / 32-bit PCI 2.2
Security chip *Some: Embedded Security Subsystem 2.0¹⁸ / Atmel® chip*

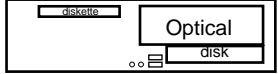
Keyboard 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black
Mouse Optical Wheel Mouse (USB only), optical, 400 dpi, black
Cooling fans Two or three variable speed fans (power supply, fansink, 3.2GHz have third fan)
Power supply 200 watts with variable speed fan / universal / manual switch

Preload with Windows XP Professional⁵ Microsoft® Windows® XP Professional - Disk-to-Disk Recovery (in hidden protected area)
Preloaded (only some listed)

- Model AKU/DGU/DHU/G4U: contains additional module with a specialized education preload image**
- Access IBM and Access Support
- Rapid Restore™ Ultra
- PC-Doctor™ (diagnostics)
- InterVideo WinDVD (combo, DVD models)
- RecordNow and DLA (CD-RW, combo)

Accessories
800MHz: 128MB PC3200 CL3 NP DDR1 22P9271
800MHz: 256MB PC3200 CL3 NP DDR1 73P2685
800MHz: 512MB PC3200 CL3 NP DDR1 73P2686
800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272
80GB IDE Disk ATA-100 (7200 rpm) 09N4248
120GB IDE Disk ATA-100 (7200 rpm) 09N4249
160GB Serial ATA150 Disk (7200 rpm) 09N4254
Multi-Burner Plus⁶ (DVD±RW; internal) 73P3370
ThinkVision L150 15" Monitor (black) 6636AC1
Other options at lenovo.com/options
**Vital Source Technologies™ software used in educational institutions for electronic delivery of a variety of class materials including textbooks, rich media, and an existing library of published works

Small Form Factor



Bay ① 3.5", slim .5", access, std or opt diskette
 Bay ② 5.25", HH 1.6", access, std or opt optical
 Bay ③ 3.5", SL 1", no access, std disk

Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)
 Slot 2: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)

- Business black color; metal case; 9.4 liters
- 12.2" W X 14.1"D X 3.3"H
- 310mm W X 358mm D X 85mm H
- With vertical stand: 5.0" W X 14.6"D X 13.6"H
- With vertical stand: 126mm W X 370mm D X 346mm H
- 18.0 to 20.0 lb (8.1 to 9.1 kg)
- Bays 1 and 2/3 flip up (latched and pivoting)
- Toolless cover flips up and tilts backward on rear hinges
- Toolless disk, diskette drive, optical drive removal
- Two PCI slots on riser card
- Toolless PCI slots and riser card retention
- Toolless systemboard retention
- Steel chassis supports 100 lb (45kg) monitor on top
- System stand for vertical orientation

SYSTEMS MANAGEMENT

- PC 2001-compliant
- Advanced Power Management 1.2
- Advanced Configuration and Power Interface (ACPI) 2.0b
- SMBIOS 2.3.1-compliant
- DMI 2.0-compliant
- Security chip models: Asset ID™¹⁹ (system-specific info in chip)

SECURITY

- U-bolt anchoring feature (U-bolt is optional; supports optional padlock)
- Security slot (for attachment of optional cable lock)
- Power-on password
- Administrator password
- Boot sequence control
- Diskette boot inhibit
- Boot without keyboard or mouse
- Diskette and disk I/O control
- Serial/parallel I/O control
- Security chip models: security chip providing C2 tamper switch, Asset ID¹⁹, keylock on chassis, and other features

LIMITED WARRANTY¹

- 3 year parts and labor
- International Warranty Service⁹
- Limited onsite service, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time³
- Onsite service upgrade options via ServicePac[®] at ibm.com/services/us/its/pdf/wamomxeu.pdf
- 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)

See footnotes for important warranty information
 US models announced February 10, March 30, or August 17, 2004
 US models withdrawn effective January, March, or June 2005

ThinkCentre™ S50 (8183) - September 2004 - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	Memory ⁶	Diskette drive	EIDE disk	EIDE optical	Graphics in GMCH	Security chip	Ethernet Preload	Workhorse Education	Gbl, Avail	
S50	8183-61U	2x3	Celeron® D 330	2.66	256K	533	256MB	Diskette	40GB ²	CD	Extreme™ 2		10/100 XP Pro ⁵	No	Oct 04	
S50	8183-62U	2x3	Celeron D 335	2.80	256K	533	256MB	Diskette	40GB	CD	Extreme 2		Gigabit XP Pro	No	Oct 04	
S50	8183-63U	2x3	Celeron D 335	2.80	256K	533	512MB	Diskette	40GB	CD	Extreme 2		Gigabit XP Pro	Educ	Oct 04	
S50	8183-BRU	2x3	Pentium® 4	2.8A	1MB	533	512MB	Diskette	40GB	DVD	Extreme 2		Gigabit XP Pro	No	Oct 04	
S50	8183-BSU	2x3	Pentium 4	2.8A	1MB	533	512MB	Diskette	40GB	Combo	Extreme 2		Gigabit XP Pro	Educ	Oct 04	
S50	8183-GGU	2x3	Pentium 4	3.2E	1MB	800	256MB		40GB	CD	Extreme 2		10/100 XP Pro	No	Oct 04	
S50	8183-GHU	2x3	Pentium 4	3.2E	1MB	800	HT	512MB	Diskette	40GB	CD	Extreme 2		Gigabit XP Pro	No	Oct 04
S50	8183-GKU	2x3	Pentium 4	3.2E	1MB	800	HT	512MB	Diskette	40GB	Combo	Extreme 2		Gigabit XP Pro	No	Oct 04
S50	8183-GLU	2x3	Pentium 4	3.2E	1MB	800	HT	512MB	Diskette	40GB	Combo	Extreme 2		Gigabit XP Pro	Educ	Oct 04
S50	8183-H2U	2x3	Pentium 4	3.4E	1MB	800	HT	512MB	Diskette	40GB	CD	Extreme 2		Gigabit XP Pro	No	Oct 04
S50	8183-H3U	2x3	Pentium 4	3.4E	1MB	800	HT	512MB	Diskette	40GB	Combo	Extreme 2		Gigabit XP Pro	No	Oct 04
S50	8183-DTU	2x3	Pentium 4	3.0E	1MB	800	HT	512MB	Diskette	40GB	DVD	Extreme 2	Chip	Gigabit XP Pro	No	Oct 04
S50	8183-GMU	2x3	Pentium 4	3.2E	1MB	800	HT	512MB	Diskette	40GB	CD	Extreme 2	Chip	Gigabit XP Pro	No	Oct 04
S50	8183-GNU	2x3	Pentium 4	3.2E	1MB	800	HT	512MB	Diskette	40GB	DVD	Extreme 2	Chip	Gigabit XP Pro	Global	Oct 04
S50	8183-GJU	2x3	Pentium 4	3.2E	1MB	800	HT	512MB	Diskette	40GB	Combo	Extreme 2		Gigabit XP Pro	No	Oct 04
S50	8183-GVU	2x3	Pentium 4	3.2E	1MB	800	HT	512MB	Diskette	80GB	Combo	Extreme 2		Gigabit XP Pro	Educ	Oct 04
S50	8183-H4U	2x3	Pentium 4	3.4E	1MB	800	HT	512MB	Diskette	40GB	CD	Extreme 2	Chip	Gigabit XP Pro	No	Oct 04
S50	8183-H7U	2x3	Pentium 4	3.4E	1MB	800	HT	512MB	Diskette	80GB	Combo	Extreme 2		Gigabit XP Pro	No	Oct 04

Positioning Processor	Smallest ThinkCentre desktop without compromise Intel® Celeron D Processor 330 (2.66GHz) or 335 (2.80GHz) with 533MHz system bus or Intel Pentium 4 at 2.8, 3.0, 3.2, or 3.4GHz with 533 or 800MHz bus	Small Form Factor  Bay ① 3.5", slim .5", access, std or opt diskette Bay ② 5.25", HH 1.6", access, std or opt optical Bay ③ 3.5", SL 1", no access, std disk Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)
Hyper-Threading L2 cache	Some: Hyper-Threading (HT) technology Celeron: 256KB std and max / ECC / full speed Pentium 4: 1MB std and max / ECC / full speed	
Implementation	Processor and L2 cache in FC-PGA2 in mPGA478B socket	Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)
Memory - std/max ⁸	256 or 512MB std / 2GB max	<ul style="list-style-type: none"> • Business black color; metal case; 9.4 liters • 12.2" W X 14.1"D X 3.3"H • 310mm W X 358mm D X 85mm H • With vertical stand: 5.0" W X 14.6"D X 13.6"H • With vertical stand: 126mm W X 370mm D X 346mm H • 18.0 to 20.0 lb (8.1 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two PCI slots on riser card • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • System stand for vertical orientation
Memory - sockets	Two 184-pin gold plated DIMM sockets / one socket used	SYSTEMS MANAGEMENT <ul style="list-style-type: none"> • PC 2001-compliant • Advanced Power Management 1.2 • Advanced Configuration and Power Interface (ACPI) 2.0b • SMBIOS 2.3.1-compliant • DMI 2.0-compliant • Security chip models: Asset ID™.19 (system-specific info in chip)
Memory - type	533MHz system bus: PC2700 333MHz DDR1 (CL2.5); 800MHz system bus: PC3200 400MHz DDR1 (CL3); All: non-parity / ind std / unbuffered / dual channel capable	
Graphics	Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865G GMCH / uses main memory (up to 64MB with 256MB+ / 266MHz / DVMT / one 15-pin analog D-sub connector	SECURITY <ul style="list-style-type: none"> • U-bolt anchoring feature (U-bolt is optional; supports optional padlock) • Security slot (for attachment of optional cable lock) • Power-on password • Administrator password • Boot sequence control • Diskette boot inhibit • Boot without keyboard or mouse • Diskette and disk I/O control • Serial/parallel I/O control • Security chip models: security chip providing C2 tamper switch, Asset ID™.19, keylock on chassis, and other features
EIDE disk	40 or 80GB , ATA-100, 7200 rpm, rubber vibration dampening mounts	
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5)	LIMITED WARRANTY¹ <ul style="list-style-type: none"> ↔ 3 year parts and labor ↔ International Warranty Service⁹ ↔ Limited onsite service, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time³ ↔ Onsite service upgrade options via ServicePac® at ibm.com/services/us/its/pdf/wamomxeu.pdf ↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)
EIDE cables	One EIDE 80-conductor cable (one 2-drop cable to optical and disk) / one EIDE connector on systemboard	
CD	Some: 48X-20X ⁴ CD-ROM / EIDE	ACCESSORIES <ul style="list-style-type: none"> 533MHz: 256MB PC2700 CL2.5 NP DDR1 31P8855 533MHz: 512MB PC2700 CL2.5 NP DDR1 31P8856 533: 1GB PC2700 CL2.5 NP DDR1 UDIMM 31P8857 800MHz: 256MB PC3200 CL3 NP DDR1 73P2685 800MHz: 512MB PC3200 CL3 NP DDR1 73P2686 800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272 ThinkVision L170 17" Monitor (black) 6734AB0 Other options at lenovo.com/options **Vital Source Technologies™ software used in educational institutions for electronic delivery of a variety of class materials including textbooks, rich media, and an existing library of published works
DVD	Some: 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE	
Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE	Preload with Windows XP Professional⁵ <ul style="list-style-type: none"> • Microsoft® Windows® XP Professional - Disk-to-Disk Recovery (in hidden protected area) • Preloaded (only some listed) • Model 63U/BSU/GLU/GVU: contains additional module with a specialized education preload image** • Access IBM • Rapid Restore™ Ultra • PC-Doctor™ (diagnostics) • InterVideo WinDVD (combo, DVD models) • RecordNow and DLA (combo models)
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5	
SATA cables	No SATA cables / two SATA connectors on systemboard	Keyboard 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black Mouse Optical Wheel Mouse (USB only), optical, 400 dpi, black Cooling fans Two or three variable speed fans (power supply, fansink, 3.2GHz have third fan)
Diskette drive	Some: 3.5" 1.44MB diskette drive	
Chipset	Intel 865G chipset / 82865G Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temperature sensor	
Ports	Front: two USB (Version 2.0), microphone in (stereo), headphone out (stereo) Back: six USB (Version 2.0), two serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Audio connectors	Back: line-in (stereo), line-out (stereo) [all 3.5mm]	
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec	
Speaker	One internal speaker for business audio	
Ethernet	Some: 10/100 ethernet on planar / ICH5 (MAC layer) with Intel 82562 PHY (physical layer) / Intel Pro/100VE Network Connection / 32-bit PCI 2.2 Some: 10/100/1000 gigabit ethernet on planar / Intel 82541EI PHY (physical layer) and MAC / Intel Pro/1000MT Network Connection / 32-bit PCI 2.2	
Security chip	Some: Embedded Security Subsystem 2.0¹⁸ / hardware key storage / multi-factor authentication / local file encryption / Atmel® chip / TCG-compliant	

See footnotes for important warranty information
US models announced September 21, 2004
US models withdrawn effective June 2005

ThinkCentre™ S50 (8417) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 GHz cache	Bus MHz	Memory ⁸	Memory type	Diskette drive	EIDE disk	EIDE optical	Graphics in GMCH	Security chip Ethernet	Limited Preload warranty	Workhorse Gbl, Entry	Avail date			
S50	8417-31U	2x3	Pentium® 4	2.8C	512KB	800	256MB	PC2700	Dsktte	40GB ²	Extreme™ 2	No	10/100	XP Pro ⁵	3yr CRU	No	Nov 03	
S50	8417-32U	2x3	Pentium 4	2.8C	512KB	800	512MB	PC2700		40GB	CD	Extreme 2	No	Gigabit	XP Pro	3yr CRU	No	Nov 03
S50	8417-41U	2x3	Pentium 4	3.0	512KB	800	256MB	PC2700	Dsktte	40GB	Extreme 2	No	10/100	XP Pro	3yr CRU	No	Nov 03	
S50	8417-42U	2x3	Pentium 4	3.0	512KB	800	512MB	PC2700	Dsktte	40GB	CD	Extreme 2	No	Gigabit	XP Pro	3yr CRU	No	Nov 03
S50	8417-33U	2x3	Pentium 4	2.8E	1MB	800	512MB	PC2700	Dsktte	40GB	CD	Extreme 2	No	Gigabit	XP Pro	3yr CRU	No	Feb 04
S50	8417-43U	2x3	Pentium 4	3.0E	1MB	800	256MB	PC2700		40GB	Extreme 2	No	10/100	XP Pro	3yr CRU	No	Feb 04	
S50	8417-44U	2x3	Pentium 4	3.0E	1MB	800	512MB	PC2700	Dsktte	40GB	CD	Extreme 2	No	Gigabit	XP Pro	3yr CRU	No	Feb 04
S50	8417-51U	2x3	Pentium 4	3.2E	1MB	800	512MB	PC3200	Dsktte	40GB	CD	Extreme 2	No	Gigabit	XP Pro	3yr CRU	No	Oct 04
S50	8417-61U	2x3	Pentium 4	3.4E	1MB	800	512MB	PC3200	Dsktte	40GB	CD	Extreme 2	No	Gigabit	XP Pro	3yr CRU	No	Oct 04

Positioning Processor	<i>Smallest ThinkCentre desktop without compromise</i> Intel® Pentium 4 at 2.8, 3.0, 3.2, or 3.4GHz with 800MHz system bus	Small Form Factor 
Hyper-Threading L2 cache Implementation	Hyper-Threading (HT) technology 512KB or 1MB std and max / ECC / full speed Processor and L2 cache in FC-PGA2 in mPGA478B socket	
Memory - std/max ⁸	256 or 512MB std / 2GB max	Bay ① 3.5", slim .5", access, std or opt diskette Bay ② 5.25", HH 1.6", access, std or opt optical Bay ③ 3.5", SL 1", no access, std disk Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) • Business black color; metal case; 9.4 liters • 12.2" W X 14.1"D X 3.3"H • 310mm W X 358mm D X 85mm H • With vertical stand: 5.0" W X 14.6"D X 13.6"H • With vertical stand: 126mm W X 370mm D X 346mm H • 18.0 to 20.0 lb (8.1 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two PCI slots on riser card • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • System stand for vertical orientation
Memory - sockets	Two 184-pin gold plated DIMM sockets / one socket used	
Memory - type	PC2700 333MHz DDR1 or PC3200 400MHz DDR1 (DDR-SDRAM) / non-parity / industry std / unbuffered / CAS latency 2.5 (CL2.5) / dual channel capable	
Graphics	Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865G GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector	
EIDE disk	40GB , ATA-100, 7200 rpm, rubber vibration dampening mounts	SYSTEMS MANAGEMENT • PC 2001-compliant • Advanced Power Management 1.2 • Advanced Configuration and Power Interface (ACPI) 2.0b • SMBIOS 2.3.1-compliant • DMI 2.0-compliant SECURITY • U-bolt anchoring feature (U-bolt is optional; supports optional padlock) • Security slot (for attachment of optional cable lock) • Power-on password • Administrator password • Boot sequence control • Diskette boot inhibit • Boot without keyboard or mouse • Diskette and keyboard I/O control • Serial/parallel I/O control
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5)	
EIDE cables	One EIDE 80-conductor cable (one 2-drop cable to optical and disk) / one EIDE connector on systemboard <i>Some:</i> 48X-20X ⁴ CD-ROM / EIDE	
CD	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5	
SATA controller	No SATA cables / two SATA connectors on systemboard	
SATA cables	No SATA cables / two SATA connectors on systemboard	
Diskette drive	<i>Some:</i> 3.5" 1.44MB diskette drive	
Chipset	Intel 865G chipset / 82865G Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temperature sensor	
Ports	<i>Front:</i> two USB (Version 2.0), microphone in (stereo), headphone out (stereo) <i>Back:</i> six USB (Version 2.0), two serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Audio connectors	<i>Back:</i> line-in (stereo), line-out (stereo) [all 3.5mm]	
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec	
Speaker	One internal speaker for business audio	
Ethernet	<i>Some:</i> 10/100 ethernet on planar / ICH5 (MAC layer) with Intel 82562 PHY (physical layer) / Intel Pro/100VE Network Connection / 32-bit PCI 2.2 <i>Some:</i> 10/100/1000 gigabit ethernet on planar / Intel 82541EI PHY (physical layer) and MAC / Intel Pro/1000MT Network Connection / 32-bit PCI 2.2	
Security chip	None	
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black	
Mouse	Optical Wheel Mouse (USB only), optical, 400 dpi, black	
Cooling fans	Two or three variable speed fans (power supply, fansink, 3.2GHz have third fan)	
Power supply	200 watts with variable speed fan / universal / manual switch	

Preload with Windows XP Professional⁵	Accessories
Microsoft® Windows® XP Professional	128MB PC3200 CL3 NP DDR1 UDIMM 22P9271
- Disk-to-Disk Recovery (in hidden protected area)	256MB PC3200 CL3 NP DDR1 UDIMM 73P2685
	512MB PC3200 CL3 NP DDR1 UDIMM 73P2686
Preloaded	1GB PC3200 CL3 NP DDR1 UDIMM 22P9272
• Access IBM	80GB IDE Disk ATA-100 (7200 rpm) 09N4248
• Rapid Restore™ Ultra	120GB IDE Disk ATA-100 (7200 rpm) 09N4249
• Update Connector™.15	160GB Serial ATA150 Disk (7200 rpm) 09N4254
• Adobe Acrobat Reader	48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo drive (black) 73P3300
• PC-Doctor™ (diagnostics)	Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370
• Norton AntiVirus (OEM Version)	USB 2.0 Portable 40GB Hard Disk 22P7196
Downloadable	USB 2.0 Memory Key 512MB 22P9230
• Software Delivery Assistant	ThinkVision L150 15" Monitor (black) 6636AC1
• System Migration Assistant	ThinkVision L170 17" Monitor (black) 6734AB0
• IBM Director Agent	ThinkVision L170p 17" Monitor (black) 6734HB0
License - CD not included	ThinkVision L191p 19" Monitor (black) 9419HB7
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	ThinkVision L200p 20.1" Monitor (black) 6736HB0
	ThinkVision C170 17" (16.0" vis) (black) 673766N
	ThinkVision C190 19" (18.0" vis) (black) 673960N
	ThinkVision C220p 22" (20.0" vis) (black) 673560N
	500 Uninterrupt Powr Supp (flat pack) 33L3477
	Belkin® 800VA UPS with AVR technology 31P7662
	Other options at lenovo.com/options

ThinkCentre desktops implement ThinkVantage™ technologies and design; visit ibm.com/thinkvantage
LIMITED WARRANTY¹
↔ 3 year Customer Replaceable Unit (CRU) parts only
↔ This machine is designed to be repaired entirely with customer-replaceable parts. Lenovo will only provide replacement parts and telephone support to assist installation. Additional service or support will result in additional charges.
↔ Call 1-800-IBM-SERV (426-7378) to assist with problem isolation to determine if warranty service is required
↔ International Warranty Service⁹
↔ Post warranty maintenance services available
↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹

See footnotes for important warranty information
US models announced November 18, 2003, February 10, 2004, or September 21, 2004
US models withdrawn effective January or June 2005

ThinkCentre® S51 (8171) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 GHz cache	Bus MHz	Hyper-Thread	Memory ⁸	SATA disk	EIDE optical	Graphics	Security chip	Cover switch	Preload	Workhorse Global, Educ	Avail date
S51	8171-11U	2x3	Pentium® 4 520	2.8 1MB	800	HT	512MB	40GB ²	CD	GMA 900 GMCH	Sec	No	XP Pro ⁵	No	Aug 2004
S51	8171-21U	2x3	Pentium 4 530	3.0 1MB	800	HT	512MB	40GB	CD	GMA 900 GMCH	Sec	No	XP Pro	No	Aug 2004
S51	8171-31U	2x3	Pentium 4 540	3.2 1MB	800	HT	512MB	40GB	CD	GMA 900 GMCH	Sec	No	XP Pro	W G	Aug 2004
S51	8171-35U	2x3	Pentium 4 540	3.2 1MB	800	HT	512MB	40GB	CD	GMA 900 GMCH	Sec	Yes	XP Pro	No	Aug 2004
S51	8171-36U	2x3	Pentium 4 540	3.2 1MB	800	HT	256MB	40GB		GMA 900 GMCH	Sec	No	XP Pro	No	Aug 2004
Positioning Processor	<i>Smallest ThinkCentre desktop without compromise</i> Intel® Pentium 4 Processor 520 (2.8GHz), 530 (3.0GHz), or 540 (3.2GHz) with 800MHz system bus										Small Form Factor				
Hyper-Threading L2 cache	Hyper-Threading (HT) technology 1MB std and max / ECC / full speed														
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket										Bay ① 3.5", slim .5", access, std or opt diskette Bay ② 5.25", HH 1.6", access, std or opt optical Bay ③ 3.5", SL 1", no access, std disk				
Memory std/max ⁸	256MB or 512MB std / 2GB max										Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (slot x16 length so supports optional ADD2 card)				
Memory	Two 184-pin gold plated DIMM sockets / one socket used / PC3200 400MHz DDR1 / CAS latency 3 (CL3) / non-parity / industry standard / unbuffered / dual channel capable										<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1"D X 3.3"H (3.4"H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • With vertical stand: 5.0" W X 15.4"D X 13.6"H • With vertical stand: 127mm W X 390mm D X 346mm H • 18.0 to 20.0 lb (8.1 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • System stand for vertical orientation 				
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector														
SATA disk	40GB / SATA150 7200 rpm / vibration dampening mounts														
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA 150 / integrated in ICH6														
SATA cables	One SATA cable (one 1-drop to disk) / two SATA connectors on systemboard														
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM / EIDE														
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)														
EIDE cables	<i>Some:</i> one 1-drop EIDE 80-conductor cable to optical														
Diskette drive	<i>All:</i> one EIDE connector on systemboard														
Chipset	Intel 915G Express Chipset / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor [®] PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log										SYSTEMS MANAGEMENT				
Ports	<i>Front:</i> two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] <i>Back:</i> six USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)										<ul style="list-style-type: none"> • PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0b • SMBIOS 2.3.4-compliant • DMI 2.0-compliant • Asset ID¹⁹ (system specific info in chip accessed over network) 				
Audio	Integrated digital audio / SoundMAX [®] Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1981B codec														
Audio connectors	<i>Back:</i> line-in (stereo), line-out (stereo) [both 3.5mm]														
Speaker	One internal speaker for business audio										SECURITY				
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom [®] NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3 / full duplex / Wake on LAN [®] / ACPI 1.1 / PXE 2.0 and RPL remote boot										<ul style="list-style-type: none"> • Security chip (see information on left) • U-bolt anchoring feature (U-bolt is optional; supports optional padlock) • Security slot (in rear for attachment of optional Kensington Microsaver cable) • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement • <i>Some:</i> cover intrusion switch and keylock on chassis 				
Security chip	Embedded Security Subsystem 2.0¹⁸ / hardware key storage / multi-factor authentication / local file encryption / in NS PC8375T chip / TCG-compliant														
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black														
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black														
Cooling fans	Three variable speed fans (two in front; power supply fan in back)														
Power supply	225 watts with variable speed fan / universal / manual switch / two diagnostic LEDs														
Preload with Windows XP Professional⁵		Accessories													
Microsoft® Windows® XP Professional		128MB PC3200 CL3 NP DDR1 UDIMM 22P9271													
- Disk-to-Disk Recovery (in hidden protected area)		256MB PC3200 CL3 NP DDR1 UDIMM 73P2685													
Preloaded		512MB PC3200 CL3 NP DDR1 UDIMM 73P2686													
• Access Program		1GB PC3200 CL3 NP DDR1 UDIMM 22P9272													
• Rescue and Recovery™		40GB Serial ATA150 Disk (7200 rpm) 22P7185													
• Update Connector™.15		80GB Serial ATA150 Disk (7200 rpm) 09N4253													
• Adobe Reader		160GB Serial ATA150 Disk (7200 rpm) 09N4254													
• Norton AntiVirus (OEM version)		48X/32X/48X Max ⁴ CD-RW internal (black) 22P7042													
• PC-Doctor™ (diagnostics)		48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo drive (black) 73P3300													
Downloadable		Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370													
• Client Security Software		USB 2.0 Portable Multi-Burner Drive 22P9163													
• Software Delivery Assistant		USB 2.0 Portable 80GB Hard Disk 40Y8726													
• System Migration Assistant		USB 2.0 Memory Key 1GB 40Y7421													
• IBM Director Agent		ThinkVision® L151 15" Monitor (black) 9205AB2													
License - CD not included		ThinkVision L151p 15" Monitor (black) 9205HB2													
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client		ThinkVision L171 17" Monitor (black) 9417AB1													
		ThinkVision L171p 17" Monitor (black) 9417HB7													
		ThinkVision L191p 19" Monitor (black) 9419HB7													
		ThinkVision L200p 20.1" Monitor (black) 6736HC9													
		ThinkVision C170 17" (16.0" vis) (black) 6737P6N													
		ThinkVision C190 19" (18.0" vis) (black) 6739P0N													
		Belkin® 800VA UPS with AVR technology 31P7662													
		Kensington® MicroSaver® Desktop Lock 06P3839													
		Enh Perf Wireless Keyboard and Mouse 73P4067													
		Enhanced Performance USB Keyboard 73P2620													
		Other options at lenovo.com/options													
LIMITED WARRANTY¹															
⇒ 3 year parts and labor															
⇒ International Warranty Service⁹															
⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)															
⇒ Onsite service upgrade options (in eligible locations):⁷															
• 3 year LOR 9x5, Next Business Day (ThinkPlus™ part number 41C9197)															
• 3 year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193)															
⇒ Other ThinkPlus services at lenovo.com/thinkplus/warranty															
⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)															

See footnotes for important warranty information
US models announced August 3, 2004
US models withdrawn effective August or December 2005

ThinkCentre® S51 (8171) - November 2004 - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 GHz cache	Bus MHz	Hyper-Thread	Memory ⁸	SATA disk	EIDE optical	Graphics	Security chip	Cover switch	Preload	Workhorse Global, Educ	Avail date
S51	8171-A3U	2x3	Celeron® D 330	2.66	256K	533	512MB	40GB ²	CD	GMA 900	Sec	No	XP Pro ⁵	No	Nov 2004
S51	8171-A4U	2x3	Celeron D 330	2.66	256K	533	512MB	40GB	CD	GMA 900	Sec	No	XP Pro	Educ	Nov 2004
S51	8171-A5U	2x3	Celeron D 335	2.80	256K	533	256MB	40GB	CD	GMA 900	Sec	No	XP Pro	No	Nov 2004
S51	8171-A6U	2x3	Celeron D 335	2.80	256K	533	512MB	40GB	CD	GMA 900	Sec	No	XP Pro	Educ	Nov 2004
S51	8171-15U	2x3	Pentium® 4 515	2.93	1MB	533	512MB	40GB	CD	GMA 900	Sec	No	XP Pro	No	Jan 2005
S51	8171-2CU	2x3	Pentium 4 530	3.0	1MB	800	512MB	40GB	DVD	GMA 900	Sec	No	XP Pro	No	Nov 2004
S51	8171-2DU	2x3	Pentium 4 530	3.0	1MB	800	512MB	80GB	Combo	GMA 900	Sec	No	XP Pro	No	Nov 2004
S51	8171-3FU	2x3	Pentium 4 540	3.2	1MB	800	512MB	80GB	DVD	GMA 900	Sec	Yes	XP Pro	W G	Nov 2004
S51	8171-3GU	2x3	Pentium 4 540	3.2	1MB	800	512MB	80GB	Combo	GMA 900	Sec	No	XP Pro	No	Nov 2004
S51	8171-3HU	2x3	Pentium 4 540	3.2	1MB	800	512MB	80GB	Combo	GMA 900	Sec	No	XP Pro	Educ	Nov 2004

Positioning Processor	<i>Smallest ThinkCentre desktop without compromise</i> Intel® Celeron D Processor 330 (2.66GHz) or 335 (2.80GHz) with 533MHz bus or Pentium 4 Processor 515 (2.93GHz), 530 (3.0GHz), or 540 (3.2GHz) with 533 or 800MHz system bus		Small Form Factor	
Hyper-Threading L2 cache	Some: Hyper-Threading (HT) technology 256KB or 1MB std and max / ECC / full speed			
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket		Bay ① 3.5", slim .5", access, std or opt diskette Bay ② 5.25", HH 1.6", access, std or opt optical Bay ③ 3.5", SL 1", no access, std disk	
Memory std/max ⁹	256 or 512MB std / 2GB max		Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)	
Memory	Two 184-pin gold plated DIMM sockets / one socket used / PC3200 400MHz DDR1 / CAS latency 3 (CL3) / non-parity / industry standard / unbuffered / dual channel capable		Slot 2: half-length (175mm), full-height, PCI Express x1 (slot x16 length so supports optional ADD2 card)	
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector		<ul style="list-style-type: none"> Business black color; metal case 12.2" W X 14.1"D X 3.3"H (3.4"H with feet) 310mm W X 358mm D X 85mm H (87.5mm H with feet) With vertical stand: 5.0" W X 15.4"D X 13.6"H With vertical stand: 127mm W X 390mm D X 346mm H 18.0 to 20.0 lb (8.1 to 9.1 kg) Bays 1 and 2/3 flip up (latched and pivoting) Toolless cover flips up and tilts backward on rear hinges Toolless disk, diskette drive, optical drive removal Two slots on riser card (PCI and PCI Express x1) Toolless PCI slots and riser card retention Toolless systemboard retention Steel chassis supports 100 lb (45kg) monitor on top System stand for vertical orientation 	
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts		SYSTEMS MANAGEMENT <ul style="list-style-type: none"> PC 2001-compliant Advanced Configuration and Power Interface (ACPI) 2.0b SMBIOS 2.3.4-compliant DMI 2.0-compliant Asset ID¹⁹ (system specific info in chip accessed over network) SECURITY <ul style="list-style-type: none"> Security chip (see information on left) U-bolt anchoring feature (U-bolt is optional; supports optional padlock) Security slot (in rear for attachment of optional Kensington Microsaver cable) Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement Some: cover intrusion switch and keylock on chassis LIMITED WARRANTY¹ <ul style="list-style-type: none"> 3 year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ThinkPlus[™] services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 	
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6			
SATA cables	One SATA cable (one 1-drop to disk) / two SATA connectors			
EIDE CD or DVD	Some: 48X-20X ⁴ CD-ROM; Some: 16X-48X Max ⁴ DVD-ROM			
EIDE Combo	Some: 48X/24X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE			
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)			
EIDE cables	Some: one 1-drop EIDE 80-conductor cable to optical			
Diskette drive	All: one EIDE connector on systemboard 3.5" 1.44MB diskette drive			
Chipset	Intel 915G Express Chipset / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor [®] PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log			
Ports	Front: two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] Back: six USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)			
Audio	Integrated digital audio / SoundMAX [®] Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1981B codec			
Audio connectors	Back: line-in (stereo), line-out (stereo) [both 3.5mm]			
Speaker	One internal speaker for business audio			
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom [®] NetXtreme [™] / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3 / Wake on LAN [®] / PXE 2.0			
Security chip	Embedded Security Subsystem 2.0¹⁸ / hardware key storage / TCG-compliant			
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black			
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black			
Cooling fans	Three variable speed fans (two in front; power supply fan in back)			
Power supply	225 watts with variable speed fan / universal / manual switch / two diagnostic LEDs			
Preload with Windows XP Professional⁵	Accessories			
Microsoft® Windows® XP Professional with Service Pack 2	128MB PC3200 CL3 NP DDR1 UDIMM	22P9271		
- Disk-to-Disk Recovery (in hidden protected area)	256MB PC3200 CL3 NP DDR1 UDIMM	73P2685		
Preloaded	512MB PC3200 CL3 NP DDR1 UDIMM	73P2686		
• Some: contains additional module with a specialized education preload image in the base preload package**	1GB PC3200 CL3 NP DDR1 UDIMM	22P9272		
• Access Program	160GB Serial ATA150 Disk (7200 rpm)	09N4254		
• Rescue and Recovery [™]	Multi-Burner Plus ⁶ (DVD±RW; internal)	73P3370		
• Update Connector ^{™,15}	USB 2.0 Portable Multi-Burner Drive	22P9163		
• Adobe Reader	USB 2.0 Memory Key 1GB	40Y7421		
• Norton AntiVirus (OEM version)	ThinkVision® L151 15" Monitor (black)	9205AB2		
• PC-Doctor [™] (diagnostics)	ThinkVision L151p 15" Monitor (black)	9205HB2		
• InterVideo WinDVD (DVD, combo model)	ThinkVision L171 17" Monitor (black)	9417AB1		
• RecordNow and DLA (combo model)	ThinkVision L171p 17" Monitor (black)	9417HB7		
• InterVideo WinDVD Creator (DVD)	ThinkVision L200p 20.1" Monitor (black)	6736HC9		
	ThinkVision C170 17" (16.0" vis) (black)	6737P6N		
	Enh Perf Wireless Keyboard and Mouse	73P4067		
	Other options at lenovo.com/options			
	**Vital Source Technologies [™] software used in educational institutions for electronic delivery of a variety of class materials including textbooks, rich media, and an existing library of published works			

See footnotes for important warranty information
US models announced November 16, 2004
US models withdrawn effective June, August, or December 2005

ThinkCentre® S51 (8171) - February 2005 - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Slot x Type-model bay	Processor	L2 GHz cache	Bus Hyper- MHz Thread	Memory ⁶ EM64T in MB	Diskette drive	SATA disk	EIDE optical	Security Graphics	Cover chip	Workhorse Preload Global, Educ	Avail date
S51	8171-A8U 2x3	Celeron® D 345J	3.06 256K	533	256	Dskte	40GB ²	CD	GMA 900	Sec No	XP Pro ⁵	No Feb 05
S51	8171-2EU 2x3	Pentium® 4 530	3.00 1MB	800 HT	512		80GB	Combo	GMA 900	Sec No	XP Pro	No Feb 05
S51	8171-2FU 2x3	Pentium 4 530	3.00 1MB	800 HT	512		40GB	CD	GMA 900	Sec No	XP Pro	No Feb 05
S51	8171-3KU 2x3	Pentium 4 540	3.20 1MB	800 HT	512		40GB	CD	GMA 900	Sec No	XP Pro	No Feb 05
S51	8171-3LU 2x3	Pentium 4 540	3.20 1MB	800 HT	512		80GB	Combo	GMA 900	Sec No	XP Pro	No Feb 05
S51	8171-4JU 2x3	Pentium 4 550	3.40 1MB	800 HT	512	Dskte	40GB	CD	GMA 900	Sec No	XP Pro	No Feb 05
S51	8171-4KU 2x3	Pentium 4 550	3.40 1MB	800 HT	512	Dskte	40GB	DVD	GMA 900	Sec No	XP Pro	No Feb 05
S51	8171-4LU 2x3	Pentium 4 550	3.40 1MB	800 HT	512		80GB	Combo	GMA 900	Sec No	XP Pro	No Feb 05
S51	8171-4MU 2x3	Pentium 4 550	3.40 1MB	800 HT	512	Dskte	80GB	Combo	GMA 900	Sec No	XP Pro	No Feb 05
S51	8171-4NU 2x3	Pentium 4 550	3.40 1MB	800 HT	512	Dskte	80GB	DVD±RW ⁶	GMA 900	Sec No	XP Pro	Educ Feb 05
S51	8171-BDU 2x3	Pentium 4 630	3.00 2MB	800 HT	EM64T 512	Dskte	80GB	CD	GMA 900	Sec Yes	XP Pro	No Feb 05
S51	8171-DBU 2x3	Pentium 4 640	3.20 2MB	800 HT	EM64T 512	Dskte	80GB	CD	GMA 900	Sec Yes	XP Pro	No Feb 05

Positioning Processor	<i>Smallest ThinkCentre desktop without compromise</i> Intel® Celeron D Processor 345J (3.06GHz) with Execute Disable Bit and 533MHz system bus or Intel Pentium 4 Processor 530 (3.00GHz), 540 (3.20GHz), 550 (3.40GHz), 630 (3.00GHz), or 640 (3.20GHz) with Hyper-Threading and 800MHz bus	Small Form Factor  Bay ① 3.5", slim .5", access, std or opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports optional DVI-I PCIe adptr only) <ul style="list-style-type: none">• Business black color; metal case• 12.2" W X 14.1"D X 3.3"H (3.4"H with feet)• 310mm W X 358mm D X 85mm H (87.5mm H with feet)• With vertical stand: 5.0" W X 15.4"D X 13.6"H• With vertical stand: 127mm W X 390mm D X 346mm H• 18.0 to 20.0 lb (8.1 to 9.1 kg)• Bays 1 and 2/3 flip up (latched and pivoting)• Toolless cover flips up and tilts backward on rear hinges• Toolless disk, diskette drive, optical drive removal• Two slots on riser card (PCI and PCI Express x1)• Toolless PCI slots and riser card retention• Toolless systemboard retention• Steel chassis supports 100 lb (45kg) monitor on top• System stand for vertical orientation
Proc features L2 cache Implementation	Pentium 4 6xx: Extended Memory 64 Tech and Execute Disable Bit 256KB, 1MB, or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket	
Memory std/max ⁸ Memory	256 or 512MB std / 2GB max Two 184-pin gold plated DIMM sockets / one socket used / PC3200 400MHz DDR1 / CAS latency 3 (CL3) / non-parity / industry standard / unbuffered / dual-channel capable	
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector	
SATA disk SATA controller SATA cables EIDE CD or DVD EIDE Combo EIDE DVD±RW EIDE controller EIDE cables	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts Serial ATA / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / two SATA connectors <i>Some:</i> 48X-20X ⁴ CD-ROM; <i>Some:</i> 16X-48X Max ⁴ DVD-ROM <i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo <i>Some:</i> DVD and CD burner / Multi-Burner Plus Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) <i>Some:</i> one 1-drop EIDE 80-conductor cable to optical <i>All:</i> one EIDE connector on systemboard	
Diskette drive	<i>Some:</i> 3.5" 1.44MB diskette drive	
Chipset	Intel 915G Express Chipset / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log	
Ports	<i>Front:</i> two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] <i>Back:</i> six USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1981B codec	
Audio connectors	<i>Back:</i> line-in (stereo), line-out (stereo) [both 3.5mm]	
Speaker	One internal speaker for business audio	
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3 / Wake on LAN® / PXE 2.0	
Security chip	Embedded Security Subsystem 2.0¹⁸ / in NS PC8375T chip / TCG-compliant	
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black	
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black	
Cooling fans	Three variable speed fans (two in front; power supply fan in back)	
Power supply	225 watts with variable speed fan / universal / manual switch / two diagnostic LEDs	
Preload with Windows XP Professional⁵	Accessories	
Microsoft® Windows® XP Professional with Service Pack 2	800MHz: 128MB PC3200 CL3 NP DDR1 22P9271	
- Disk-to-Disk Recovery (in hidden protected area)	800MHz: 256MB PC3200 CL3 NP DDR1 73P2685	
Preloaded	800MHz: 512MB PC3200 CL3 NP DDR1 73P2686	
• <i>Some:</i> contains additional module with a specialized education preload image in the base preload package**	800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272	
• Access Program	160GB Serial ATA300 Disk (7200 rpm) 09N4254	
• Rescue and Recovery™	Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370	
• Update Connector™.15	USB Fingerprint Reader 73P4774	
• Adobe Reader	USB 2.0 Memory Key 1GB 40Y7421	
• Norton AntiVirus (OEM version)	ThinkVision® C170 17" (16.0" vis) (black) 6737P6N	
• PC-Doctor™ (diagnostics)	ThinkVision L151 15" Monitor (black) 9205AB2	
• InterVideo WinDVD (DVD, combo model)	ThinkVision L171p 17" Monitor (black) 9417HB2	
• RecordNow and DLA (combo model)	ThinkVision L201p 20.1" Monitor (black) 9320HB1	
	DVI-I PCIe Connection Adapter (ADD2) 73P2516	
	Other options at lenovo.com/options	
	**Vital Source Technologies™ software used in educational institutions for electronic delivery of a variety of class materials including textbooks, rich media, and an existing library of published works	
	SYSTEMS MANAGEMENT <ul style="list-style-type: none">• PC 2001-compliant• Advanced Configuration and Power Interface (ACPI) 2.0b• SMBIOS 2.3.4-compliant• DMI 2.0-compliant• Asset ID¹⁹ (system specific info in chip accessed over network)	
	SECURITY <ul style="list-style-type: none">• Security chip (see information on left)• U-bolt anchoring feature (U-bolt is optional; supports optional padlock)• Security slot (in rear for attachment of optional Kensington Microsaver cable)• Power-on password• Administrator password• Hard disk password (user and master)• Boot sequence control• Boot without keyboard, mouse, diskette• USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable• Disk, removable, and network device boot password• Diskette write protect• Front USB port disablement• <i>Some:</i> cover intrusion switch and keylock on chassis	
	LIMITED WARRANTY¹ <ul style="list-style-type: none">⇒ 3-year parts and labor⇒ International Warranty Service⁹⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)⇒ ThinkPlus™ services at lenovo.com/thinkplus/warranty⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹	

See footnotes for important warranty information
US models announced February 22, 2005
US models withdrawn effective August 2005, December 2005, or May 2006

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	Memory ⁶	Diskette drive	SATA disk	EIDE optical	Security Chipset	Cover chip	Key-board	Workhorse Preload	Avail Global, Educ date	
S51	8171-2KU	2x3	Pentium® 4 530	3.00 1MB	800	HT	512MB	80GB ² CD	80GB	CD	915GV	Sec	Yes	Finger XP Pro ⁵	No	May 05
S51	8171-2PU	2x3	Pentium 4 530	3.00 1MB	800	HT	512MB	Dsktte	80GB	Combo	915G	Sec	No	Pref XP Pro	Educ	May 05
S51	8171-3RU	2x3	Pentium 4 540	3.20 1MB	800	HT	512MB		80GB	CD	915GV	Sec	Yes	Pref XP Pro	No	May 05

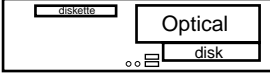
Positioning Processor	<i>Smallest ThinkCentre desktop without compromise</i> Intel® Pentium 4 Processor 530 (3.00GHz) or 540 (3.20GHz) with 800MHz system bus		Small Form Factor			
Proc features	Hyper-Threading (HT) technology					
L2 cache	1MB std and max / ECC / full speed					
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket		Bay ① 3.5", slim .5", access, std or opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (slot x16 length so supports optional ADD2 card)			
Memory std/max ⁸	512MB std / 2GB max		<ul style="list-style-type: none"> Business black color; metal case 12.2" W X 14.1" D X 3.3" H (3.4" H with feet) 310mm W X 358mm D X 85mm H (87.5mm H with feet) With vertical stand: 5.0" W X 15.4" D X 13.6" H With vertical stand: 127mm W X 390mm D X 346mm H 18.0 to 20.0 lb (8.1 to 9.1 kg) Bays 1 and 2/3 flip up (latched and pivoting) Toolless cover flips up and tilts backward on rear hinges Toolless disk, diskette drive, optical drive removal Two slots on riser card (PCI and PCI Express x1) Toolless PCI slots and riser card retention Toolless systemboard retention Steel chassis supports 100 lb (45kg) monitor on top System stand for vertical orientation 			
Memory	Two 184-pin gold plated DIMM sockets / one socket used (two sockets used on model 2PU) / PC3200 400MHz DDR1 / CAS latency 3 (CL3) / non-parity / industry standard / unbuffered / dual channel capable					
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G or GV GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector					
SATA disk	80GB / SATA150 7200 rpm / vibration dampening mounts					
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6					
SATA cables	One SATA cable (one 1-drop to disk) / two SATA connectors					
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM					
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo					
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)					
EIDE cables	<i>Some:</i> one 1-drop EIDE 80-conductor cable to optical					
Diskette drive	<i>All:</i> one EIDE connector on systemboard <i>Some:</i> 3.5" 1.44MB diskette drive					
Chipset	Intel 915G or 915GV Express Chipset / 82915G or GV Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log		SYSTEMS MANAGEMENT			
Ports	<i>Front:</i> two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] <i>Back:</i> six USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		<ul style="list-style-type: none"> PC 2001-compliant Advanced Configuration and Power Interface (ACPI) 2.0b SMBIOS 2.3.4-compliant DMI 2.0-compliant Asset ID¹⁹ (system specific info in chip) 			
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1981B codec		SECURITY			
Audio connectors	<i>Back:</i> line-in (stereo), line-out (stereo) [both 3.5mm]		<ul style="list-style-type: none"> Security chip (see information on left) U-bolt anchoring feature (U-bolt is optional; supports optional padlock) Security slot (in rear for attachment of optional Kensington Microsaver cable) Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement <i>Some:</i> cover intrusion switch and keylock on chassis <i>Some:</i> fingerprint reader keyboard 			
Speaker	One internal speaker for business audio		LIMITED WARRANTY¹ <ul style="list-style-type: none"> 3 year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3 year LOR 9x5, Next Business Day (ThinkPlus™ part number 41C9197) 3 year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) Other ThinkPlus services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 			
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3 / Wake on LAN® / PXE 2.0					
Security chip	Embedded Security Subsystem 2.0¹⁸ in NS PC8375T chip / TCG-compliant					
Keyboard	[Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black (one of following) [Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black					
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black					
Cooling fans	Three variable speed fans (two in front; power supply fan in back)					
Power supply	225 watts with variable speed fan / universal / manual switch / two diagnostic LEDs					
Preload with Windows XP Professional⁵					Accessories	
Microsoft® Windows® XP Professional with Service Pack 2					800MHz: 128MB PC3200 CL3 NP DDR1 22P9271	
- Disk-to-Disk Recovery (in hidden protected area)					800MHz: 256MB PC3200 CL3 NP DDR1 73P2685	
Preloaded			800MHz: 512MB PC3200 CL3 NP DDR1 73P2686			
<ul style="list-style-type: none"> <i>Some:</i> contains additional module with a specialized education preload image in the base preload package** Access Program Rescue and Recovery™ Update Connector™¹⁵ Adobe Reader Norton AntiVirus (OEM version) PC-Doctor™ (diagnostics) InterVideo WinDVD (DVD, combo model) RecordNow and DLA (combo model) Client Security Software 			800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272			
Downloadable			80GB Serial ATA150 Disk (7200 rpm) 09N4253			
<ul style="list-style-type: none"> Software Delivery Assistant System Migration Assistant IBM Director Agent 			160GB Serial ATA150 Disk (7200 rpm) 09N4254			
License - CD not included			Multi-Burner Plus® (DVD±RW; internal) 73P3370			
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client			USB Fingerprint Reader 73P4774			
			USB 2.0 Portable Multi-Burner Drive 22P9163			
			USB 2.0 Memory Key 1GB 40Y7421			
			ThinkVision® L151 15" Monitor (black) 9205AB2			
			ThinkVision L171p 17" Monitor (black) 9417HB7			
			ThinkVision L191p 19" Monitor (black) 9419HB7			
			ThinkVision L200p 20.1" Monitor (black) 6736HC9			
			ThinkVision C170 17" (16.0" vis) (black) 6737P6N			
			ThinkVision C190 19" (18.0" vis) (black) 6739P0N			
			Belkin® 800VA UPS with AVR technology 31P7662			
			Kensington® MicroSaver® Desktop Lock 06P3839			
			Enh Perf Wireless Keyboard and Mouse 73P4067			
			Enhanced Performance USB Keyboard 73P2620			
			Preferred Pro USB Keyboard 73P5220			
			Other options at lenovo.com/options			
			**Vital Source Technologies™ software used in educational institutions for electronic delivery of a variety of class materials including textbooks, rich media, and an existing library of published works			

See footnotes for important warranty information
US models announced April 19, 2005
US models withdrawn effective December 2005

ThinkCentre® S51 (8171) - July 2005 - withdrawn

Created by Lenovo Training Solutions
 Personal Systems Reference (PSREF)

Name	Type	Slot x model bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	Memory ⁸ EM64T	Diskette in MB	SATA drive	EIDE disk optical	Graphics +ADD2	Chip-set	Cover switch	Key-board Preload	Workhorse Global, Educ	Avail date
S51	8171-ABU	2x3	Celeron® D 331	2.66	256K	533		EM64T 512	Dskte 40GB	CD			GV	No	Pref	XP Pro ⁵	July 05
S51	8171-ACU	2x3	Celeron D 331	2.66	256K	533		EM64T 512	Dskte 40GB	CD			GV	No	Pref	XP Pro	July 05
S51	8171-ADU	2x3	Celeron D 336	2.80	256K	533		EM64T 256	Dskte 40GB	CD			GV	No	Pref	XP Pro	July 05
S51	8171-AEU	2x3	Celeron D 336	2.80	256K	533		EM64T 512	Dskte 40GB	CD			GV	No	Pref	XP Pro	July 05
S51	8171-AFU	2x3	Celeron D 346	3.06	256K	533		EM64T 256	Dskte 40GB	CD			GV	No	Pref	XP Pro	July 05
S51	8171-1JU	2x3	Pentium® 4 521	2.8	1MB	800	HT	EM64T 512	Dskte 40GB	CD			GV	No	Pref	XP Pro	July 05
S51	8171-1KU	2x3	Pentium 4 516	2.93	1MB	533		EM64T 512	Dskte 40GB	CD			GV	No	Pref	XP Pro	July 05
S51	8171-2SU	2x3	Pentium 4 531	3.0	1MB	800	HT	EM64T 512	Dskte 40GB	DVD		ADD2	G	No	Pref	XP Pro	July 05
S51	8171-2UU	2x3	Pentium 4 531	3.0	1MB	800	HT	EM64T 512	Dskte 80GB	Combo		ADD2	G	No	Pref	XP Pro	July 05
S51	8171-2XU	2x3	Pentium 4 531	3.0	1MB	800	HT	EM64T 512		40GB	CD		GV	No	Pref	XP Pro	July 05
S51	8171-57U	2x3	Pentium 4 531	3.0	1MB	800	HT	EM64T 512	Dskte 40GB	CD			GV	No	Pref	XP Pro	July 05
S51	8171-58U	2x3	Pentium 4 531	3.0	1MB	800	HT	EM64T 512	Dskte 40GB	DVD			GV	No	Pref	XP Pro	July 05
S51	8171-5AU	2x3	Pentium 4 531	3.0	1MB	800	HT	EM64T 512		80GB	CD		GV	Yes	Finger	XP Pro	July 05
S51	8171-5CU	2x3	Pentium 4 531	3.0	1MB	800	HT	EM64T 512		80GB	Combo		GV	No	Pref	XP Pro	July 05
S51	8171-5DU	2x3	Pentium 4 531	3.0	1MB	800	HT	EM64T 512	Dskte 80GB	Combo			GV	No	Pref	XP Pro	July 05
S51	8171-5EU	2x3	Pentium 4 531	3.0	1MB	800	HT	EM64T 512	Dskte 80GB	Combo			GV	No	Pref	XP Pro	July 05
S51	8171-3XU	2x3	Pentium 4 541	3.2	1MB	800	HT	EM64T 512	Dskte 40GB	CD		ADD2	G	No	Pref	XP Pro	July 05
S51	8171-4TU	2x3	Pentium 4 541	3.2	1MB	800	HT	EM64T 256	Dskte 40GB	None			GV	No	Pref	XP Pro	July 05
S51	8171-4WU	2x3	Pentium 4 541	3.2	1MB	800	HT	EM64T 512		40GB	CD		GV	No	Pref	XP Pro	July 05
S51	8171-4XU	2x3	Pentium 4 541	3.2	1MB	800	HT	EM64T 512	Dskte 40GB	CD			GV	No	Pref	XP Pro	July 05
S51	8171-4YU	2x3	Pentium 4 541	3.2	1MB	800	HT	EM64T 512	Dskte 40GB	CD			GV	Yes	Pref	XP Pro	July 05
S51	8171-62U	2x3	Pentium 4 541	3.2	1MB	800	HT	EM64T 512		80GB	CD		GV	Yes	Finger	XP Pro	July 05
S51	8171-65U	2x3	Pentium 4 541	3.2	1MB	800	HT	EM64T 512		80GB	Combo		GV	No	Pref	XP Pro	July 05
S51	8171-66U	2x3	Pentium 4 541	3.2	1MB	800	HT	EM64T 512	Dskte 80GB	Combo			GV	No	Pref	XP Pro	July 05
S51	8171-67U	2x3	Pentium 4 541	3.2	1MB	800	HT	EM64T 512	Dskte 80GB	Combo			GV	No	Pref	XP Pro	July 05
S51	8171-6AU	2x3	Pentium 4 541	3.2	1MB	800	HT	EM64T 512	Dskte 80GB	DVD			GV	Yes	Pref	XP Pro	July 05
S51	8171-6DU	2x3	Pentium 4 551	3.4	1MB	800	HT	EM64T 512	Dskte 40GB	CD			GV	No	Pref	XP Pro	July 05
S51	8171-6EU	2x3	Pentium 4 551	3.4	1MB	800	HT	EM64T 512	Dskte 40GB	DVD			GV	No	Pref	XP Pro	July 05
S51	8171-6GU	2x3	Pentium 4 551	3.4	1MB	800	HT	EM64T 512		80GB	Combo		GV	No	Pref	XP Pro	July 05
S51	8171-6HU	2x3	Pentium 4 551	3.4	1MB	800	HT	EM64T 512	Dskte 80GB	Combo			GV	No	Pref	XP Pro	July 05
S51	8171-6KU	2x3	Pentium 4 551	3.4	1MB	800	HT	EM64T 512	Dskte 80GB	DVD±RW ⁶			GV	No	Pref	XP Pro	July 05
S51	8171-BMU	2x3	Pentium 4 630	3.00	2MB	800	HT	EM64T 512	Dskte 40GB	CD			GV	Yes	Pref	XP Pro	July 05
S51	8171-BNU	2x3	Pentium 4 630	3.00	2MB	800	HT	EM64T 512	Dskte 80GB	Combo			GV	Yes	Pref	XP Pro	July 05
S51	8171-DGU	2x3	Pentium 4 640	3.20	2MB	800	HT	EM64T 512	Dskte 40GB	CD			GV	Yes	Pref	XP Pro	July 05
S51	8171-DHU	2x3	Pentium 4 640	3.20	2MB	800	HT	EM64T 512	Dskte 80GB	Combo			GV	Yes	Pref	XP Pro	July 05

Positioning	<i>Smallest ThinkCentre desktop without compromise</i>	Small Form Factor 
Processor	Intel® Celeron D Processor 326, 331, 336 with EM64T, Execute Disable Bit, and 533MHz bus or Intel Pentium 4 Processor 516, 521, 531, 541, 551, 630, 640 with EM64T, Execute Disable Bit (except 516), and 533 or 800MHz bus <i>Some: Hyper-Threading (HT) technology; 6xx: EIST Processor and L2 cache in FC-LGA4 in LGA775 socket</i>	
Proc features	Memory std/max ⁸ 256 or 512MB std / 2GB max Two 184-pin gold plated DIMM sockets / one socket used / PC3200 400MHz DDR1 / CAS latency 3 (CL3) / non-parity / industry standard / unbuffered / dual-channel capable	Bay ① 3.5", slim .5", access, std or opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports optional DVI-I PCIe adptr only)
Memory	Memory 256 or 512MB std / 2GB max Two 184-pin gold plated DIMM sockets / one socket used / PC3200 400MHz DDR1 / CAS latency 3 (CL3) / non-parity / industry standard / unbuffered / dual-channel capable	Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports optional DVI-I PCIe adptr only)
Graphics	All: Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915 / 333MHz / one 15-pin analog connector Some: DVI-D PCIe Connection Adapter (ADD2) / provides a DVI-D connector for second monitor / uses PCI Express x16 slot	• Business black color; metal case • 12.2" W X 14.1"D X 3.3"H (3.4"H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • With vertical stand: 5.0" W X 15.4"D X 13.6"H • With vertical stand: 127mm W X 390mm D X 346mm H • 18.0 to 20.0 lb (8.1 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Steel chassis supports 100 lb (45kg) monitor on top • System stand for vertical orientation
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts	SECURITY • Security chip (see information on left) • U-bolt anchoring feature (U-bolt is optional; supports optional padlock) • Security slot (in rear for attachment of optional Kensington Microsaver cable) • Power-on and administrator password • Hard disk password (user and master) • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement • Some: cover intrusion switch and keylock on chassis ↪ 3-year parts and labor limited warranty¹ ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6	
SATA cables	One SATA cable (one 1-drop to disk) / two SATA connectors	
EIDE CD or DVD	Some: 48X-20X ⁴ CD-ROM; Some: 16X-48X Max ⁴ DVD-ROM	
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo	
EIDE DVD±RW	Some: DVD and CD burner / Multi-Burner Plus (part num 73P3370)	
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)	
EIDE cables	Some: one 1-drop EIDE 80-conductor cable to optical All: one EIDE connector on systemboard	
Diskette drive	Some: 3.5" 1.44MB diskette drive	
Chipset	Intel 915GV or 915G Express Chipset / 82915G/GV Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log	
Ports	Front: two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] Back: six USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Audio	Integrated digital audio / SoundMAX® Cadenza / AC'97 interface / ADI1981B codec	
Audio connectors	Back: line-in (stereo), line-out (stereo) [both 3.5mm]	
Speaker	One internal speaker for business audio	
Ethernet	Gigabit ethernet on planar / Broadcom® NetXtreme™ BCM5705 / 32-bit PCI 2.3	
Security chip	Embedded Security Subsystem 2.0¹⁸ / in NS PC8375T chip / TCG-compliant	
Keyboard	[Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black	
(one of following)	[Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black	
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black	
Cooling fans	Three variable speed fans (two in front; power supply fan in back)	
Power supply	225 watts with variable speed fan / universal / manual switch / two diagnostic LEDs	

See footnotes for important warranty information
 US models announced July 19, 2005
 US models withdrawn effective December 2005 or May 2006

ThinkCentre® A50 (8084) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	GHz	Bus MHz	Hyper-Thread	Memory ⁸	Diskette drive	EIDE disk	EIDE optical	Graphics	Chipset	Modem	Front audio	Workhorse, Global, Educ	Avail date	
A50	8084-D7U	3x5	Celeron®	2.66	256K	533		256MB	Yes	40GB ²	CD	Extreme™ 2	GV	Yes	Yes	XP Pro ⁵	No	Feb 05
A50	8084-41U	3x5	Pentium® 4	2.6	512K	400		256MB	Yes	40GB	CD	Extreme 2	GV	No	No	XP Pro	No	Jun 04
A50	8084-11U	3x5	Pentium 4	2.8	512K	533		256MB	Yes	40GB	CD	Extreme 2	GV	No	No	XP Pro	No	Jun 04
A50	8084-1AU	4x5	Pentium 4	2.8E	1MB	800	HT	256MB	Yes	40GB	CD	Extreme 2	G	No	No	XP Pro	No	Jun 04
A50	8084-1FU	3x5	Pentium 4	2.8	512K	400		256MB	Yes	40GB	CD	Extreme 2	GV	No	No	XP Pro	No	Jun 04
A50	8084-1GU	4x5	Pentium 4	2.8E	1MB	800	HT	512MB	Yes	40GB	Combo	Extreme 2	G	No	No	XP Pro	Educ	Jun 04
A50	8084-24U	4x5	Pentium 4	3.0E	1MB	800	HT	256MB	Yes	40GB	CD	Extreme 2	G	No	No	XP Pro	No	Jun 04
A50	8084-31U	4x5	Pentium 4	3.2E	1MB	800	HT	256MB	Yes	40GB	CD	Extreme 2	G	No	No	XP Pro	No	Jun 04
A50	8084-53U	4x5	Pentium 4	3.4E	1MB	800	HT	256MB	Yes	40GB	CD	Extreme 2	G	No	No	XP Pro	No	Nov 04
A50	8084-2AU	4x5	Pentium 4	3.0E	1MB	800	HT	256MB	Yes	40GB	CD	Extreme 2	G	Yes	Yes	XP Pro	No	Feb 05
A50	8084-36U	4x5	Pentium 4	3.2E	1MB	800	HT	256MB	Yes	40GB	CD	Extreme 2	G	Yes	Yes	XP Pro	No	Feb 05

Positioning	<i>Great technology and affordable prices</i>										Tower		
Processor	Intel® Celeron 2.66GHz with 533MHz system bus or Intel Pentium 4 at 2.6, 2.8, 3.0, 3.2, or 3.4GHz with 400, 533, or 800MHz system bus										<ul style="list-style-type: none"> Business black color 7.5" W X 15.7" D X 16.3" H 190mm W X 399mm D X 415mm H 20.0 to 22.5 lb (9.1 to 10.2 kg) Handle on top front Disk bay pivots forward Toolless rails for disk mounting Toolless cover removal Toolless AGP and PCI slots 		
Hyper-Threading L2 cache Implementation	Some: Hyper-Threading (HT) technology 256KB, 512KB, or 1MB std and max / ECC / full speed Processor and L2 cache in FC-PGA2 in mPGA478B socket										Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", access, std diskette Bay ⑤ 3.5", SL 1", no access, std disk		
Memory - std/max ⁸	256MB or 512MB std / 4GB max Four 184-pin gold plated DIMM sockets / one socket used / 400/533MHz system bus: PC2700 333MHz DDR1 (DDR-SDRAM); 800MHz: PC3200 400MHz DDR1 ; All: non-parity / industry std / unbuffered / CAS latency 2.5 (CL2.5) / dual channel capable										3x5 models with 865GV chipset: Slot 1: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 2: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v)		
Graphics	Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865G or GV GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector										4x5 models with 865G chipset: Slot 1: 3/4-length, full-height, 32-bit AGP 8X (1.5v) Slot 2: 3/4-length, full-height, 32-bit PCI 2.3 (5v) - modem* Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: 3/4-length, full-height, 32-bit PCI 2.3 (5v) *some models		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5) / two EIDE connectors on systemboard												
EIDE disk	40GB , ATA-100, 7200 rpm, rubber vibration damp mounts												
EIDE cables	Two EIDE 80-conductor cables (one 2-drop cable to optical(s), one 2-drop to disk)												
CD	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE												
Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE												
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5 /												
SATA cables	No SATA cables / two SATA connectors on systemboard												
Diskette drive	3.5" 1.44MB diskette drive												
Chipset	Intel 865G or 865GV chipset / 82865G or 82865GV Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temp sensor												
Front ports	Two USB (Version 2.0)												
	D7U/2AU/36U: microphone (mono, 3.5mm), headphone (stereo, 3.5mm)												
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)												
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec												
Audio connectors	Back: microphone-in (stereo), line-in (stereo), line-out (stereo) [all 3.5mm]												
Beeper	One internal beeper												
Ethernet	10/100 ethernet on planar / ICH5 (MAC layer) with Intel 82562 PHY (physical layer) / Intel Pro/100VE Network Connection / 32-bit PCI 2.3 / PXE / Wake on LAN®												
Modem	Some: 56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter												
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black												
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black												
Cooling fans	Two or three variable speed fans (power supply and processor fansink)												
Power supply	230 watts with variable speed fan / universal / manual switch												

Preload with Windows XP Professional⁵ Microsoft® Windows® XP Professional - Model 53U: Service Pack 2 - Disk-to-Disk Recovery (in hidden protected area)	Accessories 800MHz: 128MB PC3200 CL3 NP DDR1 22P9271 800MHz: 256MB PC3200 CL3 NP DDR1 73P2685 800MHz: 512MB PC3200 CL3 NP DDR1 73P2686 800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272 120GB IDE Disk ATA-100 (7200 rpm) 09N4249 160GB Serial ATA150 Disk (7200 rpm) 09N4254 Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370 USB 2.0 Memory Key 512MB 22P9230 ThinkVision® L151 15" Monitor (black) 9205AB2 ThinkVision L151p 15" Monitor (black) 9205HB2 ThinkVision L191p 19" Monitor (black) 9419HB7 ThinkVision C190 19" (18.0" vis) (black) 6739PON Enh Perf Wireless Keybrd and Mouse 73P4067 Enhanced Performance USB Keyboard 73P2620 Other options at lenovo.com/options
Preloaded • Some: contains additional module with a specialized education preload image in the base preload package** • Access Program • Rescue and Recovery™ • Update Connector™.15 • Norton AntiVirus (OEM version) • PC-Doctor™ (diagnostics) • InterVideo WinDVD (combo models) • RecordNow and DLA (combo)	**Vital Source Technologies™ software used in educational institutions for electronic delivery of a variety of class materials including textbooks, rich media, and an existing library of published works
Downloadable • Software Delivery Assistant • System Migration Assistant • IBM Director Agent	

SYSTEMS MANAGEMENT

- PC 2001-compliant
- Advanced Power Management 1.2
- Advanced Configuration and Power Interface (ACPI) 2.0b
- SBIOS 2.3.1-compliant
- DMI 2.0-compliant

SECURITY

- U-bolt anchoring feature (U-bolt is optional; supports optional padlock)
- Security slot (for attachment of optional cable lock)
- Power-on password
- Administrator password
- Boot sequence control
- Diskette boot inhibit
- Boot without keyboard or mouse
- Diskette and disk I/O control
- Serial/parallel I/O control

LIMITED WARRANTY¹

- 3 year parts and labor
- International Warranty Service⁹
- Limited onsite service, 8 am - 5 pm, Mon-Fri coverage excluding holidays, next business day response time³
- Onsite service upgrade options (in eligible locations):⁷
 - 3 year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192)
 - 3 year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193)
 - 4 year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194)
 - 4 year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196)
- 24x7¹⁴ toll-free support for warranty issues during the warranty period¹

See footnotes for important warranty information
 US models announced June 8, 2004, November 16, 2004, or February 22, 2005
 US models withdrawn effective June or December 2005

ThinkCentre™ A50 (8085) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	Memory ⁸	Diskette drive	EIDE disk	EIDE optical	Second optical	Graphics	Chipset	Mouse	Modem/ speakers	Workhorse, Global, Entry date	Avail		
A50	8085-41U	3x5	Pentium® 4	2.6	512K	400	128MB	40GB ²	CD			Extreme™ 2	GV	2 btn		Entry	Jun 04		
A50	8085-42U	3x5	Pentium 4	2.6	512K	400	256MB	Yes	40GB	CD-RW		Extreme 2	GV	Opcl	Mod/spk	No	Jun 04		
A50	8085-11U	3x5	Pentium 4	2.8	512K	533	128MB		40GB	CD		Extreme 2	GV	2 btn		Entry	Jun 04		
A50	8085-18U	4x5	Pentium 4	2.8E	1MB	800	256MB	Yes	40GB	CD-RW		Extreme 2	G	Opcl	Mod/spk	No	Jun 04		
A50	8085-19U	3x5	Pentium 4	2.8	512K	400	128MB		40GB	CD		Extreme 2	GV	2 btn		Entry	Jun 04		
A50	8085-1AU	3x5	Pentium 4	2.8	512K	400	256MB	Yes	40GB	DVD	CD-RW	Extreme 2	GV	Opcl	Mod/spk	No	Jun 04		
A50	8085-1BU	3x5	Pentium 4	2.8A	1MB	533	256MB	Yes	80GB	Combo		Extreme 2	GV	Opcl	Mod/spk	No	Jun 04		
A50	8085-23U	4x5	Pentium 4	3.0E	1MB	800	256MB	Yes	40GB	CD-RW		Extreme 2	G	Opcl	Mod/spk	No	Jun 04		
A50	8085-24U	4x5	Pentium 4	3.0E	1MB	800	256MB	Yes	80GB	Combo		MX 440	64	G	Opcl	Mod/spk	No	Jun 04	
A50	8085-31U	4x5	Pentium 4	3.2E	1MB	800	256MB	Yes	80GB	Combo		MX 440	64	G	Opcl	Mod/spk	No	Jun 04	
A50	8085-32U	4x5	Pentium 4	3.2E	1MB	800	256MB	Yes	120G	DVD	DVD±RW ⁶	MX 440	64	G	Opcl	Mod/spk	EP	No	Jun 04
A50	8085-1CU	3x5	Pentium 4	2.8A	1MB	533	256MB	Yes	40GB	CD-RW		Extreme 2	GV	Opcl	Mod/spk	No	Oct 04		
A50	8085-28U	4x5	Pentium 4	3.0E	1MB	800	256MB	Yes	40GB	DVD	CD-RW	Extreme 2	G	Opcl	Mod/spk	No	Oct 04		
A50	8085-37U	4x5	Pentium 4	3.2E	1MB	800	256MB	Yes	40GB	CD-RW		Extreme 2	G	Opcl	Mod/spk	No	Nov 04		
A50	8085-53U	4x5	Pentium 4	3.4E	1MB	800	512MB	Yes	80GB	Combo		Extreme 2	G	Opcl	Mod/spk	No	Nov 04		

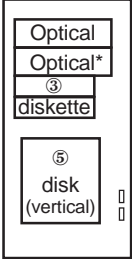
Positioning Processor	<i>Great technology and affordable prices</i> Intel® Pentium 4 at 2.6, 2.8, 3.0, 3.2, or 3.4GHz with 400, 533, or 800MHz system bus		Tower <ul style="list-style-type: none"> • Business black color; 31.4 liters • 7.5" W X 16.0"D X 16.3"H • 191mm W X 406mm D X 413mm H • 20.0 to 22.5 lb (9.1 to 10.2 kg) • Handle on top front • Disk bay pivots forward • Toolless rails for disk mounting • Toolless cover removal • Toolless AGP and PCI slots 	
Hyper-Threading L2 cache Implementation	Some: Hyper-Threading (HT) technology 512KB or 1MB std and max / ECC / full speed Processor and L2 cache in FC-PGA2 in mPGA478B socket			
Memory - std/max ⁸ Memory	128MB or 256MB or 512MB std / 4GB max Four 184-pin gold plated DIMM sockets / one socket used (two sockets used on model 53U) / 400/533MHz system bus: PC2700 333MHz DDR1 (DDR-SDRAM); 800MHz: PC3200 400MHz DDR1 ; All: non-parity / industry std / unbuffered / CAS latency 2.5 (CL2.5) / dual channel capable		Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, std or optional optical Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", access, open or std diskette Bay ⑤ 3.5", SL 1", no access, std disk 3x5 models with 865GV chipset: Slot 1: 3/4-length, full-height, 32-bit PCI 2.3 (5v) - modem* Slot 2: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v) 4x5 models with 865G chipset: Slot 1: 3/4-length, full-height, 32-bit AGP 8X (1.5v)-graphics* Slot 2: 3/4-length, full-height, 32-bit PCI 2.3 (5v) - modem Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: 3/4-length, full-height, 32-bit PCI 2.3 (5v) * some models	
Graphics (one of following)	<ul style="list-style-type: none"> • Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865G or GV GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector • NVIDIA® GeForce4 MX 440 / AGP 8X adapter / GeForce4 MX GPU / 64MB std and max 400MHz DDR-SDRAM / 350MHz RAMDAC / one 15-pin analog D-sub connector 			
EIDE disk	40, 80 or 120GB , ATA-100, 7200 rpm, rubber vibration damp mounts		SYSTEMS MANAGEMENT <ul style="list-style-type: none"> • PC 2001-compliant • Advanced Power Management 1.2 • Advanced Configuration and Power Interface (ACPI) 2.0b • SMBIOS 2.3.1-compliant • DMI 2.0-compliant 	
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5) / two EIDE connectors on systemboard			
EIDE cables	Two EIDE 80-conductor cables (one 2-drop cable to optical(s), one 2-drop to disk)			
CD	Some: 48X-20X ⁴ CD-ROM / EIDE			
DVD	Some: 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE			
CD-RW	Some: 48X/32X/48X Max ⁴ CD-RW / EIDE			
Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE			
DVD±RW	Some: DVD and CD burner / CD-RW/DVD-RW Multi-Burner / EIDE			
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5 /			
SATA cables	No SATA cables / two SATA connectors on systemboard			
Diskette drive	Some: 3.5" 1.44MB diskette drive			
Chipset	Intel 865G or 865GV chipset / 82865G or 82865GV Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temp sensor			
Front ports	Two USB (Version 2.0) 24U/31U/32U : microphone (mono, 3.5mm), headphone (stereo, 3.5mm)			
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)			
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec			
Audio connectors	Back : microphone-in (stereo), line-in (stereo), line-out (stereo) [all 3.5mm]			
Speakers	Some: external active speakers / Jazz Infinity® / 2-piece / 3 watts / black color			
Ethernet	10/100 ethernet on planar / ICH5 (MAC layer) with Intel 82562 PHY (physical layer) / Intel Pro/100VE Network Connection / 32-bit PCI 2.3 / PXE / Wake on LAN®			
Modem	Some: 56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter			
Keyboard	Some: 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black Model 32U : Enhanced Performance USB Keyboard, 2-port USB 2.0 hub, black			
Mouse	Some: [2 btn] Std 2-Button PS/2 Mouse (6-pin PS/2 connector), black Some: [Opcl] Optical Wheel Mouse (USB only), 400 dpi, black			
Cooling fans	Two variable speed fans (power supply and processor fansink)			
Power supply	230 watts with variable speed fan / universal / manual switch			
Preload with Windows XP Home⁵	Accessories			
Microsoft® Windows® XP Home Edition	800MHz: 128MB PC3200 CL3 NP DDR1 22P9271			
- Disk-to-Disk Recovery (in hidden protected area); Model 53U: Serv Pack 2	800MHz: 256MB PC3200 CL3 NP DDR1 73P2685			
Preloaded (only some listed)	800MHz: 512MB PC3200 CL3 NP DDR1 73P2686			
• Rescue and Recovery™	800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272			
• InterVideo WinDVD (combo, DVD, DVD±RW)	160GB Serial ATA150 Disk (7200 rpm) 09N4254			
• InterVideo WinDVD Creator (DVD±RW)	Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370			
• Simple Backup (for DVD±RW)	ThinkVision L150 15" Monitor (black) 6636AC1			
• RecordNow and DLA (not CD, DVD)	ThinkVision L170p 17" Monitor (black) 6734HB0			
	ThinkVision C190 19" (18.0" vis) (black) 673960N			
	Other options at lenovo.com/options			
	LIMITED WARRANTY¹ <ul style="list-style-type: none"> ⇒ 1 year parts and labor ⇒ International Warranty Service⁹ ⇒ Limited onsite service, 8 am - 5 pm, Mon - Fri coverage excluding holidays, 2nd business day response time³ ⇒ Onsite service upgrade options (in eligible locations)⁷: <ul style="list-style-type: none"> • 1 year 9x5 4 hour response (ServicePac® part number 54P1858) • 3 year 9x5 4 hour response (ServicePac part number 54P1862) ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 			

See footnotes for important warranty information
US models announced June 8, October 19, or November 16, 2004
US models withdrawn effective June 2005

ThinkCentre® A50 (8085) - Celeron - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Slot x	L2	Bus	Diskette	EIDE	EIDE	Second	Graphics	Chipset	Modem/	Workhorse, Avail
Type-model	bay	cache	MHz	Memory ⁸	drive	disk	optical	in GMCH	Mouse	speakers	Preload Global, Entry date
A50 8085-A1U	3x5	Celeron®	2.4	128K	400	128MB	No	40GB ² CD	Extreme™ 2	GV 2 btn	XP Home ⁵ Entry Jun 04
A50 8085-A3U	3x5	Celeron	2.4	128K	400	256MB	Yes	40GB CD-RW	Extreme 2	GV Opcl Mod/spk	XP Home No Jun 04
A50 8085-D2U	3x5	Celeron	2.6	128K	400	128MB	No	40GB CD	Extreme 2	GV 2 btn	XP Home Entry Jun 04
A50 8085-D3U	3x5	Celeron	2.6	128K	400	256MB	Yes	40GB DVD CD-RW	Extreme 2	GV Opcl Mod/spk	XP Home No Jun 04
A50 8085-A4U	3x5	Celeron D 320	2.40	256K	533	128MB	No	40GB CD	Extreme 2	GV Opcl	XP Home Entry Aug 04
A50 8085-B1U	3x5	Celeron D 325	2.53	256K	533	128MB	No	40GB CD	Extreme 2	GV Opcl	XP Home Entry Aug 04
A50 8085-D5U	3x5	Celeron D 330	2.66	256K	533	256MB	Yes	40GB DVD CD-RW	Extreme 2	GV Opcl Mod/spk	XP Home No Aug 04
A50 8085-E1U	3x5	Celeron D 335	2.80	256K	533	256MB	Yes	40GB Combo	Extreme 2	GV Opcl Mod/spk	XP Home No Aug 04
A50 8085-B3U	3x5	Celeron D 325	2.53	256K	533	256MB	Yes	40GB CD-RW	Extreme 2	GV Opcl Mod/spk	XP Home No Oct 04
A50 8085-E4U	3x5	Celeron D 340	2.93	256K	533	256MB	Yes	40GB Combo	Extreme 2	GV Opcl Mod/spk	XP Home No Nov 04

Positioning Processor	<i>Great technology and affordable prices</i> Intel® Celeron at 2.4 or 2.6GHz with 400MHz system bus or Intel Celeron D Processor 320 (2.40GHz), 325 (2.53GHz), 330 (2.66GHz), 335 (2.80GHz), or 340 (2.93GHz) with 533MHz bus	Tower <ul style="list-style-type: none"> Business black color 7.5" W X 15.7"D X 16.3"H 190mm W X 399mm D X 415mm H 20.0 to 22.5 lb (9.1 to 10.2 kg) Handle on top front Disk bay pivots forward Toolless rails for disk mounting Toolless cover removal Toolless AGP and PCI slots 
Hyper-Threading L2 cache Implementation	No Hyper-Threading (HT) technology support 128KB or 256KB std and max / ECC / full speed Processor and L2 cache in FC-PGA2 in mPGA478B socket	
Memory - std/max ⁸ Memory	128MB or 256MB std / 4GB max Four 184-pin gold plated DIMM sockets / one socket used / PC2700 333MHz DDR1 (DDR-SDRAM) / non-parity / industry std / unbuffered / CAS latency 2.5 (CL2.5) / dual channel capable	Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, std or optional optical Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", access, open or std diskette Bay ⑤ 3.5", SL 1", no access, std disk Slot 1: 3/4-length, full-height, 32-bit PCI 2.3 (5v) - modem* Slot 2: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v) * some models
Graphics	Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865GV GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector	
EIDE disk	40GB , ATA-100, 7200 rpm, rubber vibration damp mounts	SYSTEMS MANAGEMENT <ul style="list-style-type: none"> PC 2001-compliant Advanced Power Management 1.2 Advanced Configuration and Power Interface (ACPI) 2.0b SMBIOS 2.3.1-compliant DMI 2.0-compliant SECURITY <ul style="list-style-type: none"> U-bolt anchoring feature (U-bolt is optional; supports optional padlock) Security slot (for attachment of optional cable lock) Power-on password Administrator password Boot sequence control Diskette boot inhibit Boot without keyboard or mouse Diskette and disk I/O control Serial/parallel I/O control Supports ThinkVantage™ technologies; visit thinkcentre.com/thinkvantage
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5) / two EIDE connectors on systemboard	
EIDE cables	Two EIDE 80-conductor cables (one 2-drop cable to optical(s), one 2-drop to disk)	
CD	<i>Some:</i> 48X-20X ⁴ CD-ROM / EIDE	
DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer / EIDE	
CD-RW	<i>Some:</i> 48X/32X/48X Max ⁴ CD-RW / EIDE	
Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE	
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5 /	
SATA cables	No SATA cables / two SATA connectors on systemboard	
Diskette drive	<i>Some:</i> 3.5" 1.44MB diskette drive	
Chipset	Intel 865GV chipset / 82865GV Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temperature sensor	
Front ports	Two USB (Version 2.0)	
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec	
Audio connectors	<i>Back:</i> microphone-in (stereo), line-in (stereo), line-out (stereo) [all 3.5mm]	
Speakers	<i>Some:</i> external active speakers / Jazz Infinity® / 2-piece / 3 watts / black color <i>All:</i> one internal beeper	
Ethernet	10/100 ethernet on planar / ICH5 (MAC layer) with Intel 82562 PHY (physical layer) / Intel Pro/100VE Network Connection / 32-bit PCI 2.3 / PXE / Wake on LAN®	
Modem	<i>Some:</i> 56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter	
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black	
Mouse	<i>Some:</i> [2 btn] Std 2-Button PS/2 Mouse (6-pin PS/2 connector), black <i>Some:</i> [Opcl] Optical Wheel Mouse (USB only), 400 dpi, black	
Cooling fans	Two variable speed fans (power supply and processor fansink)	
Power supply	230 watts with variable speed fan / universal / manual switch	

Preload with Windows XP Home ⁵	Accessories	LIMITED WARRANTY ¹
Microsoft® Windows® XP Home Edition	128MB PC2700 CL2.5 NP DDR UDIMM	1 year parts and labor International Warranty Service⁹ Limited onsite service, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time³ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 1 year 9x5 4 hour response (ThinkPlus™ part number 41C9189) 2 year 9x5 Next Business Day (ThinkPlus part number 41C9187) 3 year 9x5 Next Business Day (ThinkPlus part number 41C9188) 3 year 9x5 4 hour response (ThinkPlus part number 41C9191) Post-warranty maintenance services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹
- Model E4U: Service Pack 2	256MB PC2700 CL2.5 NP DDR UDIMM	
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2700 CL2.5 NP DDR UDIMM	
Preloaded	1GB PC2700 CL2.5 NP DDR UDIMM	
• Access Program	80GB IDE Disk ATA-100 (7200 rpm)	
• Rescue and Recovery™	120GB IDE Disk ATA-100 (7200 rpm)	
• Update Connector™.15	160GB Serial ATA150 Disk (7200 rpm)	
• Norton AntiVirus (OEM version)	48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo drive (black)	
• PC-Doctor™ (diagnostics)	Multi-Burner Plus® (DVD±RW; internal)	
• InterVideo WinDVD (DVD, combo models)	USB 2.0 Memory Key 1GB	
• RecordNow and DLA (CD-RW, combo)	ThinkVision® L151 15" Monitor (black)	
Downloadable	ThinkVision L171p 17" Monitor (black)	
• Software Delivery Assistant	ThinkVision L191p 19" Monitor (black)	
• System Migration Assistant	ThinkVision C190 19" (18.0" vis) (black)	
• IBM Director Agent	Enh Perf Wireless Keyboard and Mouse	
	Enhanced Performance USB Keyboard	
	Preferred Pro USB Keyboard	
	Belkin® 800VA UPS with AVR technology	
	Other options at lenovo.com/options	

See footnotes for important warranty information
US models announced June 8, August 10, October 19, or November 16, 2004
US models withdrawn effective June or December 2005

ThinkCentre® A50 (8089) - Express - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	Diskette drive	EIDE disk	EIDE optical	Graphics in GMCH	Security chip	Workhorse Ethernet	Gbl, Avail
A50	8089-11U	1x2	Pentium® 4 2.8A	1MB	533		256MB	None	40GB ²	CD	Extreme™ 2	None	Aug2004
A50	8089-12U	1x2	Pentium 4 2.8E	1MB	800	HT	256MB	None	40GB	Combo	Extreme 2	None	Aug2004
A50	8089-21U	1x2	Pentium 4 3.0E	1MB	800	HT	256MB	None	40GB	CD	Extreme 2	None	Aug2004
A50	8089-22U	1x2	Pentium 4 3.0E	1MB	800	HT	256MB	None	40GB	Combo	Extreme 2	None	Aug2004
A50	8089-31U	1x2	Pentium 4 3.2E	1MB	800	HT	256MB	None	40GB	CD	Extreme 2	None	Nov2004
A50	8089-32U	1x2	Pentium 4 3.2E	1MB	800	HT	512MB	None	40GB	Combo	Extreme 2	None	Nov2004

These small and medium business (SMB) models are part of the US ThinkCentre Express Program

Positioning	<i>Smallest ThinkCentre desktop without compromise</i>										Ultra Small Form Factor 
Processor	Intel® Pentium 4 at 2.8, 3.0, or 3.2GHz with 533 or 800MHz bus										
Hyper-Threading	Some: Hyper-Threading (HT) technology										
L2 cache	1MB std and max / ECC / full speed										
Implementation	Processor and L2 cache in FC-PGA2 in mPGA478B socket										
Memory - std/max ²	256 or 512MB std / 2GB max										
Memory - sockets	Two 184-pin gold plated DIMM sockets / one socket used (two used on model 32U) / 256MB DIMM in each used socket										
Memory - type	533MHz system bus: PC2700 333MHz DDR1 (CL2.5); 800MHz system bus: PC3200 400MHz DDR1 (CL3); All: non-parity / ind std / unbuffered / dual channel capable										
Graphics	Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865GV GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector										
EIDE disk	40GB, ATA-100, 7200 rpm, rubber vibration dampening mounts										
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5)										
EIDE cables	Two cables (one 1-drop 80-conductor cable to disk; one 1-drop Ultrabay Enhanced cable to optical) / 2 EIDE connectors on planar										
CD	Some: 24X-10X ⁴ CD-ROM / EIDE / Ultrabay Enhanced										
Combo	Some: 24X/24X/24X/8X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE / Ultrabay Enhanced										
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5										
SATA cables	No SATA cables / one SATA connector on systemboard										
Diskette drive	None / use optional external USB-based 3.5" 1.44MB diskette drive										
Chipset	Intel 865GV chipset / 82865GV Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temperature sensor										SYSTEMS MANAGEMENT <ul style="list-style-type: none"> PC 2001-compliant Advanced Power Management 1.2 Advanced Configuration and Power Interface (ACPI) 2.0b SMBIOS 2.3.1-compliant DMI 2.0-compliant
Ports	Front: two USB (Version 2.0), microphone in (stereo), headphone out (stereo) Back: four USB (Version 2.0), one serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)										
Audio connectors	Back: line-in (stereo), line-out (stereo) [all 3.5mm]										SECURITY <ul style="list-style-type: none"> Security slot (in rear for optional Kensington Microsaver cable) - optional cable locks the cover by deactivating the cover release buttons Power-on password Administrator password Boot sequence control Boot without keyboard or mouse USB, ethernet, SATA, EIDE, serial, parallel enable or disable Disk, removable, and network device boot password
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec										
Speaker	One internal speaker for business audio										
Ethernet	10/100/1000 gigabit ethernet on planar / Intel 82541EI PHY (physical layer) and MAC / Intel Pro/1000MT Network Connection / 32-bit PCI 2.2 / Wake on LAN®										
Modem	None										
Security chip	None										
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black										
Mouse	Optical Wheel Mouse (USB only), optical, 400 dpi, black										
Cooling fans	Three variable speed fans (front, back, power supply)										
Power supply	200 watts with variable speed fan / universal / autosensing / two diagnostic LEDs										
Preload with Windows XP Professional⁵	Accessories										
Microsoft® Windows® XP Professional	533MHz: 128MB PC2700 CL2.5 NP DDR1 31P8854										
- Models 31U/32U: Service Pack 2	533MHz: 256MB PC2700 CL2.5 NP DDR1 31P8855										
- Disk-to-Disk Recovery (in hidden protected area)	533MHz: 512MB PC2700 CL2.5 NP DDR1 31P8856										
Preloaded	533: 1GB PC2700 CL2.5 NP DDR1 UDIMM 31P8857										
• Access Program	800MHz: 128MB PC3200 CL3 NP DDR1 22P9271										
• Rescue and Recovery™	800MHz: 256MB PC3200 CL3 NP DDR1 73P2685										
• Update Connector™.15	800MHz: 512MB PC3200 CL3 NP DDR1 73P2686										
• Adobe Reader	800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272										
• Norton AntiVirus (OEM version)	CD-RW/DVD Combo Ultrabay Enhanced 73P3275										
• PC-Doctor™ (diagnostics)	Multi-Burner Plus Ultrabay Enhanced Drive 73P3312										
• RecordNow and DLA (combo)	160GB Serial ATA150 Disk (7200 rpm) 09N4254										
• InterVideo WinDVD (combo models)	120GB IDE Disk ATA-100 (7200 rpm) 09N4249										
Downloadable	USB Portable Diskette Drive 05K9276										
• Software Delivery Assistant	USB 2.0 Portable Multi-Burner Drive 22P9163										
• System Migration Assistant	USB 2.0 Memory Key 1GB 40Y7421										
• IBM Director Agent	ThinkVision® L151 15" Monitor (black) 9205AB2										
License - CD not included	ThinkVision L151p 15" Monitor (black) 9205HB2										
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	ThinkVision C170 17" (16.0" vis) (black) 6737P6N										
	ThinkVision C190 19" (18.0" vis) (black) 6739P0N										
	ScrollPoint Pro Optical Mouse (black) 31P8700										
	Enh Perf Wireless Keyboard and Mouse 73P4067										
	Enhanced Performance USB Keyboard 73P2620										
	ThinkCentre Ultra Small Under Desk Mount 40Y8625										
	Other options at lenovo.com/options										
	LIMITED WARRANTY¹										
	↪ 3 year parts and labor										
	↪ International Warranty Service ⁹										
	↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts ³ , 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)										
	↪ Onsite service upgrade options (in eligible locations): ⁷										
	• 3 year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192)										
	• 3 year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193)										
	• 4 year LOR 9x5, Next Business Day (ThinkPlus part number 41C9198)										
	• 4 year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195)										
	• 4 year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196)										
	↪ 24x7 ¹⁴ toll-free support for warranty issues during the warranty period ¹ via 800-IBM-SERV (426-7378)										

See footnotes for important warranty information
US models announced July 13 or November 16, 2004
US models withdrawn effective January, June, or December 2005

ThinkCentre® A50 (8090) - Express - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus Hyper-Thread	Diskette Memory ⁸	EIDE drive	EIDE disk	EIDE optical	Graphics in GMCH	Security chip	PCI modem	Workhorse Preload Education	Gbl, Avail date
A50	8090-A3U	1x2	Celeron® D 325	2.53 256KB	533	256MB	None	40GB ²	CD	Extreme™ 2	None	XP Home ⁵	No	Aug 2004
A50	8090-A1U	1x2	Celeron D 325	2.53 256KB	533	256MB	None	40GB ²	CD	Extreme 2	None	XP Pro ⁵	No	Aug 2004
A50	8090-A2U	1x2	Celeron D 330	2.66 256KB	533	256MB	None	40GB	CD	Extreme 2	None	XP Pro	No	Aug 2004
A50	8090-11U	1x2	Pentium® 4	2.8A 1MB	533	256MB	None	40GB	CD	Extreme 2	None	XP Pro	No	Aug 2004
A50	8090-12U	1x2	Pentium 4	2.8A 1MB	533	256MB	None	40GB	Combo	Extreme 2	None	XP Pro	No	Aug 2004
A50	8090-21U	1x2	Pentium 4	3.0E 1MB	800	256MB	None	40GB	CD	Extreme 2	None	XP Pro	No	Aug 2004
A50	8090-22U	1x2	Pentium 4	3.0E 1MB	800	256MB	None	40GB	Combo	Extreme 2	None	XP Pro	No	Aug 2004
A50	8090-A5U	1x2	Celeron D 330	2.66 256KB	533	256MB	None	40GB	Combo	Extreme 2	None	Modem XP Home	No	Nov 2004
A50	8090-A7U	1x2	Celeron D 335	2.80 256KB	533	256MB	None	40GB	CD	Extreme 2	None	XP Pro	No	Nov 2004
A50	8090-14U	1x2	Pentium 4	2.8A 1MB	533	512MB	None	40GB	Combo	Extreme 2	None	Modem XP Home	No	Nov 2004
A50	8090-26U	1x2	Pentium 4	3.0E 1MB	800	512MB	None	80GB	Combo	Extreme 2	None	Modem XP Home	No	Nov 2004
A50	8090-31U	1x2	Pentium 4	3.2E 1MB	800	512MB	None	40GB	CD	Extreme 2	None	XP Pro	No	Nov 2004
A50	8090-32U	1x2	Pentium 4	3.2E 1MB	800	512MB	None	40GB	Combo	Extreme 2	None	XP Pro	No	Nov 2004

These small and medium business (SMB) models are part of the US ThinkCentre Express Program

Positioning Processor	<i>Smallest ThinkCentre desktop without compromise</i> Intel® Celeron D Processor 325 (2.53GHz), 330 (2.66GHz), or 335 (2.80GHz) with 533MHz system bus or Pentium 4 at 2.8, 3.0, or 3.2GHz with 533 or 800MHz system bus	Ultra Small Form Factor  Bay ① 3.5", SL 1", access, std disk (desktop) Bay ② 5.25", *slim .5", access, std optical (notebook) * Optical bay is Ultrabay™ Enhanced 12.5mm high (same as used in select ThinkPad notebooks)
Hyper-Threading L2 cache	<i>Some:</i> Hyper-Threading (HT) technology <i>Celeron D:</i> 256KB std and max / ECC / full speed <i>Pentium 4:</i> 1MB std and max / ECC / full speed Processor and L2 cache in FC-PGA2 in mPGA478B socket	
Memory - std/max ⁸	256 or 512MB std / 2GB max	Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) • Up to 75% less space than desktop chassis • Business black color; metal case; 6.5 liters • 10.8" W X 10.8"D X 3.4"H • 275mm W X 275mm D X 87.5mm H • With vertical stand: 4.9" W X 10.6"D X 11.7"H • With vertical stand: 125mm W X 270mm D X 298mm H • 13.2 to 14.0 lb (6.0 to 6.4 kg) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk and optical drive removal • Bays 1 and 2 flip up (latched and pivoting) • Toolless PCI slot and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • System stand ships standard for vertical orientation
Memory - sockets	Two 184-pin gold plated DIMM sockets / one socket used (two used on models 14U/26U/32U) / 256MB DIMM in each used socket	
Memory - type	<i>533MHz system bus:</i> PC2700 333MHz DDR1 (CL2.5); 800MHz system bus: PC3200 400MHz DDR1 (CL3); <i>All:</i> non-parity / ind std / unbuffered / dual channel capable	
Graphics	Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865GV GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector	
EIDE disk	40 or 80GB , ATA-100, 7200 rpm, rubber vibration dampening mounts	
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5)	
EIDE cables	Two cables (one 1-drop 80-conductor cable to disk; one 1-drop Ultrabay Enhanced cable to optical) / 2 EIDE connectors on planar	
CD	<i>Some:</i> 24X-10X ⁴ CD-ROM / EIDE / Ultrabay Enhanced	
Combo	<i>Some:</i> 24X/24X/24X/8X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE / Ultrabay Enhanced	
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5	
SATA cables	No SATA cables / one SATA connector on systemboard	
Diskette drive	None / use optional external USB-based 3.5" 1.44MB diskette drive	
Chipset	Intel 865GV chipset / 82865GV Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temperature sensor	
Ports	<i>Front:</i> two USB (Version 2.0), microphone in (stereo), headphone out (stereo) <i>Back:</i> four USB (Version 2.0), one serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Audio connectors	<i>Back:</i> line-in (stereo), line-out (stereo) [all 3.5mm]	
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec	
Speaker	One internal speaker for business audio	
Ethernet	10/100/1000 gigabit ethernet on planar / Intel 82541EI PHY (physical layer) and MAC / Intel Pro/1000MT Network Connection / 32-bit PCI 2.2 / Wake on LAN®	
Modem	<i>Some:</i> 56K10 V.90 data/fax soft modem / Conexant® chipset / PCI adapter	
Security chip	None	
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black	
Mouse	Optical Wheel Mouse (USB only), optical, 400 dpi, black	
Cooling fans	Three variable speed fans (front, back, power supply)	
Power supply	200 watts with variable speed fan / universal / autosensing / two diagnostic LEDs	
Preload with Windows XP Home⁵	Accessories	SYSTEMS MANAGEMENT • PC 2001-compliant • Advanced Power Management 1.2 • Advanced Configuration and Power Interface (ACPI) 2.0b • SMBIOS 2.3.1-compliant • DMI 2.0-compliant
Microsoft® Windows® XP Home Edition - <i>Models Nov 2004:</i> Service Pack 2 - Disk-to-Disk Recovery (in hidden protected area)	533MHz: 128MB PC2700 CL2.5 NP DDR1 31P8854 533MHz: 256MB PC2700 CL2.5 NP DDR1 31P8855 533MHz: 512MB PC2700 CL2.5 NP DDR1 31P8856 533: 1GB PC2700 CL2.5 NP DDR1 UDIMM31P8857 800MHz: 128MB PC3200 CL3 NP DDR1 22P9271 800MHz: 256MB PC3200 CL3 NP DDR1 73P2685 800MHz: 512MB PC3200 CL3 NP DDR1 73P2686 800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272 CD-RW/DVD Combo Ultrabay Enhanced 73P3275 Multi-Burner Plus Ultrabay Enhanced Drive 73P3312 160GB Serial ATA150 Disk (7200 rpm) 09N4254 120GB IDE Disk ATA-100 (7200 rpm) 09N4249 USB 2.0 Portable Multi-Burner Drive 22P9163 ThinkVision® L151 15" Monitor (black) 9205AB2 ThinkCentre Ultra Small Under Desk Mount 40Y8625 Other options at lenovo.com/options	
Preload with Windows XP Professional⁵		SECURITY • Security slot (in rear for optional Kensington Microsaver cable) - optional cable locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Boot sequence control • Boot without keyboard or mouse • USB, ethernet, SATA, EIDE, serial, parallel enable or disable • Disk, removable, and network device boot password
Microsoft Windows XP Professional - <i>Models Nov 2004:</i> Service Pack 2 - Disk-to-Disk Recovery (in hidden protected area)		
Preloaded (all; only some listed)		LIMITED WARRANTY¹ ⇨ 1 year parts and labor ⇨ International Warranty Service® ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts ³ , 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ ThinkPlus™ services at lenovo.com/thinkplus/warranty ⇨ 24x7 ¹⁴ toll-free support for warranty issues during the warranty period ¹
• Access Program • Rescue and Recovery™ • PC-Doctor™ (diagnostics) • RecordNow and DLA (combo) • InterVideo WinDVD (combo)		

See footnotes for important warranty information
US models announced July 13 or November 16, 2004
US models withdrawn effective June or December 2005

ThinkCentre™ A50 (8147) - Express - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	GHz	Bus MHz	Hyper-Thread	Memory ⁸	Diskette drive	EIDE disk	EIDE optical	Graphics	Chipset	Preload	Limited warranty ¹	Workhorse, Global, Educ	Avail date	
A50	8147-D1U	3x5	Pentium® 4	2.6	512K	400		256MB	Yes	40GB ²	CD	Extreme™ 2	GV	XP Pro	3/3 year	IOR	No	Jun 04
A50	8147-11U	3x5	Pentium 4	2.8A	1MB	533		256MB	Yes	40GB	CD	Extreme 2	GV	XP Pro	3/3 year	IOR	No	Jun 04
A50	8147-12U	4x5	Pentium 4	2.8E	1MB	800	HT	256MB	Yes	40GB	CD-RW	Extreme 2	G	XP Pro	3/3 year	IOR	No	Jun 04
A50	8147-13U	3x5	Pentium 4	2.8	512K	400		256MB	Yes	40GB	CD	Extreme 2	GV	XP Pro	3/3 year	IOR	No	Jun 04
A50	8147-21U	4x5	Pentium 4	3.0E	1MB	800	HT	256MB	Yes	40GB	CD	Extreme 2	G	XP Pro	3/3 year	IOR	No	Jun 04
A50	8147-22U	4x5	Pentium 4	3.0E	1MB	800	HT	256MB	Yes	40GB	CD-RW	Extreme 2	G	XP Pro	3/3 year	IOR	No	Jun 04
A50	8147-23U	4x5	Pentium 4	3.0E	1MB	800	HT	512MB	Yes	80GB	Combo	MX 440 64MB	GV	XP Pro	3/3 year	IOR	No	Jun 04
A50	8147-31U	4x5	Pentium 4	3.2E	1MB	800	HT	256MB	Yes	40GB	CD	Extreme 2	G	XP Pro	3/3 year	IOR	No	Jun 04
A50	8147-32U	4x5	Pentium 4	3.2E	1MB	800	HT	256MB	Yes	40GB	CD-RW	Extreme 2	G	XP Pro	3/3 year	IOR	No	Jun 04
A50	8147-33U	4x5	Pentium 4	3.2E	1MB	800	HT	512MB	Yes	80GB	Combo	MX 440 64MB	GV	XP Pro	3/3 year	IOR	No	Jun 04
A50	8147-14U	3x5	Pentium 4	2.8A	1MB	533		256MB	Yes	40GB	Combo	Extreme 2	GV	XP Pro	3/3 year	IOR	No	Oct 04
A50	8147-24U	4x5	Pentium 4	3.0E	1MB	800	HT	512MB	Yes	40GB	CD	Extreme 2	G	XP Pro	3/3 year	IOR	No	Oct 04
A50	8147-25U	4x5	Pentium 4	3.0E	1MB	800	HT	512MB	Yes	40GB	CD-RW	Extreme 2	G	XP Pro	3/3 year	IOR	No	Oct 04
A50	8147-34U	4x5	Pentium 4	3.2E	1MB	800	HT	512MB	Yes	40GB	CD	Extreme 2	G	XP Pro	3/3 year	IOR	No	Nov 04

These small and medium business (SMB) models are part of the US ThinkCentre Express Program

Positioning Processor	<i>Great technology and affordable prices</i> Intel® Pentium 4 at 2.6, 2.8, 3.0, or 3.2GHz with 400, 533, or 800MHz system bus		Tower <ul style="list-style-type: none"> Business black color; 31.4 liters 7.5" W X 16.0"D X 16.3"H 191mm W X 406mm D X 413mm H 20.0 to 22.5 lb (9.1 to 10.2 kg) Handle on top front Disk bay pivots forward Toolless rails for disk mounting Toolless cover removal Toolless AGP and PCI slots 	
Hyper-Threading L2 cache Implementation	Some: Hyper-Threading (HT) technology 512KB or 1MB std and max / ECC / full speed Processor and L2 cache in FC-PGA2 in mPGA4478B socket			
Memory - std/max ⁸ Memory	256MB or 512MB std / 4GB max / dual channel capable Four 184-pin gold plated DIMM sockets / one socket used (two used on models 23U, 33U, 24U, 25U, 34U); 400/533MHz bus: PC2700 333MHz DDR1 (DDR-SDRAM); 800MHz: PC3200 400MHz DDR1 ; All: non-parity / industry std / unbuffered / CAS latency 2.5 (CL2.5)		Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", access, std diskette Bay ⑤ 3.5", SL 1", no access, std disk	
Graphics (one of following)	<ul style="list-style-type: none"> Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865G or GV GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector NVIDIA® GeForce4 MX 440 / AGP 8X adapter / GeForce4 MX GPU / 64MB std and max 400MHz DDR-SDRAM / 350MHz RAMDAC / one 15-pin analog D-sub connector 		3x5 models with 865GV chipset: Slot 1: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 2: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v) 4x5 models with 865G chipset: Slot 1: 3/4-length, full-height, 32-bit AGP 8X (1.5v) Slot 2: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: 3/4-length, full-height, 32-bit PCI 2.3 (5v)	
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5) / two EIDE connectors on systemboard		SYSTEMS MANAGEMENT <ul style="list-style-type: none"> PC 2001-compliant Advanced Power Management 1.2 Advanced Configuration and Power Interface (ACPI) 2.0b SMBIOS 2.3.1-compliant DMI 2.0-compliant SECURITY <ul style="list-style-type: none"> U-bolt anchoring feature (U-bolt is optional; supports optional padlock) Security slot (for attachment of optional cable lock) Power-on password Administrator password Boot sequence control Diskette boot inhibit Boot without keyboard or mouse Diskette and disk I/O control Serial/parallel I/O control Supports ThinkVantage™ technologies LIMITED WARRANTY¹ <ul style="list-style-type: none"> 3 year parts and labor International Warranty Service⁹ Limited onsite service, 8 am - 5 pm, Mon-Fri coverage excluding holidays, next business day response time³ ServicePac options at ibm.com/services/us/its/pdf/wamomxeu.pdf 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 1-800-IBM-SERV (426-7378) 	
EIDE disk	40GB or 80GB , ATA-100, 7200 rpm, rubber vibration damp mounts			
EIDE cables	Two EIDE 80-conductor cables (one 2-drop cable to optical(s), one 2-drop to disk)			
CD	Some: 48X-20X ⁴ CD-ROM / EIDE			
CD-RW	Some: 48X/32X/48X Max ⁴ CD-RW / EIDE			
Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE			
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5 /			
SATA cables	No SATA cables / two SATA connectors on systemboard			
Diskette drive	3.5" 1.44MB diskette drive			
Chipset	Intel 865G or 865GV chipset / 82865G or 82865GV Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temp sensor			
Front ports	Two USB (Version 2.0)			
Rear ports	23U/33U: microphone (mono, 3.5mm), headphone (stereo, 3.5mm) Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)			
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec			
Audio connectors	Back: microphone-in (stereo), line-in (stereo), line-out (stereo) [all 3.5mm]			
Beeper	One internal beeper			
Ethernet	10/100 ethernet on planar / ICH5 (MAC layer) with Intel 82562 PHY (physical layer) / Intel Pro/100VE Network Connection / 32-bit PCI 2.3 / PXE / Wake on LAN®			
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black			
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black			
Cooling fans	Two variable speed fans (power supply and processor fansink)			
Power supply	230 watts with variable speed fan / universal / manual switch			
Preload with Windows XP Professional⁶	Accessories			
Microsoft® Windows® XP Professional	800MHz: 128MB PC3200 CL3 NP DDR1	22P9271		
- Disk-to-Disk Recovery (in hidden protected area); Model 34U: Serv Pack 2	800MHz: 256MB PC3200 CL3 NP DDR1	73P2685		
Preloaded (only some listed)	800MHz: 512MB PC3200 CL3 NP DDR1	73P2686		
• Access IBM	800: 1GB PC3200 CL3 NP DDR1 UDIMM	22P9272		
• Rescue and Recovery™	120GB IDE Disk ATA-100 (7200 rpm)	09N4249		
• Norton AntiVirus (OEM version)	160GB Serial ATA150 Disk (7200 rpm)	09N4254		
• InterVideo WinDVD (combo models)	Multi-Burner Plus® (DVD±RW; internal)	73P3370		
• RecordNow and DLA (CD-RW, combo)	USB 2.0 Memory Key 512MB	22P9230		
License - CD not included	ThinkVision L150 15" Monitor (black)	6636AC1		
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	ThinkVision L170 17" Monitor (black)	6734AB0		
	ThinkVision L200p 20.1" Monitor (black)	6736HB0		
	ThinkVision C190 19" (18.0" vis) (black)	673960N		
	Other options at lenovo.com/options			

See footnotes for important warranty information
US models announced June 8, October 19, or November 16, 2004
US models withdrawn effective January or June 2005

ThinkCentre™ A50 (8148) - Express - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	EIDE Memory ⁸	EIDE disk	EIDE optical	Graphics	Chipset	Audio front Mouse panel	Preload	Limited warranty ¹	Workhorse, Global, Educ	Avail date
A50	8148-41U	3x5	Pentium® 4 2.6	512K	400		128MB	40GB ²	CD	Extreme™ 2	GV 2	No	XP Home ⁵	1/1 year	IOR	No Jun 04
A50	8148-42U	3x5	Pentium 4 2.6	512K	400		256MB	40GB	CD	Extreme 2	GV O	No	XP Pro	1/1 year	IOR	No Jun 04
A50	8148-12U	4x5	Pentium 4 2.8E	1MB	800	HT	256MB	40GB	CD-RW	Extreme 2	G O	Yes	XP Pro	1/1 year	IOR	No Jun 04
A50	8148-13U	3x5	Pentium 4 2.8	512K	400		256MB	40GB	CD	Extreme 2	GV O	Yes	XP Pro	1/1 year	IOR	No Jun 04
A50	8148-15U	3x5	Pentium 4 2.8A	1MB	533		256MB	40GB	CD	Extreme 2	GV O	No	XP Pro	1/1 year	IOR	No Jun 04
A50	8148-21U	4x5	Pentium 4 3.0E	1MB	800	HT	256MB	40GB	CD	Extreme 2	G O	No	XP Pro	1/1 year	IOR	No Jun 04
A50	8148-22U	4x5	Pentium 4 3.0E	1MB	800	HT	256MB	40GB	CD-RW	Extreme 2	G O	No	XP Pro	1/1 year	IOR	No Jun 04
A50	8148-23U	4x5	Pentium 4 3.0E	1MB	800	HT	512MB	80GB	Combo	MX 440 64MB	G O	Yes	XP Pro	1/1 year	IOR	No Jun 04
A50	8148-31U	4x5	Pentium 4 3.2E	1MB	800	HT	256MB	40GB	CD	Extreme 2	G O	No	XP Pro	1/1 year	IOR	No Jun 04
A50	8148-32U	4x5	Pentium 4 3.2E	1MB	800	HT	256MB	40GB	CD-RW	Extreme 2	G O	No	XP Pro	1/1 year	IOR	No Jun 04
A50	8148-33U	4x5	Pentium 4 3.2E	1MB	800	HT	512MB	80GB	Combo	MX 440 64MB	G O	Yes	XP Pro	1/1 year	IOR	No Jun 04
A50	8148-16U	3x5	Pentium 4 2.8A	1MB	533		256MB	40GB	Combo	Extreme 2	GV O	No	XP Pro	1/1 year	IOR	No Oct 04
A50	8148-25U	4x5	Pentium 4 3.0E	1MB	800	HT	512MB	40GB	CD	Extreme 2	G O	No	XP Pro	1/1 year	IOR	No Oct 04
A50	8148-26U	4x5	Pentium 4 3.0E	1MB	800	HT	512MB	40GB	CD-RW	Extreme 2	G O	No	XP Pro	1/1 year	IOR	No Oct 04
A50	8148-35U	4x5	Pentium 4 3.2E	1MB	800	HT	512MB	40GB	CD	Extreme 2	G O	No	XP Pro	1/1 year	IOR	No Nov 04

These small and medium business (SMB) models are part of the US ThinkCentre Express Program

Positioning Processor	<i>Great technology and affordable prices</i> Intel® Pentium 4 at 2.6, 2.8, 3.0, or 3.2GHz with 400, 533, or 800MHz system bus										Tower		
Hyper-Threading L2 cache Implementation	<i>Some: Hyper-Threading (HT) technology</i> 512KB or 1MB std and max / ECC / full speed Processor and L2 cache in FC-PGA2 in mPGA478B socket										<ul style="list-style-type: none"> Business black color; 31.4 liters 7.5" W X 16.0" D X 16.3" H 191mm W X 406mm D X 413mm H 20.0 to 22.5 lb (9.1 to 10.2 kg) Handle on top front Disk bay pivots forward Toolless rails for disk mounting Toolless cover removal Toolless AGP and PCI slots 		
Memory - std/max ⁸ Memory	256MB or 512MB std / 4GB max / dual channel capable Four 184-pin gold plated DIMM sockets / one socket used (two used on 23U, 33U, 25U, 26U, 35U); <i>400/533MHz system bus: PC2700 333MHz DDR1 (DDR-SDRAM); 800MHz: PC3200 400MHz DDR1; All: non-parity / industry std / unbuffered / CAS latency 2.5 (CL2.5)</i>										<ul style="list-style-type: none"> Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", access, std diskette Bay ⑤ 3.5", SL 1", no access, std disk 		
Graphics (one of following)	<ul style="list-style-type: none"> Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865G or GV GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector NVIDIA® GeForce4 MX 440 / AGP 8X adapter / GeForce4 MX GPU / 64MB std and max 400MHz DDR-SDRAM / 350MHz RAMDAC / one 15-pin analog D-sub connector 										3x5 models with 865GV chipset: Slot 1: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 2: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v) 4x5 models with 865G chipset: Slot 1: 3/4-length, full-height, 32-bit AGP 8X (1.5v) Slot 2: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: 3/4-length, full-height, 32-bit PCI 2.3 (5v)		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5) / two EIDE connectors on systemboard										SYSTEMS MANAGEMENT <ul style="list-style-type: none"> PC 2001-compliant Advanced Power Management 1.2 Advanced Configuration and Power Interface (ACPI) 2.0b SMBIOS 2.3.1-compliant DMI 2.0-compliant 		
EIDE disk	40GB or 80GB , ATA-100, 7200 rpm, rubber vibration damp mounts												
EIDE cables	Two EIDE 80-conductor cables (one 2-drop cable to optical(s), one 2-drop to disk)										SECURITY <ul style="list-style-type: none"> U-bolt anchoring feature (U-bolt is optional; supports optional padlock) Security slot (for attachment of optional cable lock) Power-on password Administrator password Boot sequence control Diskette boot inhibit Boot without keyboard or mouse Diskette and disk I/O control Serial/parallel I/O control 		
CD	<i>Some: 48X/20X⁴ CD-ROM / EIDE</i>												
CD-RW	<i>Some: 48X/32X/48X Max⁴ CD-RW / EIDE</i>										LIMITED WARRANTY¹ <ul style="list-style-type: none"> 1 year parts and labor International Warranty Service⁹ Limited onsite service, 8 am - 5 pm, Mon - Fri coverage excluding holidays, 2nd business day response time³ Onsite service upgrade options (in eligible locations)⁷: <ul style="list-style-type: none"> 1 year 9x5 4 hour response (ServicePac® part number 54P1858) 3 year 9x5 Next Business Day (ServicePac part number 54P1861) 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 		
Combo	<i>Some: 48X/32X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo / EIDE</i>												
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5 /										ACCESSORIES <ul style="list-style-type: none"> 800MHz: 128MB PC3200 CL3 NP DDR1 22P9271 800MHz: 256MB PC3200 CL3 NP DDR1 73P2685 800MHz: 512MB PC3200 CL3 NP DDR1 73P2686 800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272 120GB IDE Disk ATA-100 (7200 rpm) 09N4249 160GB Serial ATA150 Disk (7200 rpm) 09N4254 Multi-Burner Plus⁶ (DVD±RW; internal) 73P3370 USB 2.0 Memory Key 512MB 22P9230 ThinkVision L150 15" Monitor (black) 6636AC1 ThinkVision L170 17" Monitor (black) 6734AB0 ThinkVision C190 19" (18.0" vis) (black) 673960N Other options at lenovo.com/options 		
SATA cables	No SATA cables / two SATA connectors on systemboard												
Diskette drive	3.5" 1.44MB diskette drive										PRELOAD WITH WINDOWS XP HOME⁵ Microsoft® Windows® XP Home Edition - Disk-to-Disk Recovery (in hidden protected area)		
Chipset	Intel 865G or 865GV chipset / 82865G or 82865GV Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temp sensor												
Front ports	Two USB (Version 2.0) <i>12U/13U/23U/33U:</i> microphone (mono, 3.5mm), headphone (stereo, 3.5mm)										PRELOAD WITH WINDOWS XP PROFESSIONAL⁵ Microsoft Windows XP Professional - Disk-to-Disk Recovery (in hidden protected area); <i>Model 35U:</i> Serv Pack 2		
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)												
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec										PRELOADED (all; only some listed) <ul style="list-style-type: none"> Rescue and Recovery™ InterVideo WinDVD (combo models) RecordNow and DLA (CD-RW, combo) 		
Audio connectors	<i>Back:</i> microphone-in (stereo), line-in (stereo), line-out (stereo) [all 3.5mm]												
Beeper	One internal beeper										COOLING AND POWER SUPPLY Two variable speed fans (power supply and processor fansink) 230 watts with variable speed fan / universal / manual switch		
Ethernet	10/100 ethernet on planar / ICH5 (MAC layer) with Intel 82562 PHY (physical layer) / Intel Pro/100VE Network Connection / 32-bit PCI 2.3 / PXE / Wake on LAN®												
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black										KEYBOARD AND MOUSE <i>Some:</i> [2] Std 2-Button PS/2 Mouse (6-pin PS/2 connector), black <i>Some:</i> [O] Optical Wheel Mouse (USB only), 400 dpi, black		
Mouse	<i>Some:</i> [O] Optical Wheel Mouse (USB only), 400 dpi, black												
Cooling fans	Two variable speed fans (power supply and processor fansink)										POWER SUPPLY 230 watts with variable speed fan / universal / manual switch		
Power supply	230 watts with variable speed fan / universal / manual switch												

See footnotes for important warranty information
US models announced June 8, October 19, or November 16, 2004
US models withdrawn effective January 2005

ThinkCentre® A50 (8148) - Celeron (Express) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Bus MHz	Memory ⁸	Diskette drive	EIDE disk	EIDE optical	Graphics	Chipset	Mouse	Preload	warranty ¹	Limited Global	Workhorse, Educ	Avail date
A50	8148-A1U	3x5	Celeron®	2.4	128KB	400	256MB	Yes	40GB ²	CD	Extreme™ 2	GV	Opcl	XP Pro ⁵	1/1 year	LOR	No	Jun 04
A50	8148-A2U	3x5	Celeron	2.4	128KB	400	128MB	Yes	40GB	CD	Extreme 2	GV	2 btn	XP Home	1/1 year	LOR	No	Jun 04
A50	8148-D1U	3x5	Celeron	2.6	128KB	400	256MB	Yes	40GB	CD	Extreme 2	GV	Opcl	XP Pro	1/1 year	LOR	No	Jun 04
A50	8148-A4U	3x5	Celeron D 320	2.40	256KB	533	256MB	Yes	40GB	CD	Extreme 2	GV	Opcl	XP Pro	1/1 year	LOR	No	Aug 04
A50	8148-B2U	3x5	Celeron D 325	2.53	256KB	533	256MB	Yes	40GB	CD	Extreme 2	GV	Opcl	XP Pro	1/1 year	LOR	No	Aug 04
A50	8148-D3U	3x5	Celeron D 330	2.66	256KB	533	256MB	Yes	40GB	CD	Extreme 2	GV	Opcl	XP Pro	1/1 year	LOR	No	Aug 04
A50	8148-E1U	3x5	Celeron D 335	2.80	256KB	533	256MB	Yes	40GB	CD	Extreme 2	GV	Opcl	XP Pro	1/1 year	LOR	No	Aug 04

These small and medium business (SMB) models are part of the US ThinkCentre Express Program

Positioning	<i>Great technology and affordable prices</i>											Tower		
Processor	Intel® Celeron at 2.4 or 2.6GHz with 400MHz system bus or Intel Celeron D Processor 320 (2.40GHz), 325 (2.53GHz), 330 (2.66GHz), or 335 (2.80GHz) with 533MHz system bus											<ul style="list-style-type: none"> Business black color 7.5" W X 15.7" D X 16.3" H 190mm W X 399mm D X 415mm H 20.0 to 22.5 lb (9.1 to 10.2 kg) Handle on top front Disk bay pivots forward Toolless rails for disk mounting Toolless cover removal Toolless AGP and PCI slots 		
Hyper-Threading	No Hyper-Threading (HT) technology support											Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", access, std diskette Bay ⑤ 3.5", SL 1", no access, std disk		
L2 cache	128KB or 256KB std and max / ECC / full speed											Slot 1: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 2: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v)		
Implementation	Processor and L2 cache in FC-PGA2 in mPGA478B socket													
Memory - std/max ⁸	128MB or 256MB std / 4GB max													
Memory	Four 184-pin gold plated DIMM sockets / one socket used / PC2700 333MHz DDR1 (DDR-SDRAM) / non-parity / industry std / unbuffered / CAS latency 2.5 (CL2.5) / dual channel capable													
Graphics	Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865GV GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector													
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5) / two EIDE connectors on systemboard													
EIDE disk	40GB, ATA-100, 7200 rpm, rubber vibration damp mounts													
EIDE cables	Two EIDE 80-conductor cables (one 2-drop cable to optical(s), one 2-drop to disk)													
CD	48X-20X ⁴ CD-ROM / EIDE													
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5 /													
SATA cables	No SATA cables / two SATA connectors on systemboard													
Diskette drive	3.5" 1.44MB diskette drive													
Chipset	Intel 865GV chipset / 82865GV Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temperature sensor													SYSTEMS MANAGEMENT
Front ports	Two USB (Version 2.0)													<ul style="list-style-type: none"> PC 2001-compliant Advanced Power Management 1.2 Advanced Configuration and Power Interface (ACPI) 2.0b SMBIOS 2.3.1-compliant DMI 2.0-compliant
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)													SECURITY
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec													<ul style="list-style-type: none"> U-bolt anchoring feature (U-bolt is optional; supports optional padlock) Security slot (for attachment of optional cable lock) Power-on password Administrator password Boot sequence control Diskette boot inhibit Boot without keyboard or mouse Diskette and disk I/O control Serial/parallel I/O control
Audio connectors	Back: microphone-in (stereo), line-in (stereo), line-out (stereo) [all 3.5mm]													
Beeper	One internal beeper													
Ethernet	10/100 ethernet on planar / ICH5 (MAC layer) with Intel 82562 PHY (physical layer) / Intel Pro/100VE Network Connection / 32-bit PCI 2.3 / PXE / Wake on LAN®													
Modem	None													
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black													
Mouse	Some: [2 btn] Std 2-Button PS/2 Mouse (6-pin PS/2 connector), black Some: [Opcl] Optical Wheel Mouse (USB only), 400 dpi, black													
Cooling fans	Two variable speed fans (power supply and processor fansink)													
Power supply	230 watts with variable speed fan / universal / manual switch													
Preload with Windows XP Home⁵			Accessories						Supports ThinkVantage™ technologies					
Microsoft® Windows® XP Home Edition			128MB PC2700 CL2.5 NP DDR UDIMM			31P8854			LIMITED WARRANTY¹ <ul style="list-style-type: none"> 1 year parts and labor International Warranty Service³ Limited onsite service, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time³ Onsite service upgrade options (in eligible locations)⁷: <ul style="list-style-type: none"> 1 year 9x5 4 hour response (ThinkPlus™ part number 41C9189) 2 year 9x5 Next Business Day (ThinkPlus part number 41C9187) 2 year 9x5 4 hour response (ThinkPlus part number 41C9190) 3 year 9x5 Next Business Day (ThinkPlus part number 41C9188) 3 year 9x5 4 hour response (ThinkPlus part number 41C9191) Post-warranty maintenance services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 1-800-IBM-SERV (426-7378) 					
- Disk-to-Disk Recovery (in hidden protected area)			256MB PC2700 CL2.5 NP DDR UDIMM			31P8855								
Preload with Windows XP Professional⁵			512MB PC2700 CL2.5 NP DDR UDIMM			31P8856								
Microsoft Windows XP Professional			1GB PC2700 CL2.5 NP DDR UDIMM			31P8857								
- Disk-to-Disk Recovery (in hidden protected area)			80GB IDE Disk ATA-100 (7200 rpm)			09N4248								
Preloaded (all; only some listed)			120GB IDE Disk ATA-100 (7200 rpm)			09N4249								
• Access Program			160GB Serial ATA150 Disk (7200 rpm)			09N4254								
• Rescue and Recovery™			48X/32X/48X Max ⁴ CD-RW internal (black)			22P7042								
• Update Connector™ ¹⁵			48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo drive (black)			73P3300								
• Adobe Reader			Multi-Burner Plus ⁶ (DVD±RW; internal)			73P3370								
• Norton AntiVirus (OEM version)			USB 2.0 Memory Key 512MB			22P9230								
• PC-Doctor™ (diagnostics)			USB 2.0 Memory Key 1GB			40Y7421								
Downloadable (all)			ThinkVision® L151 15" Monitor (black)			9205AB2								
• Software Delivery Assistant			ThinkVision L171 17" Monitor (black)			9417AB1								
• System Migration Assistant			ThinkVision L171p 17" Monitor (black)			9417HB7								
• IBM Director Agent			ThinkVision L191p 19" Monitor (black)			9419HB7								
License - CD not included (all)			ThinkVision L200p 20.1" Monitor (black)			6736HC9								
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client (Notes client not supported on XP Home)			ThinkVision C190 19" (18.0" vis) (black)			6739P0N								
			Kensington® MicroSaver® Desktop Lock			06P3839								
			Enhanced Performance USB Keyboard			73P2620								
			Belkin® 800VA UPS with AVR technology			31P7662								
			Other options at lenovo.com/options											

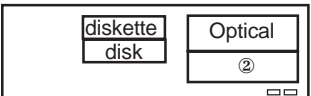
See footnotes for important warranty information
US models announced June 8 or August 10, 2004
US models withdrawn effective January, June, or December 2005

ThinkCentre™ A50 (8149) - Express - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	EIDE Memory ³	EIDE disk	EIDE optical	Graphics	Chipset	Preload warranty ¹	Limited Global	Workhorse Entry	Avail date
A50	8149-41U	3x4	Pentium® 4	2.6	512KB	400		256MB	40GB ²	CD	Extreme™ 2 GMCH	GV	XP Pro ⁵	3/3 yr IOR	No	Jun 2004
A50	8149-11U	3x4	Pentium 4	2.8A	1MB	533		256MB	40GB	CD	Extreme 2 GMCH	GV	XP Pro	3/3 yr IOR	No	Jun 2004
A50	8149-14U	3x4	Pentium 4	2.8	512KB	400		256MB	40GB	CD	Extreme 2 GMCH	GV	XP Pro	3/3 yr IOR	No	Jun 2004
A50	8149-21U	4x4	Pentium 4	3.0E	1MB	800	HT	256MB	40GB	CD	Extreme 2 GMCH	G	XP Pro	3/3 yr IOR	No	Jun 2004
A50	8149-31U	4x4	Pentium 4	3.2E	1MB	800	HT	256MB	40GB	CD	Extreme 2 GMCH	G	XP Pro	3/3 yr IOR	No	Jun 2004
A50	8149-24U	4x4	Pentium 4	3.0E	1MB	800	HT	512MB	40GB	CD	Extreme 2 GMCH	G	XP Pro	3/3 yr IOR	No	Oct 2004
A50	8149-33U	4x4	Pentium 4	3.2E	1MB	800	HT	512MB	40GB	CD	Extreme 2 GMCH	G	XP Pro	3/3 yr IOR	No	Nov 2004

These small and medium business (SMB) models are part of the US ThinkCentre Express Program

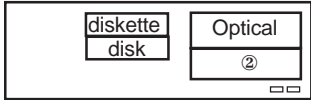
Positioning	<i>Great technology and affordable prices</i>											Desktop		
Processor	Intel® Pentium 4 at 2.6, 2.8, 3.0, or 3.2GHz with 400, 533, or 800MHz system bus													
Hyper-Threading	Some: Hyper-Threading (HT) technology													
L2 cache	512KB or 1MB std and max / ECC / full speed											Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, std diskette Bay ④ 3.5", SL 1", no access, std disk		
Implementation	Processor and L2 cache in FC-PGA2 in mPGA478B socket											3x4 models with 865GV chipset: Slot 1: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 2: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)		
Memory - std/max ⁸	256MB std / 4GB max											4x4 models with 865G chipset: Slot 1: full-length, full-height, 32-bit AGP 8X (1.5v) Slot 2: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)		
Memory	Four 184-pin gold plated DIMM sockets / one socket used (two used on models 24U and 33U); 400/533MHz system bus: PC2700 333MHz DDR1 (DDR-SDRAM); 800MHz: PC3200 400MHz DDR1; All: non-parity / industry std / unbuffered / CAS latency 2.5 (CL2.5) / dual channel capable											• Business black color; 25.2 liters • 16.7" W X 16.3"D X 5.5"H • 425mm W X 414mm D X 140mm H • 22 to 25 lb (10.0 to 11.4 kg) • Bay 1 and 2 in cage flips up (latched and pivoting) • Bay 3 and 4 in cage flips up (latched and pivoting) • Toolless rails for disk mounting • Toolless cover removal; toolless AGP and PCI slots		
Graphics	Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865G or GV GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector													
EIDE disk	40GB, ATA-100, 7200 rpm, rubber vibration dampening mounts													
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5)													
EIDE cables	Two EIDE 80-conductor cables (one 2-drop cable to optical, one 1-drop cable to disk) / two EIDE connectors on systemboard													
CD	48X-20X ⁴ CD-ROM / EIDE													
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5													
SATA cables	No SATA cables / two SATA connectors on systemboard													
Diskette drive	3.5" 1.44MB diskette drive													
Chipset	Intel 865G or 865GV chipset / 82865G or 82865GV Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temp sensor											SYSTEMS MANAGEMENT <ul style="list-style-type: none"> PC 2001-compliant Advanced Power Management 1.2 Advanced Configuration and Power Interface (ACPI) 2.0b SMBIOS 2.3.1-compliant DMI 2.0-compliant 		
Ports	Front: two USB (Version 2.0) Back: four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)													
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec													
Audio connectors	Back: microphone-in (stereo), line-in (stereo), line-out (stereo) [all 3.5mm]													
Beeper	One internal beeper													
Ethernet	10/100 ethernet on planar / ICH5 (MAC layer) with Intel 82562 PHY (physical layer) / Intel Pro/100VE Network Connection / 32-bit PCI 2.3 / PXE / Wake on LAN®													
Security chip	None													
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black													
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black													
Cooling fans	Two variable speed fans (power supply and processor fansink)													
Power supply	230 watts with variable speed fan / universal / manual switch													
Preload with Windows XP Professional⁵	Accessories													
- Microsoft® Windows® XP Professional	800MHz: 128MB PC3200 CL3 NP DDR1											22P9271		
- Model 33U: Service Pack 2	800MHz: 256MB PC3200 CL3 NP DDR1											73P2685		
- Disk-to-Disk Recovery (in hidden protected area)	800MHz: 512MB PC3200 CL3 NP DDR1											73P2686		
Preloaded	800: 1GB PC3200 CL3 NP DDR1 UDIMM											22P9272		
• Access IBM	80GB IDE Disk ATA-100 (7200 rpm)											09N4248		
• Rescue and Recovery™	120GB IDE Disk ATA-100 (7200 rpm)											09N4249		
• Update Connector™.15	160GB Serial ATA150 Disk (7200 rpm)											09N4254		
• Adobe Reader	48X/32X/48X Max ⁴ CD-RW internal (black)											22P7042		
• PC-Doctor™ (diagnostics)	48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM													
• Norton AntiVirus (OEM version)	Combo drive (black)											73P3300		
Downloadable	Multi-Burner Plus ³ (DVD±RW; internal)											73P3370		
• Software Delivery Assistant	USB 2.0 Portable 40GB Hard Disk											22P7196		
• System Migration Assistant	USB 2.0 Memory Key 512MB											22P9230		
• IBM Director Agent	ThinkVision™ L150 15" Monitor (black)											6636AC1		
License - CD not included	ThinkVision L170p 17" Monitor (black)											6734HB0		
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	ThinkVision L191p 19" Monitor (black)											9419HB7		
	ThinkVision L200p 20.1" Monitor (black)											6736HB0		
	ThinkVision C170 17" (16.0" vis) (black)											673766N		
	ThinkVision C190 19" (18.0" vis) (black)											673960N		
	ThinkVision C220p 22" (20.0" vis) (black)											673560N		
	Kensington® MicroSaver® Desktop Lock											06P3839		
	Enh Perf Wireless Keyboard and Mouse											73P4067		
	Enhanced Performance USB Keyboard											73P2620		
	Other options at lenovo.com/options													
Supports ThinkVantage™ technologies; visit ibm.com/thinkvantage														
LIMITED WARRANTY¹														
<ul style="list-style-type: none"> 3 year parts and labor International Warranty Service⁹ Limited onsite service, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time³ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3 year IOR 9x5, 4 hour response (ServicePac® part number 41L2734) 3 year IOR 24x7, 4 hour response (ServicePac part number 41L2740) Other ServicePac options at ibm.com/services/us/its/pdf/wamomxeu.pdf 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 														

See footnotes for important warranty information
US models announced June 8, October 19, or November 16, 2004
US models withdrawn effective January or June 2005

ThinkCentre® A50 (8177) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	Memory ⁸	EIDE disk	EIDE optical	Graphics in GMCH	Chipset	Preload warranty ¹	Limited Global, Entry	Workhorse	Avail date
A50	8177-A3U	3x4	Celeron®	2.4	128KB	400	No	256MB	40GB ²	CD	Extreme™ 2	GV XP Pro ⁵	3/1 yr LOR	No	Jun 2004	
A50	8177-D1U	3x4	Celeron	2.6	128KB	400	No	256MB	40GB	CD	Extreme 2	GV XP Pro	3/1 yr LOR	No	Jun 2004	
A50	8177-B1U	3x4	Celeron D 325	2.53	256KB	533	No	256MB	40GB	CD	Extreme 2	GV XP Pro	3/1 yr LOR	No	Aug 2004	
A50	8177-D3U	3x4	Celeron D 330	2.66	256KB	533	No	256MB	40GB	CD	Extreme 2	GV XP Pro	3/1 yr LOR	No	Aug 2004	
A50	8177-E3U	3x4	Celeron D 335	2.80	256KB	533	No	256MB	40GB	CD	Extreme 2	GV XP Pro	3/1 yr LOR	No	Aug 2004	
A50	8177-E4U	3x4	Celeron D 340	2.93	256KB	533	No	256MB	40GB	CD	Extreme 2	GV XP Pro	3/1 yr LOR	No	Nov 2004	

Positioning Processor	<i>Great technology and affordable prices</i> Intel® Celeron at 2.4 or 2.6GHz with 400MHz system bus or Intel Celeron D Processor 325 (2.53GHz), 330 (2.66GHz), 335 (2.80GHz), or 340 (2.93GHz) with 533MHz system bus		Desktop	
Hyper-Threading L2 cache Implementation	No Hyper-Threading (HT) technology support 128KB or 256MB std and max / ECC / full speed Processor and L2 cache in FC-PGA2 in mPGA478B socket		Bay ① 5.25", HH 1.6" access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1" access, std diskette Bay ④ 3.5", SL 1", no access, std disk	
Memory - std/max ⁸ Memory	256MB std / 4GB max Four 184-pin gold plated DIMM sockets / one socket used / PC2700 333MHz DDR1 (DDR-SDRAM) / non-parity / industry std / unbuffered / CAS latency 2.5 (CL2.5) / dual channel capable		Slot 1: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 2: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)	
Graphics	Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865GV GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector		<ul style="list-style-type: none"> • Business black color • 16.7" W X 16.3" D X 5.5" H • 425mm W X 414mm D X 140mm H • 22 to 25 lb (10.0 to 11.4 kg) • Bay 1 and 2 in cage flips up (latched and pivoting) • Bay 3 and 4 in cage flips up (latched and pivoting) • Toolless rails for disk mounting • Toolless cover removal; toolless AGP and PCI slots 	
EIDE disk	40GB , ATA-100, 7200 rpm, rubber vibration dampening mounts			
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5)			
EIDE cables	Two EIDE 80-conductor cables (one 2-drop cable to optical, one 1-drop cable to disk) / two EIDE connectors on systemboard			
CD	48X-20X ⁴ CD-ROM / EIDE			
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5			
SATA cables	No SATA cables / two SATA connectors on systemboard			
Diskette drive	3.5" 1.44MB diskette drive			
Chipset	Intel 865GV chipset / 82865GV Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temperature sensor			SYSTEMS MANAGEMENT
Ports	<i>Front:</i> two USB (Version 2.0) <i>Back:</i> four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)			<ul style="list-style-type: none"> • PC 2001-compliant • Advanced Power Management 1.2 • Advanced Configuration and Power Interface (ACPI) 2.0b • SMBIOS 2.3.1-compliant • DMI 2.0-compliant
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec			SECURITY
Audio connectors	<i>Back:</i> microphone-in (stereo), line-in (stereo), line-out (stereo) [all 3.5mm]			<ul style="list-style-type: none"> • U-bolt anchoring feature (U-bolt is optional; supports optional padlock) • Security slot (for attachment of optional cable lock) • Power-on password • Administrator password • Boot sequence control • Diskette boot inhibit • Boot without keyboard or mouse • Diskette and disk I/O control • Serial/parallel I/O control
Beeper	One internal beeper			
Ethernet	10/100 ethernet on planar / ICH5 (MAC layer) with Intel 82562 PHY (physical layer) / Intel Pro/100VE Network Connection / 32-bit PCI 2.3 / PXE / Wake on LAN®			
Security chip	None			
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black			
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black			
Cooling fans	Two variable speed fans (power supply and processor fansink)			
Power supply	230 watts with variable speed fan / universal / manual switch			
Preload with Windows XP Professional⁵	Accessories			LIMITED WARRANTY¹
Microsoft® Windows® XP Professional	128MB PC2700 CL2.5 NP DDR UDIMM		31P8854	⇒ 3 year parts / 1 year labor
- Model E4U: Service Pack 2	256MB PC2700 CL2.5 NP DDR UDIMM		31P8855	⇒ International Warranty Service⁹
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2700 CL2.5 NP DDR UDIMM		31P8856	⇒ 1st year: limited onsite service, 8 am - 5 pm, Mon-Fri coverage excl holidays, 2nd business day response time³
Preloaded	1GB PC2700 CL2.5 NP DDR UDIMM		31P8857	⇒ 2nd/3rd year: parts exchange only, call 1-800-IBM-SERV (426-7378)
• Access Program	80GB IDE Disk ATA-100 (7200 rpm)		09N4248	⇒ Onsite service upgrade options (in eligible locations):⁷
• Rescue and Recovery™	120GB IDE Disk ATA-100 (7200 rpm)		09N4249	• 3 year LOR 9x5, Next Business Day (ThinkPlus™ part number 41C9181)
• Update Connector™.15	160GB Serial ATA150 Disk (7200 rpm)		09N4254	• 3 year LOR 9x5, 4 hour response (ThinkPlus part number 41C9182)
• Adobe Reader	48X/32X/48X Max ⁴ CD-RW internal (black)		22P7042	• 4 year LOR 9x5, Next Business Day (ThinkPlus part number 41C9184)
• PC-Doctor™ (diagnostics)	48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM		73P3300	• 4 year LOR 9x5, 4 hour response (ThinkPlus part number 41C9185)
• Norton AntiVirus (OEM version)	Combo drive (black)		73P3370	• 4 year LOR 24x7, 4 hour response (ThinkPlus part number 41C9186)
Downloadable	Multi-Burner Plus ⁶ (DVD±RW; internal)		40Y8726	⇒ Post warranty maintenance services available
• Software Delivery Assistant	USB 2.0 Portable 80GB Hard Disk		40Y7421	⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 1-800-IBM-SERV (426-7378)
• System Migration Assistant	USB 2.0 Memory Key 1GB		9205AB2	
• IBM Director Agent	ThinkVision® L151 15" Monitor (black)		9205HB2	
License - CD not included	ThinkVision L171 17" Monitor (black)		9417AB1	
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	ThinkVision L171p 17" Monitor (black)		9417HB7	
	ThinkVision L191p 19" Monitor (black)		9419HB7	
	ThinkVision L200p 20.1" Monitor (black)		6736HC9	
	ThinkVision C170 17" (16.0" vis) (black)		6737P6N	
	ThinkVision C190 19" (18.0" vis) (black)		6739P0N	
	Kensington® MicroSaver® Desktop Lock		06P3839	
	Enh Perf Wireless Keyboard and Mouse		73P4067	
	Enhanced Performance USB Keyboard		73P2620	
	Other options at lenovo.com/options			

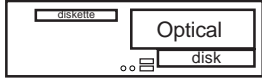
See footnotes for important warranty information
US models announced June 8, August 10, or November 16, 2004
US models withdrawn effective June or December 2005

ThinkCentre™ A50 (8419) - Express (February 2004) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	Memory ⁸	EIDE disk	EIDE optical	Graphics	Ethernet	Preload	Workhorse Gbl, Entry	Avail date
A50	8419-35U	2x3	Pentium® 4	2.8E	1MB	800	HT	256MB	40GB ²	CD	Extreme™ 2 GMCH	10/100	XP Pro ⁵	No	Feb 2004
A50	8419-36U	2x3	Pentium 4	2.8E	1MB	800	HT	256MB	40GB	CD-RW	Extreme 2 GMCH	10/100	XP Pro	No	Feb 2004
A50	8419-41U	2x3	Pentium 4	3.0E	512KB	533	HT	256MB	40GB	CD	Extreme 2 GMCH	10/100	XP Pro	No	Feb 2004
A50	8419-42U	2x3	Pentium 4	3.0E	1MB	800	HT	256MB	40GB	CD-RW	Extreme 2 GMCH	10/100	XP Pro	No	Feb 2004
A50	8419-43U	2x3	Pentium 4	3.0E	1MB	800	HT	256MB	40GB	CD	Extreme 2 GMCH	10/100	XP Pro	No	Feb 2004
A50	8419-51U	2x3	Pentium 4	3.2	512KB	800	HT	256MB	40GB	CD	Extreme 2 GMCH	10/100	XP Pro	No	Feb 2004
A50	8419-52U	2x3	Pentium 4	3.2	512KB	800	HT	256MB	40GB	CD-RW	Extreme 2 GMCH	10/100	XP Pro	No	Feb 2004

These small and medium business (SMB) models are part of the US ThinkCentre Express Program

Positioning Processor	<i>Smallest ThinkCentre desktop without compromise</i> Intel® Pentium 4 at 2.8, 3.0, 3.06, or 3.2GHz with 533 or 800MHz system bus	Small Form Factor 
Hyper-Threading L2 cache Implementation	Hyper-Threading (HT) technology support 512KB or 1MB std and max / ECC / full speed Processor and L2 cache in FC-PGA2 in mPGA478B socket	
Memory - std/max ⁸ Memory - sockets Memory - type	256MB std / 2GB max Two 184-pin gold plated DIMM sockets / one socket used PC2700 333MHz DDR1 (DDR-SDRAM) / non-parity / industry std / unbuffered / CAS latency 2.5 (CL2.5) / dual channel capable	Bay ① 3.5", slim .5", access, std diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)
Graphics	Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865G GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector	• Business black color; metal case; 9.4 liters • 12.2" W X 14.1" D X 3.3" H • 310mm W X 358mm D X 85mm H • With vertical stand: 5.0" W X 14.6" D X 13.6" H • With vertical stand: 126mm W X 370mm D X 346mm H • 18.0 to 20.0 lb (8.1 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two PCI slots on riser card • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • System stand for vertical orientation
EIDE disk EIDE controller EIDE cables CD CD-RW SATA controller SATA cables Diskette drive	40GB , ATA-100, 7200 rpm, rubber vibration dampening mounts Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5) One EIDE 80-conductor cable (one 2-drop cable to optical and disk) / one EIDE connector on systemboard <i>Some:</i> 48X-20X ⁴ CD-ROM / EIDE <i>Some:</i> 48X/32X/48X Max ⁴ CD-RW / EIDE Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5 No SATA cables / two SATA connectors on systemboard 3.5" 1.44MB diskette drive	
Chipset	Intel 865G chipset / 82865G Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temperature sensor	SYSTEMS MANAGEMENT <ul style="list-style-type: none"> • PC 2001-compliant • Advanced Power Management 1.2 • Advanced Configuration and Power Interface (ACPI) 2.0b • SMBIOS 2.3.1-compliant • DMI 2.0-compliant
Ports	<i>Front:</i> two USB (Version 2.0), microphone in (stereo), headphone out (stereo) <i>Back:</i> six USB (Version 2.0), two serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Audio connectors Audio	<i>Back:</i> line-in (stereo), line-out (stereo) [all 3.5mm] Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec	
Speaker Ethernet	One internal speaker for business audio 10/100 ethernet on planar / ICH5 (MAC layer) with Intel 82562 PHY (physical layer) / Intel Pro/100VE Network Connection / 32-bit PCI 2.2 / PXE / Wake on LAN®	
Modem Security chip	None None	
Keyboard Mouse Cooling fans Power supply	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black Optical Wheel Mouse (USB only), 400 dpi, black Two variable speed fans (front fan for passive heatsink, power supply) 200 watts with variable speed fan / universal / manual switch	
Preload with Windows XP Professional⁵	Accessories	
Microsoft® Windows® XP Professional	800MHz: 128MB PC3200 CL3 NP DDR1 22P9271	
- Disk-to-Disk Recovery (in hidden protected area)	800MHz: 256MB PC3200 CL3 NP DDR1 73P2685	
Preloaded	800MHz: 512MB PC3200 CL3 NP DDR1 73P2686	
• Access IBM	800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272	
• Access Support	80GB IDE Disk ATA-100 (7200 rpm) 09N4248	
• Rapid Restore™ Ultra	120GB IDE Disk ATA-100 (7200 rpm) 09N4249	
• Update Connector™.15	160GB Serial ATA150 Disk (7200 rpm) 09N4254	
• Adobe Acrobat Reader	48X/32X/48X Max ⁴ CD-RW internal (black) 22P7042	
• PC-Doctor™ (diagnostics)	48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM 73P3300	
• Norton AntiVirus (OEM Version)	Combo drive (black) 73P3370	
• RecordNow and DLA (CD-RW models)	Multi-Burner Plus ⁶ (DVD±RW; internal) 22P7196	
Downloadable	USB 2.0 Portable 40GB Hard Disk 22P7099	
• Software Delivery Assistant	lomega® Zip 750MB USB 2.0 Ext Drive 22P9230	
• System Migration Assistant	USB 2.0 Memory Key 512MB 33L3543	
• IBM Director Agent	ThinkVision L150p 15" Monitor (black) 6636HB1	
License - CD not included	ThinkVision L170 17" Monitor (black) 6734AB0	
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	ThinkVision L170p 17" Monitor (black) 6734HB0	
	ThinkVision L191p 19" Monitor (black) 9419HB7	
	ThinkVision L200p 20.1" Monitor (black) 6736HB0	
	ThinkVision C170 17" (16.0" vis) (black) 673766N	
	ThinkVision C190 19" (18.0" vis) (black) 673960N	
	ThinkVision C220p 22" (20.0" vis) (black) 673560N	
	Belkin® 800VA UPS with AVR technology 31P7662	
	Other options at lenovo.com/options	
		LIMITED WARRANTY¹ <ul style="list-style-type: none"> ↔ 3 year parts / 1 year labor ↔ International Warranty Service⁹ ↔ 1st year: limited onsite service, 8 am - 5 pm, Mon - Fri coverage excl holidays, 2nd business day response time³ ↔ 2nd/3rd year: parts exchange only, call 1-800-IBM-SERV (426-7378) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3 year IOR 9x5, Next Business Day (ServicePac® part number 30L9199) • 3 year IOR 9x5, 4 hour response (ServicePac part number 41L2732) • 3 year IOR 24x7, 4 hour response (ServicePac part number 31L2724) • 4 year IOR 9x5, Next Business Day (ServicePac part number 69P9158) • 4 year IOR 9x5, 4 hour response (ServicePac part number 69P9159) • 4 year IOR 24x7, 4 hour response (ServicePac part number 69P9160) ↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹

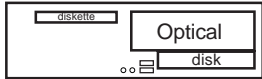
See footnotes for important warranty information
US models announced February 10, 2004
US models withdrawn effective August 2004, January 2005, or June 2005

ThinkCentre™ A50 (8419) - Express (September 2004) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	Memory ⁸	Memory type	EIDE disk	EIDE optical	Graphics in GMCH	Ethernet	Preload	Workhorse Gbl, Entry	Avail date
A50	8419-37U	2x3	Pentium® 4	2.8A	1MB	533		512MB	PC2700	40GB ²	CD	Extreme™ 2	10/100	XP Pro ⁵	No	Oct 2004
A50	8419-44U	2x3	Pentium 4	3.0E	1MB	800	HT	512MB	PC3200	40GB	CD	Extreme 2	10/100	XP Pro	No	Oct 2004
A50	8419-53U	2x3	Pentium 4	3.2E	1MB	800	HT	256MB	PC3200	40GB	CD	Extreme 2	10/100	XP Pro	No	Oct 2004
A50	8419-54U	2x3	Pentium 4	3.2E	1MB	800	HT	512MB	PC3200	40GB	Combo	Extreme 2	10/100	XP Pro	No	Oct 2004
A50	8419-61U	2x3	Pentium 4	3.4E	1MB	800	HT	512MB	PC3200	40GB	Combo	Extreme 2	10/100	XP Pro	No	Oct 2004

These small and medium business (SMB) models are part of the US ThinkCentre Express Program

Positioning Processor	<i>Smallest ThinkCentre desktop without compromise</i> Intel® Pentium 4 at 2.8, 3.0, 3.2, or 3.4GHz with 533 or 800MHz system bus		Small Form Factor	
Hyper-Threading L2 cache Implementation	<i>Some: Hyper-Threading (HT) technology support</i> 1MB std and max / ECC / full speed Processor and L2 cache in FC-PGA2 in mPGA478B socket			
Memory std/max ⁸ Memory	256MB std / 2GB max Two 184-pin gold plated DIMM sockets / one socket used <i>533MHz system bus: PC2700 333MHz DDR1 (CL2.5);</i> <i>800MHz system bus: PC3200 400MHz DDR1 (CL3);</i> <i>All: non-parity / industry std / unbuffered / dual channel capable</i>		Bay ① 3.5", slim .5", access, std diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)	
Graphics	Integrated Intel Extreme™ Graphics 2 / Direct AGP / in 865G GMCH / uses main memory (up to 64MB with 256MB+) / 266MHz / DVMT / one 15-pin analog D-sub connector		<ul style="list-style-type: none"> • Business black color; metal case; 9.4 liters • 12.2" W X 14.1"D X 3.3"H • 310mm W X 358mm D X 85mm H • With vertical stand: 5.0" W X 14.6"D X 13.6"H • With vertical stand: 126mm W X 370mm D X 346mm H • 18.0 to 20.0 lb (8.1 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two PCI slots on riser card • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • System stand for vertical orientation 	
EIDE disk EIDE controller EIDE cables	40GB , ATA-100, 7200 rpm, rubber vibration dampening mounts Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH5) One EIDE 80-conductor cable (one 2-drop cable to optical and disk) / one EIDE connector on systemboard		SYSTEMS MANAGEMENT <ul style="list-style-type: none"> • PC 2001-compliant • Advanced Power Management 1.2 • Advanced Configuration and Power Interface (ACPI) 2.0b • SMBIOS 2.3.1-compliant • DMI 2.0-compliant SECURITY <ul style="list-style-type: none"> • U-bolt anchoring feature (U-bolt is optional; supports optional padlock) • Security slot (for attachment of optional cable lock) • Power-on password • Administrator password • Boot sequence control • Diskette boot inhibit • Boot without keyboard or mouse • Diskette and disk I/O control • Serial/parallel I/O control 	
CD Combo	<i>Some: 48X-20X⁴ CD-ROM / EIDE</i> <i>Some: 48X/32X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo / EIDE</i>			
SATA controller SATA cables	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH5 No SATA cables / two SATA connectors on systemboard			
Diskette drive	3.5" 1.44MB diskette drive			
Chipset	Intel 865G chipset / 82865G Graphics Memory Controller Hub (GMCH) / 82801EB I/O Controller Hub (ICH5) for PCI 2.3 bus, ATA-100 EIDE, SATA150, ethernet MAC, USB, Low Pin Count Interface / Firmware Hub / SMSC® LPC47M233 Super I/O for diskette, parallel, serial, keyboard, mouse, temperature sensor			
Ports	<i>Front:</i> two USB (Version 2.0), microphone in (stereo), headphone out (stereo) <i>Back:</i> six USB (Version 2.0), two serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)			
Audio connectors Audio	<i>Back:</i> line-in (stereo), line-out (stereo) [all 3.5mm] Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH5) / AC '97 interface / ADI1981B codec			
Speaker Ethernet	One internal beeper 10/100 ethernet on planar / ICH5 (MAC layer) with Intel 82562 PHY (physical layer) / Intel Pro/100VE Network Connection / 32-bit PCI 2.2 / PXE / Wake on LAN®			
Modem Security chip	None None			
Keyboard Mouse Cooling fans Power supply	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black Optical Wheel Mouse (USB only), 400 dpi, black Two variable speed fans (front fan for passive heatsink, power supply) 200 watts with variable speed fan / universal / manual switch			
Preload with Windows XP Professional⁵	Accessories		Supports ThinkVantage™ technologies LIMITED WARRANTY¹ <ul style="list-style-type: none"> ⇨ 3 year parts / 1 year labor ⇨ International Warranty Service⁹ ⇨ 1st year: limited onsite service, 8 am - 5 pm, Mon - Fri coverage excl holidays, 2nd business day response time³ ⇨ 2nd/3rd year: parts exchange only, call 1-800-IBM-SERV (426-7378) ⇨ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3 year IOR 9x5, Next Business Day (ServicePac® part number 30L9199) • 3 year IOR 9x5, 4 hour response (ServicePac part number 41L2732) • 3 year IOR 24x7, 4 hour response (ServicePac part number 31L2724) • 4 year IOR 9x5, Next Business Day (ServicePac part number 69P9158) • 4 year IOR 9x5, 4 hour response (ServicePac part number 69P9159) • 4 year IOR 24x7, 4 hour response (ServicePac part number 69P9160) ⇨ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 	
Microsoft® Windows® XP Professional - Disk-to-Disk Recovery (in hidden protected area)	533MHz: 128MB PC2700 CL2.5 NP DDR 31P8854 533MHz: 256MB PC2700 CL2.5 NP DDR 31P8855 533MHz: 512MB PC2700 CL2.5 NP DDR 31P8856 533: 1GB PC2700 CL2.5 NP DDR UDIMM 31P8857 800MHz: 128MB PC3200 CL3 NP DDR1 22P9271 800MHz: 256MB PC3200 CL3 NP DDR1 73P2685 800MHz: 512MB PC3200 CL3 NP DDR1 73P2686 800: 1GB PC3200 CL3 NP DDR1 UDIMM 22P9272 80GB IDE Disk ATA-100 (7200 rpm) 09N4248 120GB IDE Disk ATA-100 (7200 rpm) 09N4249 160GB Serial ATA150 Disk (7200 rpm) 09N4254 48X/32X/48X Max ⁴ CD-RW internal (black) 22P7042 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo drive (black) 73P3300 Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370 USB 2.0 Memory Key 512MB 22P9230 NVIDIA Quadro 4 200NVS Dual Head 33L3543 ThinkVision™ L150p 15" Monitor (black) 6636HB1 ThinkVision L170 17" Monitor (black) 6734AB0 ThinkVision L191p 19" Monitor (black) 9419HB7 ThinkVision L200p 20.1" Monitor (black) 6736HB0 ThinkVision C170 17" (16.0" vis) (black) 673766N ThinkVision C190 19" (18.0" vis) (black) 673960N Enh Perf Wireless Keyboard and Mouse 73P4067 Other options at lenovo.com/options			
Preloaded				
• Access IBM				
• Rapid Restore™ Ultra				
• Update Connector™.15				
• Adobe Acrobat Reader				
• PC-Doctor™ (diagnostics)				
• Norton AntiVirus (OEM Version)				
• InterVideo WinDVD (combo models)				
• RecordNow and DLA (combo models)				
Downloadable				
• Software Delivery Assistant				
• System Migration Assistant				
• IBM Director Agent				
License - CD not included				
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client				

See footnotes for important warranty information
US models announced September 21, 2004
US models withdrawn effective June 2005

ThinkCentre® A51 (8424) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	Memory ⁸	SATA disk	EIDE optical	Graphics Chipset	Security chip	Cover switch	Preload	Workhorse Global, Educ	Avail date																																																				
A51	8424-11U	2x3	Pentium® 4 520	2.8 1MB	800		256MB	40GB ²	CD	GMA 900 915G	Sec	No	XP Pro ⁵	No	Aug 2004																																																				
A51	8424-21U	2x3	Pentium 4 530	3.0 1MB	800		256MB	40GB	CD	GMA 900 915G	Sec	No	XP Pro	No	Aug 2004																																																				
A51	8424-36U	2x3	Pentium 4 521	2.8 1MB	800	EM64T	256MB	40GB	CD	GMA 900 915GV	Sec	No	XP Pro	No	July 2005																																																				
A51	8424-37U	2x3	Pentium 4 531	3.0 1MB	800	EM64T	256MB	40GB	CD	GMA 900 915GV	Sec	No	XP Pro	No	July 2005																																																				
A51	8424-3DU	2x3	Pentium 4 531	3.0 1MB	800	EM64T	512MB	80GB	CD	GMA 900 915G	Sec	Yes	XP Pro	Educ	July 2005																																																				
Positioning	<i>Great technology and affordable prices</i>										Small Form Factor																																																								
Processor	Intel® Pentium 4 Processor 520, 521, 530, 531 with Hyper-Threading technology and 800MHz system bus																																																																		
Proc features	521/531: Extended Memory 64 Technology and Execute Disable Bit										Bay ① 3.5", slim .5", access, std or opt diskette																																																								
L2 cache	1MB std and max / ECC / full speed										Bay ② 5.25", HH 1.6", access, std or opt optical																																																								
Implementation	Processor and L2 cache in LGA775 socket										Bay ③ 3.5", SL 1", no access, std disk																																																								
Memory std/max ⁸	256 or 512MB std / 2GB max										Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)																																																								
Memory	Two 184-pin gold plated DIMM sockets / one socket used / PC3200 400MHz DDR1 / CAS latency 3 (CL3) / non-parity / industry standard / unbuffered / dual channel capable										Slot 2: half-length (175mm), full-height, PCI Express x1 (slot x16 length so supports optional ADD2 card)																																																								
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915GV or G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector										<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1"D X 3.3"H (3.4"H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • With vertical stand: 5.0" W X 15.4"D X 13.6"H • With vertical stand: 127mm W X 390mm D X 346mm H • 18.0 to 20.0 lb (8.1 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • System stand for vertical orientation 																																																								
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts										SYSTEMS MANAGEMENT <ul style="list-style-type: none"> • PC 2001-compliant • ACPI 2.0b • SMBIOS 2.3.4-compliant • DMI 2.0-compliant • Asset ID¹⁹ (system specific info in chip accessed over network) 																																																								
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6																																																																		
SATA cables	One SATA cable (one 1-drop to disk) / two SATA connectors on systemboard																																																																		
EIDE CD	48X-20X ⁴ CD-ROM / EIDE																																																																		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)										SECURITY <ul style="list-style-type: none"> • Security chip (see information on left) • U-bolt anchoring feature (U-bolt is optional; supports optional padlock) • Security slot (in rear for attachment of optional Kensington Microsaver cable) • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement • Some: cover intrusion switch and keylock on chassis 																																																								
EIDE cables	one 1-drop EIDE 80-conductor cable to optical / one EIDE connector on systemboard																																																																		
Diskette drive	3.5" 1.44MB diskette drive																																																																		
Chipset	Intel 915GV or G Express Chipset / 82915GV/G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log																																																																		
Ports	Front: two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] Back: six USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)										LIMITED WARRANTY¹ <ul style="list-style-type: none"> ⇒ 3 year parts / 1 year labor ⇒ International Warranty Service⁹ ⇒ 1st year: Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³; 8 am - 5 pm, Mon - Fri coverage excluding holidays, 2nd business day response time) ⇒ 2nd/3rd year: parts exchange only, call 1-800-IBM-SERV (426-7378) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3 year IOR 9x5, Next Business Day (ThinkPlus™ part number 41C9181) • 3 year IOR 9x5, 4 hour response (ThinkPlus part number 41C9183) ⇒ Other ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 																																																								
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1981B codec																																																																		
Audio connectors	Back: line-in (stereo), line-out (stereo) [both 3.5mm]																																																																		
Speaker	One internal speaker for business audio																																																																		
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3 / full duplex / Wake on LAN® / ACPI 1.1 / PXE 2.0 and RPL remote boot										ACCESSORIES <table border="0"> <tr> <td>128MB PC3200 CL3 NP DDR1 UDIMM</td> <td>22P9271</td> </tr> <tr> <td>256MB PC3200 CL3 NP DDR1 UDIMM</td> <td>73P2685</td> </tr> <tr> <td>512MB PC3200 CL3 NP DDR1 UDIMM</td> <td>73P2686</td> </tr> <tr> <td>1GB PC3200 CL3 NP DDR1 UDIMM</td> <td>22P9272</td> </tr> <tr> <td>80GB Serial ATA150 Disk (7200 rpm)</td> <td>09N4253</td> </tr> <tr> <td>160GB Serial ATA150 Disk (7200 rpm)</td> <td>09N4254</td> </tr> <tr> <td>48X/32X/48X Max⁴ CD-RW internal (black)</td> <td>22P7042</td> </tr> <tr> <td>Multi-Burner Plus⁶ (DVD±RW; internal)</td> <td>73P3370</td> </tr> <tr> <td>USB Fingerprint Reader</td> <td>73P4774</td> </tr> <tr> <td>USB 2.0 Portable Multi-Burner Drive</td> <td>22P9163</td> </tr> <tr> <td>USB 2.0 Portable 80GB Hard Disk</td> <td>40Y8726</td> </tr> <tr> <td>USB 2.0 Memory Key 1GB</td> <td>40Y7421</td> </tr> <tr> <td>ThinkVision® L151 15" Monitor (black)</td> <td>9205AB2</td> </tr> <tr> <td>ThinkVision L151p 15" Monitor (black)</td> <td>9205HB2</td> </tr> <tr> <td>ThinkVision L171 17" Monitor (black)</td> <td>9417AB1</td> </tr> <tr> <td>ThinkVision L171p 17" Monitor (black)</td> <td>9417HB7</td> </tr> <tr> <td>ThinkVision L191p 19" Monitor (black)</td> <td>9419HB7</td> </tr> <tr> <td>ThinkVision L200p 20.1" Monitor (black)</td> <td>6736HC9</td> </tr> <tr> <td>ThinkVision C170 17" (16.0" vis) (black)</td> <td>6737P6N</td> </tr> <tr> <td>ThinkVision C190 19" (18.0" vis) (black)</td> <td>6739P0N</td> </tr> <tr> <td>DVI-I PCIe Connection Adapter (ADD2)</td> <td>73P2516</td> </tr> <tr> <td>Belkin® 800VA UPS with AVR technology</td> <td>31P7662</td> </tr> <tr> <td>Kensington® MicroSaver® Desktop Lock</td> <td>06P3839</td> </tr> <tr> <td>Enhanced Performance USB Keyboard</td> <td>73P2620</td> </tr> <tr> <td>Preferred Pro USB Fingerprint Keyboard</td> <td>73P4730</td> </tr> <tr> <td>Other options at lenovo.com/options</td> <td></td> </tr> </table>					128MB PC3200 CL3 NP DDR1 UDIMM	22P9271	256MB PC3200 CL3 NP DDR1 UDIMM	73P2685	512MB PC3200 CL3 NP DDR1 UDIMM	73P2686	1GB PC3200 CL3 NP DDR1 UDIMM	22P9272	80GB Serial ATA150 Disk (7200 rpm)	09N4253	160GB Serial ATA150 Disk (7200 rpm)	09N4254	48X/32X/48X Max ⁴ CD-RW internal (black)	22P7042	Multi-Burner Plus ⁶ (DVD±RW; internal)	73P3370	USB Fingerprint Reader	73P4774	USB 2.0 Portable Multi-Burner Drive	22P9163	USB 2.0 Portable 80GB Hard Disk	40Y8726	USB 2.0 Memory Key 1GB	40Y7421	ThinkVision® L151 15" Monitor (black)	9205AB2	ThinkVision L151p 15" Monitor (black)	9205HB2	ThinkVision L171 17" Monitor (black)	9417AB1	ThinkVision L171p 17" Monitor (black)	9417HB7	ThinkVision L191p 19" Monitor (black)	9419HB7	ThinkVision L200p 20.1" Monitor (black)	6736HC9	ThinkVision C170 17" (16.0" vis) (black)	6737P6N	ThinkVision C190 19" (18.0" vis) (black)	6739P0N	DVI-I PCIe Connection Adapter (ADD2)	73P2516	Belkin® 800VA UPS with AVR technology	31P7662	Kensington® MicroSaver® Desktop Lock	06P3839	Enhanced Performance USB Keyboard	73P2620	Preferred Pro USB Fingerprint Keyboard	73P4730	Other options at lenovo.com/options	
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USB 2.0 Portable 80GB Hard Disk	40Y8726																																																																		
USB 2.0 Memory Key 1GB	40Y7421																																																																		
ThinkVision® L151 15" Monitor (black)	9205AB2																																																																		
ThinkVision L151p 15" Monitor (black)	9205HB2																																																																		
ThinkVision L171 17" Monitor (black)	9417AB1																																																																		
ThinkVision L171p 17" Monitor (black)	9417HB7																																																																		
ThinkVision L191p 19" Monitor (black)	9419HB7																																																																		
ThinkVision L200p 20.1" Monitor (black)	6736HC9																																																																		
ThinkVision C170 17" (16.0" vis) (black)	6737P6N																																																																		
ThinkVision C190 19" (18.0" vis) (black)	6739P0N																																																																		
DVI-I PCIe Connection Adapter (ADD2)	73P2516																																																																		
Belkin® 800VA UPS with AVR technology	31P7662																																																																		
Kensington® MicroSaver® Desktop Lock	06P3839																																																																		
Enhanced Performance USB Keyboard	73P2620																																																																		
Preferred Pro USB Fingerprint Keyboard	73P4730																																																																		
Other options at lenovo.com/options																																																																			
Security chip	Embedded Security Subsystem 2.0¹⁸ / hardware key storage / multi-factor authentication / local file encryption / in NS PC8375T chip / TCG-compliant																																																																		
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black																																																																		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black																																																																		
Cooling fans	Three variable speed fans (two in front; power supply fan in back)																																																																		
Power supply	225 watts with variable speed fan / universal / manual switch / two diagnostic LEDs																																																																		
Preload with Windows XP Professional⁵																																																																			
Microsoft® Windows® XP Professional		128MB PC3200 CL3 NP DDR1 UDIMM																																																																	
- Disk-to-Disk Recovery (in hidden protected area)		256MB PC3200 CL3 NP DDR1 UDIMM																																																																	
Preloaded		512MB PC3200 CL3 NP DDR1 UDIMM																																																																	
• Some: contains additional module with a specialized education preload image in the base preload package**		1GB PC3200 CL3 NP DDR1 UDIMM																																																																	
• Access Program		80GB Serial ATA150 Disk (7200 rpm)																																																																	
• Rescue and Recovery™		160GB Serial ATA150 Disk (7200 rpm)																																																																	
• Adobe Reader		48X/32X/48X Max ⁴ CD-RW internal (black)																																																																	
• Norton AntiVirus (OEM version)		Multi-Burner Plus ⁶ (DVD±RW; internal)																																																																	
• PC-Doctor™ (diagnostics)		USB Fingerprint Reader																																																																	
Downloadable		USB 2.0 Portable Multi-Burner Drive																																																																	
• Client Security Software		USB 2.0 Portable 80GB Hard Disk																																																																	
• Software Delivery Assistant		USB 2.0 Memory Key 1GB																																																																	
• System Migration Assistant		ThinkVision® L151 15" Monitor (black)																																																																	
• IBM Director Agent		ThinkVision L151p 15" Monitor (black)																																																																	
License - CD not included		ThinkVision L171 17" Monitor (black)																																																																	
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client		ThinkVision L171p 17" Monitor (black)																																																																	
		ThinkVision L191p 19" Monitor (black)																																																																	
		ThinkVision L200p 20.1" Monitor (black)																																																																	
		ThinkVision C170 17" (16.0" vis) (black)																																																																	
		ThinkVision C190 19" (18.0" vis) (black)																																																																	
		DVI-I PCIe Connection Adapter (ADD2)																																																																	
		Belkin® 800VA UPS with AVR technology																																																																	
		Kensington® MicroSaver® Desktop Lock																																																																	
		Enhanced Performance USB Keyboard																																																																	
		Preferred Pro USB Fingerprint Keyboard																																																																	
		Other options at lenovo.com/options																																																																	
**Vital Source Technologies™ software used in educational institutions for electronic delivery of a variety of class materials including textbooks, rich media, and an existing library of published works																																																																			

See footnotes for important warranty information
US models announced August 3, 2004 or July 19, 2005
US models withdrawn effective August or December 2005

ThinkCentre® A51 (8425) - Express - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Bus MHz	EM64T	Memory ⁸	SATA disk	EIDE optical	Graphics	Chipset	Security chip	Cover switch	Preload	Workhorse Global, Educ	Avail date
A51	8425-1GU	2x3	Pentium® 4 515	2.93	1MB	533		256MB	40GB ²	CD	GMA 900	915GV	Sec	No	XP Pro ⁵	No	May 2005
A51	8425-27U	2x3	Pentium 4 530	3.0	1MB	800		512MB	80GB	CD	GMA 900	915G	Sec	No	XP Pro	Educ	May 2005
A51	8425-28U	2x3	Pentium 4 530	3.0	1MB	800		256MB	40GB	CD	GMA 900	915GV	Sec	No	XP Pro	No	May 2005
A51	8425-38U	2x3	Pentium 4 540	3.2	1MB	800		512MB	40GB	CD	GMA 900	915GV	Sec	No	XP Pro	No	May 2005
A51	8425-47U	2x3	Pentium 4 550	3.4	1MB	800		512MB	40GB	CD	GMA 900	915GV	Sec	No	XP Pro	No	May 2005
A51	8425-2RU	2x3	Pentium 4 531	3.0	1MB	800	EM64T	256MB	40GB	CD	GMA 900	915GV	Sec	No	XP Pro	No	July 2005
A51	8425-2TU	2x3	Pentium 4 531	3.0	1MB	800	EM64T	512MB	80GB	CD	GMA 900	915GV	Sec	No	XP Pro	Educ	July 2005
A51	8425-3HU	2x3	Pentium 4 541	3.2	1MB	800	EM64T	512MB	40GB	CD	GMA 900	915GV	Sec	No	XP Pro	No	July 2005
A51	8425-4AU	2x3	Pentium 4 551	3.4	1MB	800	EM64T	512MB	40GB	CD	GMA 900	915GV	Sec	No	XP Pro	No	July 2005

These small and medium business (SMB) models are part of the US ThinkCentre Express Program

Positioning	<i>Great technology and affordable prices</i>										Small Form Factor						
Processor	Intel® Pentium 4 Processor 515, 530, 531, 540, 541, 550, 551 with Hyper-Threading technology (except 515) and 533/800MHz bus 531/541/551: Extended Memory 64 Technology, Execute Disable Bit																
Proc features	1MB std and max / ECC / full speed										Bay ① 3.5", slim .5", access, std diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk						
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket										Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (slot x16 length so supports optional ADD2 card)						
Memory std/max ⁹	256 or 512MB std / 2GB max										<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1"D X 3.3"H (3.4"H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • With vertical stand: 5.0" W X 15.4"D X 13.6"H • With vertical stand: 127mm W X 390mm D X 346mm H • 18.0 to 20.0 lb (8.1 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • System stand for vertical orientation 						
Memory	Two 184-pin gold plated DIMM sockets / one socket used / PC3200 400MHz DDR1 / CAS latency 3 (CL3) / non-parity / industry standard / unbuffered / dual channel capable										<ul style="list-style-type: none"> • PC 2001-compliant • ACPI 2.0b • SMBIOS 2.3.4-compliant • DMI 2.0-compliant • Asset ID¹⁹ (system specific info in chip) 						
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915 GMCH / 333MHz / one 15-pin analog connector										SECURITY <ul style="list-style-type: none"> • Security chip (see information on left) • U-bolt anchoring feature (U-bolt is optional; supports optional padlock) • Security slot (in rear for attachment of optional Kensington Microsaver cable) • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement 						
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts										LIMITED WARRANTY¹ <ul style="list-style-type: none"> ↔ 1 year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations)⁷ <ul style="list-style-type: none"> • 3 year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9191) • 3 year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) ↔ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 						
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6																
SATA cables	One SATA cable (one 1-drop to disk) / two planar SATA connectors																
EIDE CD	48X-20X ⁴ CD-ROM / EIDE																
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)																
EIDE cables	one 1-drop EIDE 80-conductor cable to optical / one EIDE connector on systemboard																
Diskette drive	3.5" 1.44MB diskette drive																
Chipset	Intel 915GV or 915G Express Chipset / 82915GV or G Graphics Memory Controller Hub (GMCH) / 82801FB ICH6 for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, LPC interface / National Semiconductor [®] PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log																
Ports	Front: two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] Back: six USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)																
Audio	Integrated digital audio / SoundMAX [®] Cadenza / AC '97 interface / ADI1981B codec																
Audio connectors	Back: line-in (stereo), line-out (stereo) [both 3.5mm]																
Speaker	One internal speaker for business audio																
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom [®] NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3 / full duplex / Wake on LAN [®] / PXE 2.0 and RPL remote boot																
Security chip	Embedded Security Subsystem 2.0¹⁸ / in NS PC8375T chip / TCG-compliant																
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black																
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black																
Cooling fans	Three variable speed fans (two in front; power supply fan in back)																
Power supply	225 watts with variable speed fan / universal / manual switch / two diagnostic LEDs																
Preload with Windows XP Professional⁵										Accessories							
Microsoft® Windows® XP Professional										128MB PC3200 CL3 NP DDR1 UDIMM 22P9271							
- Disk-to-Disk Recovery (in hidden protected area)										256MB PC3200 CL3 NP DDR1 UDIMM 73P2685							
Preloaded										512MB PC3200 CL3 NP DDR1 UDIMM 73P2686							
• Model 27U: contains additional module with a specialized education preload image in the base preload package**										1GB PC3200 CL3 NP DDR1 UDIMM 22P9272							
• Access Program										160GB Serial ATA150 Disk (7200 rpm) 09N4254							
• Rescue and Recovery™										48X/32X/48X Max ⁴ CD-RW internal (black) 22P7042							
• Update Connector™.15										Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370							
• Adobe Reader										USB Fingerprint Reader 73P4774							
• Norton AntiVirus (OEM version)										USB 2.0 Portable Multi-Burner Drive 22P9163							
• PC-Doctor™ (diagnostics)										USB 2.0 Portable 80GB Hard Disk 40Y8726							
• Client Security Software										USB 2.0 Memory Key 1GB 40Y7421							
Downloadable										ThinkVision L151 [®] 15" Monitor (black) 9205AB2							
• Software Delivery Assistant										ThinkVision L151p 15" Monitor (black) 9205HB2							
• System Migration Assistant										ThinkVision L191p 19" Monitor (black) 9419HB7							
• IBM Director Agent										ThinkVision L200p 20.1" Monitor (black) 6736HC9							
License - CD not included										ThinkVision C170 17" (16.0" vis) (black) 6737P6N							
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client										ThinkVision C190 19" (18.0" vis) (black) 6739PON							
										Kensington® MicroSaver® Desktop Lock 06P3839							
										Enhanced Performance USB Keyboard 73P2620							
										Preferred Pro USB Fingerprint Keyboard 73P4730							
										Other options at lenovo.com/options							
										**Vital Source Technologies™ software used in educational institutions for electronic delivery of a variety of class materials including textbooks, rich media, and an existing library of published works							

See footnotes for important warranty information
US models announced April 19 or July 19, 2005
US models withdrawn effective August or December 2005

ThinkCentre™ A51p (8420) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	Memory ⁸	SATA disk	EIDE optical	Graphics	Security chip	Workhorse Preload	Global, Educ	Avail date
A51p	8420-24U	4x4	Pentium® 4 530	3.0 1MB	800	HT	512MB	40GB ²	CD	GMA 900 GMCH	Sec	XP Pro ⁵	No	Nov 2004
A51p	8420-35U	4x4	Pentium 4 540	3.2 1MB	800	HT	512MB	40GB	CD	GMA 900 GMCH	Sec	XP Pro	No	Nov 2004

Positioning Processor	<i>Great technology and affordable prices</i> Intel® Pentium 4 Processor 530 (3.0GHz) or 540 (3.2GHz) with 800MHz system bus		Desktop
Hyper-Threading L2 cache Implementation	Hyper-Threading (HT) technology 1MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket		
Memory std/max ⁸ Memory	512MB std / 4GB max Four 240-pin gold plated DIMM sockets / two sockets used / PC2-3200 400MHz DDR2 / non-parity / industry std / unbuffered / CAS latency 3 (CL3) / dual channel capable		
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector		Bay ① 3.5", SL 1", access, std diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 5.25", HH 1.6", access, open Bay ④ 3.5", SL 1", no access, std disk Slot 1: full-length, full-height, PCI Express x16 Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)
SATA disk SATA controller SATA cables	40GB / SATA150 7200 rpm / vibration dampening mounts Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard		<ul style="list-style-type: none"> • Business black color; 24 liters • Supports up to 100 lb monitor on top of metal cover • 17.4" W X 15.7"D X 5.5"H • 442mm W X 400mm D X 140mm H • 24 to 31 lb (11 to 14 kg) • Bay 1, 2, 3, and 4 in cage flips up (latched and pivoting) • Toolless install and removal of disk, optical, diskette • Toolless install and removal of cover • Toolless install and removal of adapter cards
EIDE CD EIDE controller EIDE cables	48X-20X ⁴ CD-ROM / EIDE Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on planar		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 915G Express Chipset / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log		SYSTEMS MANAGEMENT
Ports	<i>Front:</i> two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] <i>Back:</i> six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		<ul style="list-style-type: none"> • PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0b • SMBIOS 2.3.4-compliant • DMI 2.0-compliant • Asset ID¹⁹ (system specific info in chip accessed over network)
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1981B codec		
Audio connectors Beeper Ethernet	<i>Back:</i> line-in (stereo), line-out (stereo) [both 3.5mm] One internal beeper 10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3 / full duplex / Wake on LAN® / ACPI 1.1 / PXE 2.0 and RPL remote boot		SECURITY
Security chip	Embedded Security Subsystem 2.0¹⁸ / hardware key storage / multi-factor authentication / local file encryption / in NS PC8375T chip / TCG-compliant		<ul style="list-style-type: none"> • Security chip (see information on left) • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington Microsaver cable) - No keylock • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement
Keyboard Mouse Cooling fans Power supply	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black Optical Wheel Mouse (USB only), 400 dpi, black Two variable speed fans (front and power supply) 310 watts with variable speed fan / universal / manual switch / two diagnostic LEDs		
Preload with Windows XP Professional⁵	Accessories		Supports ThinkVantage™ technologies; visit thinkcentre.com/thinkvantage
Microsoft® Windows® XP Professional with Service Pack 2 - Disk-to-Disk Recovery (in hidden protected area)	256MB PC2-4200 CL4 NP DDR2 UDIMM 73P4970 512MB PC2-4200 CL4 NP DDR2 UDIMM 73P4971 1GB PC2-4200 CL4 NP DDR2 UDIMM 73P4972 2GB PC2-4200 CL4 NP DDR2 UDIMM 73P4973 160GB Serial ATA150 Disk (7200 rpm) 09N4254 48X/32X/48X Max ⁴ CD-RW internal (black) 22P7042 Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370 ThinkVision™ L150 15" Monitor (black) 6636AC1 ThinkVision L170p 17" Monitor (black) 6734HB0 ThinkVision L191p 19" Monitor (black) 9419HB7 ThinkVision C190 19" (18.0" vis) (black) 673960N Kensington® MicroSaver® Desktop Lock 06P3839 USB Fingerprint Reader 73P4774 USB 2.0 Combo Drive 73P4515 USB 2.0 Portable Multi-Burner Drive 22P9163 USB 2.0 Memory Key 512MB 22P9230 DVI-I PCIe Connection Graphic Adapter 73P2516 ATI® RADEON® X700 128MB Dual Head 73P2518 Belkin® 800VA UPS with AVR technology 31P7662 USB Optical Wheel Mouse (black) 06P4069 ScrollPoint Pro Optical Mouse (black) 31P8700 Optical 3-button ScrollPoint Mouse (black) 31P7405 Enh Perf Wireless Keyboard and Mouse 73P4067 Enhanced Performance USB Keyboard 73P2620 Preferred Pro USB Fingerprint Keyboard 73P4730 Preferred Pro USB Keyboard 73P5220 Other options at lenovo.com/options		
Preloaded			LIMITED WARRANTY¹ ⇨ 3 year parts / 1 year labor ⇨ International Warranty Service⁹ ⇨ 1st year: Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, 2nd business day response time) ⇨ 2nd/3rd year: parts exchange only, call 1-800-IBM-SERV (426-7378) ⇨ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3 year IOR 9x5, Next Business Day (ServicePac® part number 30L9199) ⇨ Other ServicePac options at ibm.com/services/us/its/pdf/wamomxeu.pdf ⇨ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)
<ul style="list-style-type: none"> • Access IBM • Rescue and Recovery™ • Update Connector™.15 • Adobe Reader • Norton AntiVirus (OEM Version) • PC-Doctor™ (diagnostics) 			
Downloadable			
<ul style="list-style-type: none"> • Client Security Software • Software Delivery Assistant • System Migration Assistant • IBM Director Agent 			
License - CD not included			
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client			

See footnotes for important warranty information
US models announced November 16, 2004
US models withdrawn effective August 2005

ThinkCentre™ A51p (8422) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	Memory ⁸	SATA disk	EIDE optical	Graphics	Security chip	Preload	Workhorse Global, Educ	Avail date
A51p	8422-14U	4x5	Pentium® 4 520	2.8 1MB	800	HT	256MB	80GB ²	CD-RW	GMA 900 GMCH	Sec XP Pro ⁵	No	Jun 2004	
A51p	8422-15U	4x5	Pentium 4 520	2.8 1MB	800	HT	256MB	40GB	CD	GMA 900 GMCH	Sec XP Pro	No	Jun 2004	
A51p	8422-22U	4x5	Pentium 4 530	3.0 1MB	800	HT	256MB	40GB	CD	GMA 900 GMCH	Sec XP Pro	No	Jun 2004	
A51p	8422-24U	4x5	Pentium 4 530	3.0 1MB	800	HT	256MB	80GB	CD-RW	GMA 900 GMCH	Sec XP Pro	No	Jun 2004	
A51p	8422-35U	4x5	Pentium 4 540	3.2 1MB	800	HT	256MB	40GB	CD	GMA 900 GMCH	Sec XP Pro	No	Jun 2004	
A51p	8422-36U	4x5	Pentium 4 540	3.2 1MB	800	HT	256MB	80GB	CD-RW	GMA 900 GMCH	Sec XP Pro	No	Jun 2004	
A51p	8422-43U	4x5	Pentium 4 550	3.4 1MB	800	HT	256MB	40GB	CD	GMA 900 GMCH	Sec XP Pro	No	Jun 2004	
A51p	8422-52U	4x5	Pentium 4 560	3.6 1MB	800	HT	512MB	40GB	CD	GMA 900 GMCH	Sec XP Pro	No	Jun 2004	
A51p	8422-55U	4x5	Pentium 4 560	3.6 1MB	800	HT	1GB	160GB	DVD±RW ⁶	RADEON X600 PRO	Sec XP Pro	Educ	Jun 2004	
A51p	8422-63U	4x5	Pentium 4 570	3.8 1MB	800	HT	512MB	40GB	CD	GMA 900 GMCH	Sec XP Pro	No	Nov 2004	

Positioning Processor	<i>Great technology and affordable prices</i> Intel® Pentium 4 Processor 520 (2.8GHz), 530 (3.0GHz), 540 (3.2GHz), 550 (3.4GHz), 560 (3.6GHz), or 570 (3.8GHz) with 800MHz system bus	Tower	
Hyper-Threading L2 cache	Hyper-Threading (HT) technology 1MB std and max / ECC / full speed	<ul style="list-style-type: none"> Business black color; 38.75 liters 6.9" W X 17.7"D X 19.4"H 175mm W X 450mm D X 492mm H 23 to 30 lb (10.5 to 13.5 kg) Handle on top front Rear disk bay pivots out to side Toolless disk, optical, diskette removal Toolless cover removal Toolless adapter slots Easy-to-service chassis design Front audio and USB ports 	
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket	<ul style="list-style-type: none"> Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", access, std diskette Bay ⑤ 3.5", SL 1", no access, std disk 	
Memory std/max ⁸ Memory	256MB, 512MB, or 1GB std / 4GB max Four 240-pin gold plated DIMM sockets / one socket used (two used on models 55U and 63U) / PC2-3200 400MHz DDR2 / non-parity / ind std / unbuffered / CAS latency 3 (CL3) / dual channel capable	<p>Slot 1: full-length, full-height, PCI Express x16 - used in some</p> <p>Slot 2: half-length, full-height, PCI Express x1</p> <p>Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)</p> <p>Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)</p>	
Graphics (one of following)	<ul style="list-style-type: none"> Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector ATI® RADEON® X600 PRO / PCI Express x16 adapter / 128MB 600MHz DDR1 / 400MHz RAMDAC / three connectors: analog DB-15, digital DVI-I, S-Video out for TV-out / dual head support 	<p>SYSTEMS MANAGEMENT</p> <ul style="list-style-type: none"> PC 2001-compliant Advanced Configuration and Power Interface (ACPI) 2.0b SMBIOS 2.3.4-compliant DMI 2.0-compliant Asset ID¹⁹ (system specific info in chip accessed over network) 	
SATA disk	40, 80, or 160GB / SATA150 7200 rpm / vibration dampening mounts	<p>SECURITY</p> <ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington Microsaver cable) No keylock Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement 	
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6		
SATA cables	One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard		
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM / EIDE		
EIDE CD-RW	<i>Some:</i> 48X/32X/48X Max ⁴ CD-RW / EIDE		
EIDE DVD±RW	<i>Some:</i> DVD and CD burner / Multi-Burner Plus / writes DVD-RAM, DVD-R, DVD-RW, DVD+R, DVD+RW, CD-R, CD-RW / reads many DVD and CD formats / EIDE		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)		
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on planar		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 915G Express Chipset / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log		
Ports	<i>Front:</i> two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] <i>Back:</i> six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1981B codec		
Audio connectors	<i>Back:</i> line-in (stereo), line-out (stereo) [both 3.5mm]		
Beeper	One internal beeper		
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3 / full duplex / Wake on LAN® / ACPI 1.1 / PXE 2.0 and RPL remote boot		
Security chip	Embedded Security Subsystem 2.0¹⁸ / in NS PC8375T chip / TCG-compliant		
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Cooling fans	Two variable speed fans (front and power supply)		
Power supply	310 watts with variable speed fan / universal / manual switch / two diagnostic LEDs		

Preload with Windows XP Professional ⁵	Accessories	LIMITED WARRANTY ¹
Microsoft® Windows® XP Professional	256MB PC2-4200 CL4 NP DDR2 UDIMM 73P4970	↔ 3 year parts / 1 year labor
- Model 63U: Service Pack 2	512MB PC2-4200 CL4 NP DDR2 UDIMM 73P4971	↔ International Warranty Service⁹
- Disk-to-Disk Recovery (in hidden protected area)	1GB PC2-4200 CL4 NP DDR2 UDIMM 73P4972	↔ 1st year: Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, 2nd business day response time)
Preloaded (only some listed)	2GB PC2-4200 CL4 NP DDR2 UDIMM 73P4973	↔ 2nd/3rd year: parts exchange only, call 1-800-IBM-SERV (426-7378)
• <i>Some:</i> contains additional module with a specialized education preload image in the base preload package**	160GB Serial ATA150 Disk (7200 rpm) 09N4254	↔ ServicePac options at ibm.com/services/us/its/pdf/wamomxeu.pdf
• Access IBM	Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370	↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)
• Rescue and Recovery™	ThinkVision L150 15" Monitor (black) 6636AC1	
• Norton AntiVirus (OEM Version)	ThinkVision L170p 17" Monitor (black) 6734HB0	
• PC-Doctor™ (diagnostics)	ThinkVision C190 19" (18.0" vis) (black) 673960N	
• RecordNow and DLA (CD-RW, DVD±RW)	Kensington® MicroSaver® Desktop Lock 06P3839	
• InterVideo WinDVD (DVD±RW)	USB 2.0 Portable Multi-Burner Drive 22P9163	
• InterVideo WinDVD Creator (DVD±RW)	Other options at lenovo.com/options	
• Simple Backup (for DVD±RW)	**Vital Source Technologies™ software used in educational institutions for electronic delivery of a variety of class materials including textbooks, rich media, and an existing library of published works	

See footnotes for important warranty information
US models announced June 22 or November 16, 2004
US models withdrawn effective August 2005

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ThinkCentre™ A51p (8423) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	Memory ⁸	SATA disk	EIDE optical	Security Graphics	FireWire chip	Keyboard adapter	Modem and speakers	Workhorse Preload Global, Educ	Avail date	
A51p	8423-12U	4x5	Pentium® 4 520	2.8	256MB	40GB ²	CD-RW	GMA 900	Sec	Preferred	Mod/spkrs	XP Home ⁵	No Jun 2004	
A51p	8423-13U	4x5	Pentium 4 520	2.8	256MB	40GB	CD	GMA 900	Sec	Preferred	Mod/spkrs	XP Home	No Jun 2004	
A51p	8423-21U	4x5	Pentium 4 530	3.0	256MB	80GB	CD-RW	GMA 900	Sec	Preferred	Mod/spkrs	XP Home	No Jun 2004	
A51p	8423-26U	4x5	Pentium 4 530	3.0	256MB	40GB	CD	GMA 900	Sec	Preferred	Mod/spkrs	XP Home	No Jun 2004	
A51p	8423-31U	4x5	Pentium 4 540	3.2	256MB	80GB	CD-RW	X300 SE	Sec	Preferred	Mod/spkrs	XP Home	No Aug 2004	
A51p	8423-32U	4x5	Pentium 4 540	3.2	512MB	160GB	Combo	X300 SE	Sec	Enhanced	Mod/spkrs	XP Home	No Aug 2004	
A51p	8423-41U	4x5	Pentium 4 550	3.4	512MB	160GB	Combo	X300 PRO	Sec	Enhanced	Mod/spkrs	XP Home	No Aug 2004	
A51p	8423-51U	4x5	Pentium 4 560	3.6	512MB	160GB	DVD±RW ⁶	X600 PRO	Sec	1394	Enhanced	Mod/spkrs	XP Home	No Jun 2004
A51p	8423-63U	4x5	Pentium 4 570	3.8	512MB	160GB	DVD±RW	X600 PRO	Sec	1394	Enhanced	Mod/spkrs	XP Home	No Nov 2004

Positioning Processor	<i>Great technology and affordable prices</i> Intel® Pentium 4 Processor 520 (2.8GHz), 530 (3.0GHz), 540 (3.2), 550 (3.4GHz), 560 (3.6GHz), or 570 (3.8GHz) with 800MHz bus		Tower <ul style="list-style-type: none"> • Business black color; 38.75 liters • 6.9" W X 17.7" D X 19.4" H • 175mm W X 450mm D X 492mm H • 23 to 30 lb (10.5 to 13.5 kg) • Handle on top front • Rear disk bay pivots out to side • Toolless disk, optical, diskette removal • Toolless cover removal • Toolless adapter slots • Easy-to-service chassis design • Front audio and USB ports 	
Hyper-Threading L2 cache Implementation	Hyper-Threading (HT) technology 1MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket			
Memory std/max ⁹ Memory	256MB or 512MB std / 4GB max Four 240-pin gold plated DIMM sockets / one socket used (two used on 32U/41U/51U/63U) / PC2-3200 400MHz DDR2 / non-parity / ind std / unbuffered / CAS latency 3 (CL3) / dual channel capable		<ul style="list-style-type: none"> • Bay ① 5.25", HH 1.6", access, std optical • Bay ② 5.25", HH 1.6", access, open • Bay ③ 3.5", SL 1", access, open • Bay ④ 3.5", SL 1", access, std diskette • Bay ⑤ 3.5", SL 1", no access, std disk 	
Graphics (one of following)	<ul style="list-style-type: none"> • Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector • ATI® RADEON® X300 SE / PCI Express x16 adapter / 64MB 400MHz DDR1 / 400MHz RAMDAC / two 15-pin analog D-sub connectors / dual head support • ATI RADEON X300 PRO / PCI Express x16 adapter / 64MB 600MHz DDR1 / 400MHz RAMDAC / three connectors: analog DB-15, digital DVI-I, S-Video out for TV-out / dual head support • ATI RADEON X600 PRO / PCI Express x16 adapter / 128MB 600MHz DDR1 / 400MHz RAMDAC / three connectors: analog DB-15, digital DVI-I, S-Video out for TV-out / dual head support 		<ul style="list-style-type: none"> • Slot 1: full-length, full-height, PCI Express x16-used in • Slot 2: half-length, full-height, PCI Express x1 some • Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) • Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)-modem 	
SATA disk	40, 80, or 160GB / SATA150 7200 rpm / vibration dampening mounts		SYSTEMS MANAGEMENT <ul style="list-style-type: none"> • PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0b • SMBIOS 2.3.4-compliant • DMI 2.0-compliant • Asset ID¹⁹ (system specific info in chip accessed over network) 	
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6			
SATA cables	One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard			
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM / EIDE			
EIDE CD-RW	<i>Some:</i> 48X/32X/48X Max ⁴ CD-RW / EIDE			
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE			
EIDE DVD±RW	<i>Some:</i> DVD and CD burner / Multi-Burner Plus / writes + and - DVD formats / EIDE			
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)			
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on planar			
Diskette drive	3.5" 1.44MB diskette drive			
Chipset	Intel 915G Express Chipset / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log			
Ports	<i>Front:</i> two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] <i>Back:</i> six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)			
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1981B codec			
Audio connectors	<i>Back:</i> line-in (stereo), line-out (stereo) [both 3.5mm]			
Speakers	External active speakers / Jazz Infinity® / 2-piece / 6 watts / black color			
IEEE 1394	<i>Model 51U:</i> FireWire PCI adapter / 1394A, 400Mbps, dual 6-pin ports on rear, 4-pin port on front of system, no external cables included			
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3			
Modem	56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter			
Security chip	Embedded Security Subsystem 2.0¹⁸ / in NS PC8375T chip / TCG-compliant			
Keyboard	<i>Some:</i> 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black <i>Some:</i> Enhanced Performance USB Keyboard, 2-port USB 2.0 hub, black			
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black			
Cooling fans	Two variable speed fans (front and power supply)			
Power supply	310 watts with variable speed fan / universal / manual switch / two diagnostic LEDs			
Preload with Windows XP Home⁵	Accessories			
Microsoft® Windows® XP Home Edition	256MB PC2-4200 CL4 NP DDR2 UDIMM	73P4970		
- <i>Model 63U:</i> Service Pack 2	512MB PC2-4200 CL4 NP DDR2 UDIMM	73P4971		
- Disk-to-Disk Recovery (in hidden protected area)	1GB PC2-4200 CL4 NP DDR2 UDIMM	73P4972		
	2GB PC2-4200 CL4 NP DDR2 UDIMM	73P4973		
	160GB Serial ATA150 Disk (7200 rpm)	09N4254		
	Multi-Burner Plus ⁶ (DVD±RW; internal)	73P3370		
	ThinkVision L150 15" Monitor (black)	6636AB1		
	USB 2.0 Portable Multi-Burner Drive	22P9163		
	USB 2.0 Memory Key 512MB	22P9230		
	Other options at lenovo.com/options			
	<ul style="list-style-type: none"> ⇒ 1 year parts and labor ⇒ International Warranty Service⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, 2nd business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3 year IOR 9x5, 4 hour response (ServicePac part number 54P1862) ⇒ Other ServicePac options at ibm.com/services/us/its/pdf/wamomxeu.pdf ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 			

See footnotes for important warranty information
US models announced June 22 or November 16, 2004
US models withdrawn effective August 2005

ThinkCentre™ A51p (8427) - Express - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	Memory ⁸	SATA disk	EIDE optical	Graphics	Security chip	Preload	Workhorse Global, Educ	Avail date
A51p	8427-12U	4x5	Pentium® 4 520	2.8 1MB	800	HT	256MB	40GB ²	CD-RW	GMA 900 GMCH	Sec XP Pro ⁵	No	Jun 2004	
A51p	8427-21U	4x5	Pentium 4 530	3.0 1MB	800	HT	256MB	40GB	CD-RW	GMA 900 GMCH	Sec XP Pro	No	Jun 2004	
A51p	8427-22U	4x5	Pentium 4 530	3.0 1MB	800	HT	512MB	80GB	Combo	RADEON X300 PRO	Sec XP Pro	No	Aug 2004	
A51p	8427-13U	4x5	Pentium 4 515	2.93 1MB	533		256MB	40GB	CD	GMA 900 GMCH	Sec XP Pro	No	Jan 2005	
A51p	8427-32U	4x5	Pentium 4 540	3.2 1MB	800	HT	256MB	40GB	CD-RW	GMA 900 GMCH	Sec XP Pro	No	Nov 2004	
A51p	8427-33U	4x5	Pentium 4 540	3.2 1MB	800	HT	512MB	80GB	Combo	GMA 900 GMCH	Sec XP Pro	No	Nov 2004	
A51p	8427-41U	4x5	Pentium 4 550	3.4 1MB	800	HT	512MB	80GB	Combo	GMA 900 GMCH	Sec XP Pro	No	Nov 2004	
A51p	8427-15U	4x5	Pentium 4	2.66 1MB	533		256MB	40GB	CD	GMA 900 GMCH	Sec XP Pro	No	Feb 2005	

These small and medium business (SMB) models are part of the US ThinkCentre Express Program

Positioning	Great technology and affordable prices		Tower	
Processor	Intel® Pentium 4 Processor 2.66GHz, 515 (2.93GHz), 520 (2.8GHz), 530 (3.0), 540 (3.2GHz), or 550 (3.4GHz) with 533 or 800MHz bus		<ul style="list-style-type: none"> Business black color; 38.75 liters 6.9" W X 17.7" D X 19.4" H 175mm W X 450mm D X 492mm H 23 to 30 lb (10.5 to 13.5 kg) Handle on top front Rear disk bay pivots out to side Toolless disk, optical, diskette removal Toolless cover removal Toolless adapter slots Easy-to-service chassis design Front audio and USB ports 	
Hyper-Threading	Some: Hyper-Threading (HT) technology		<ul style="list-style-type: none"> Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", access, std diskette Bay ⑤ 3.5", SL 1", no access, std disk 	
L2 cache	1MB std and max / ECC / full speed		<ul style="list-style-type: none"> Slot 1: full-length, full-height, PCI Express x16 - used in Slot 2: half-length, full-height, PCI Express x1 some Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v) 	
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket			
Memory std/max ⁹	256MB or 512MB std / 4GB max			
Memory	Four 240-pin gold plated DIMM sockets / one socket used (two used on models 22U/33U/41U) / PC2-3200 400MHz DDR2 / non-parity / ind std / unbuffered / CAS latency 3 (CL3) / dual channel capable			
Graphics (one of following)	<ul style="list-style-type: none"> Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector ATI® RADEON® X300 PRO / PCI Express x16 adapter / 64MB 600MHz DDR1 / 400MHz RAMDAC / three connectors: analog DB-15, digital DVI-I, S-Video out for TV-out / dual head support 			
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts			
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6			
SATA cables	One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard			
EIDE CD	Some: 48X-20X ⁴ CD-ROM / EIDE			
EIDE CD-RW	Some: 48X/32X/48X Max ⁴ CD-RW / EIDE			
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo / EIDE			
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)			
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on planar			
Diskette drive	3.5" 1.44MB diskette drive			
Chipset	Intel 915G Express Chipset / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log			
Ports	Front: two USB (Ver 2.0); microphone (stereo), headphone (stereo) [both 3.5mm] Back: six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)			
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / AD11981B codec			
Audio connectors	Back: line-in (stereo), line-out (stereo) [both 3.5mm]			
Beeper	One internal beeper			
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3 / full duplex / Wake on LAN® / ACPI 1.1 / PXE 2.0 and RPL remote boot			
Security chip	Embedded Security Subsystem 2.0 ¹⁸ / in NS PC8375T chip / TCG-compliant			
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black			
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black			
Cooling fans	Two variable speed fans (front and power supply)			
Power supply	310 watts with variable speed fan / universal / manual switch / two diagnostic LEDs			
Preload with Windows XP Professional⁵	Accessories			
Microsoft® Windows® XP Professional	256MB PC2-4200 CL4 NP DDR2 UDIMM	73P4970		
- Models 13U/32U/33U/41U: Service Pack 2	512MB PC2-4200 CL4 NP DDR2 UDIMM	73P4971		
- Disk-to-Disk Recovery (in hidden protected area)	1GB PC2-4200 CL4 NP DDR2 UDIMM	73P4972		
Preloaded	2GB PC2-4200 CL4 NP DDR2 UDIMM	73P4973		
• Access IBM	160GB Serial ATA150 Disk (7200 rpm)	09N4254		
• Rescue and Recovery™	Multi-Burner Plus ⁵ (DVD±RW; internal)	73P3370		
• Update Connector™.15	USB Fingerprint Reader	73P4774		
• Adobe Reader	USB 2.0 Portable Multi-Burner Drive	22P9163		
• Norton AntiVirus (OEM version)	USB 2.0 Portable 80GB Hard Disk	40Y8726		
• PC-Doctor™ (diagnostics)	USB 2.0 Memory Key 512MB	22P9230		
• RecordNow and DLA (CD-RW, combo models)	ThinkVision L171 17" Monitor (black)	9417AB1		
• InterVideo WinDVD (combo models)	ThinkVision L191p 19" Monitor (black)	9419HB7		
Downloadable	ThinkVision L200p 20.1" Monitor (black)	6736HB0		
• Client Security Software	ThinkVision C170 17" (16.0" vis) (black)	673766N		
• Software Delivery Assistant	ThinkVision C190 19" (18.0" vis) (black)	673960N		
• System Migration Assistant	ATI® RADEON® X700 128MB Dual Head	73P2518		
• IBM Director Agent	Belkin® 800VA UPS with AVR technology	31P7662		
	Kensington® MicroSaver® Desktop Lock	06P3839		
	Preferred Pro USB Fingerprint Keyboard	73P4730		
	Other options at lenovo.com/options			
SYSTEMS MANAGEMENT				
<ul style="list-style-type: none"> PC 2001-compliant Advanced Configuration and Power Interface (ACPI) 2.0b SMBIOS 2.3.4-compliant DMI 2.0-compliant Asset ID¹⁹ (system specific info in chip accessed over network) 				
SECURITY				
<ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington Microsaver cable) - No keylock Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement 				
LIMITED WARRANTY¹				
<ul style="list-style-type: none"> 1 year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, 2nd business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 1 year IOR 9x5, 4 hour response (ServicePac⁶ part number 54P1858) Other ServicePac options at ibm.com/services/us/its/pdf/wamomxeu.pdf 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 				

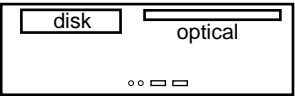
See footnotes for important warranty information
US models announced June 22, 2004, November 16, 2004, or February 22, 2005
US models withdrawn effective June or August 2005

ThinkCentre® A51 Ultra Small (8105) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Slot x	L2	Bus Hyper-	Diskette	SATA	EIDE	Graphics	PCI	Cover	Key-	Workhorse	Gbl/Avail					
Type-model	bay	Processor	GHz	cache MHz	Thread	Memory ¹	drive	disk	optical	in GMCH	modem/switch	board Preload	Education	date			
A51	8105-A1U 1x2	Celeron® 326	2.53	256K	533	256MB	None	80GB ²	CD	GMA 900	Modem	Yes	EP	XP Home	No	May 05	
A51	8105-A3U 1x2	Celeron 331	2.66	256K	533	256MB	None	40GB	CD	GMA 900	No	No	Pref	XP Pro	No	May 05	
A51	8105-B2U 1x2	Celeron 336	2.80	256K	533	256MB	None	40GB	CD	GMA 900	No	No	Pref	XP Pro	No	May 05	
A51	8105-91U 1x2	Celeron 336	2.80	256K	533	512MB	None	80GB	CD	GMA 900	No	No	Pref	XP Pro	No	July 06	
A51	8105-2BU 1x2	Pentium® 4 521	2.80	1MB	800	HT	512MB	None	40GB	CD	GMA 900	No	No	Pref	XP Pro	No	Jun 06
A51	8105-2HU 1x2	Pentium 4 524	3.06	1MB	533	HT	512MB	None	80GB	CD	GMA 900	No	No	Pref	XP Pro	No	July 06
A51	8105-2JU 1x2	Pentium 4 524	3.06	1MB	533	HT	512MB	None	80GB	Combo	GMA 900	No	No	Pref	XP Pro	No	July 06
A51	8105-24U 1x2	Pentium 4 534	3.00	1MB	800	HT	256MB	None	40GB	CD	GMA 900	No	No	Pref	XP Pro	No	May 05
A51	8105-26U 1x2	Pentium 4 531	3.00	1MB	800	HT	512MB	None	80GB	Combo	GMA 900	No	No	Finger	XP Pro	No	May 05
A51	8105-2MU 1x2	Pentium 4 531	3.00	1MB	800	HT	512MB	None	80GB	CD	GMA 900	No	No	Pref	XP Pro	No	July 06
A51	8105-33U 1x2	Pentium 4 541	3.20	1MB	800	HT	512MB	None	40GB	CD	GMA 900	No	No	Pref	XP Pro	No	May 05
A51	8105-35U 1x2	Pentium 4 541	3.20	1MB	800	HT	512MB	None	80GB	Combo	GMA 900	No	No	Finger	XP Pro	No	May 05
A51	8105-3HU 1x2	Pentium 4 541	3.20	1MB	800	HT	512MB	None	80GB	CD	GMA 900	No	No	Pref	XP Pro	No	July 06

These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning Processor	<i>Smallest ThinkCentre desktop without compromise</i> Intel® Celeron D Processor 326, 331, 336 with 533MHz bus or Intel Pentium 4 Processor 521, 524, 531, or 541 with 533MHz or 800MHz system bus	Ultra Small  Bay ① 3.5", SL 1", access, std disk (desktop) Bay ② 5.25", "slim .5", access, std optical (notebook) * Optical bay is Ultrabay™ Enhanced 12.5mm high (supports select ThinkPad®-based Ultrabay Enhanced [12.5mm high] and Ultrabay Slim [9.5mm high] devices) Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v)
Proc features	All: Extended Memory 64 Technology, Execute Disable Bit Hyper-Threading Some: Hyper-Threading (HT) technology	
L2 cache	256KB or 1MB std and max / ECC / full speed	<ul style="list-style-type: none"> • Up to 75% less space than desktop chassis • Business black color; metal case • 10.8" W X 10.8"D X 3.4"H • 275mm W X 275mm D X 87.5mm H • 13.2 to 14.0 lb (6.0 to 6.4 kg) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk and optical drive removal • Bays 1 and 2 flip up (latched and pivoting) • Toolless PCI slot and riser card retention • Steel chassis supports 100 lb (45kg) monitor on top
Socket	Processor and L2 cache in FC-LGA4 in LGA775 socket	
Memory - std/max ⁵	256 or 512MB std / 4GB max	SYSTEMS MANAGEMENT
Memory	Two 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915GV GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector	<ul style="list-style-type: none"> • PC 2001-compliant • ACPI 2.0b-compliant • SMBIOS 2.3.1-compliant • DMI 2.0-compliant • Asset ID¹⁹ (system specific info in chip)
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts	
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6	SECURITY
SATA cables	One SATA cable (one 1-drop to disk) / one SATA connector	
EIDE CD	Some: 24X-10X ⁴ CD-ROM / Ultrabay Enhanced (12.5mm high)	<ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Boot sequence control • Boot without keyboard or mouse • USB, ethernet, SATA, EIDE, serial, parallel enable or disable • Disk, removable, and network device boot password • Some: cover intrusion switch • Some: fingerprint reader keyboard
EIDE Combo	Some: 24X/24X/24X/8X Max ¹¹ CD-RW/DVD-ROM Combo / Ultrabay Enhanced (12.5mm high)	
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)	LIMITED WARRANTY¹
EIDE cables	One cable (one 1-drop Ultrabay Enhanced cable to optical) / one EIDE connector (Ultrabay Enhanced) on systemboard	
Diskette drive	None / use optional external USB-based 3.5" 1.44MB diskette drive	<ul style="list-style-type: none"> ↪ 1-year parts and labor ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) ↪ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹
Chipset	Intel 915GV Express Chipset / 82915GV Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / National Semiconductor® PC8375T Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log	
Ports	<i>Front:</i> two USB (Version 2.0), microphone in (mono), headphone out (mono) <i>Back:</i> four USB (Version 2.0), one serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	<ul style="list-style-type: none"> ↪ 1-year parts and labor ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) ↪ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹
Audio connectors	<i>Back:</i> line-in (mono), line-out (mono) [all 3.5mm]	
Audio	Integrated digital audio / SoundMAX® Cadenza / AC '97 / ADI1981B codec	<ul style="list-style-type: none"> ↪ 1-year parts and labor ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) ↪ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹
Speaker	One internal speaker for business audio	
Ethernet	10/100/1000 gigabit ethernet on planar / Broadcom® NetXtreme™ Gigabit Network Connection / BCM5705 controller / PHY and MAC layer / 32-bit PCI 2.3 / full duplex / Wake on LAN® / ACPI 1.1 / PXE 2.0 and RPL remote boot	<ul style="list-style-type: none"> ↪ 1-year parts and labor ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) ↪ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹
Modem	Some: 56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter	
Security chip	Embedded Security Subsystem 2.0¹⁸ / in NS PC8375T chip / TCG-compliant	<ul style="list-style-type: none"> ↪ 1-year parts and labor ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) ↪ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹
Keyboard (one of following)	[EP] Enhanced Performance USB Keyboard, 2-port USB 2.0 hub, black [Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black [Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black	
Mouse	Optical Wheel Mouse (USB only), optical, 400 dpi, black	<ul style="list-style-type: none"> ↪ 1-year parts and labor ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) ↪ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹
Cooling fans	Four variable speed fans (front, back, fansink, power supply)	
Power supply	200 watts with variable speed fan / universal / autosensing / two diagnostic LEDs	<ul style="list-style-type: none"> ↪ 1-year parts and labor ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) ↪ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹
Preload with Windows XP Home⁵	Accessories	
Microsoft® Windows® XP Home Edition	256MB PC2-4200 CL4 NP DDR2 UDIMM 73P4970	
Preload with Windows XP Professional⁵	512MB PC2-4200 CL4 NP DDR2 UDIMM 73P4971	
Microsoft Windows XP Professional	1GB PC2-4200 CL4 NP DDR2 UDIMM 73P4972	
Preloaded (all)	2GB PC2-4200 CL4 NP DDR2 UDIMM 73P4973	
• Access Program	CD-RW/DVD Combo Ultrabay Enhanced 73P3275	
• Rescue and Recovery™	Super Multi-Burner Ultrabay Enhanced Drv 40Y8624	
• Update Connector™ ¹⁵	ThinkPad DVD-ROM Ultrabay Slim Drive 73P3270	
• Norton AntiVirus (OEM version)	160GB Serial ATA300 Disk (7200 rpm) 09N4254	
• PC-Doctor™ (diagnostics)	USB Portable Diskette Drive 05K9276	
• Client Security Software	USB 2.0 Super Multi-Burner Drive 41N5565	
• RecordNow and DLA (combo models)	Lenovo L192 Wide 19" Monitor (black) 6920AB1	
• InterVideo WinDVD (combo models)	Enh Perf Wireless Keyboard and Mouse 73P4067	
	ThinkCentre Ultra Small Under Desk Mount 40Y8625	
	Other accessories at lenovo.com/accessories	

See footnotes for important warranty information
US models announced on May 17, 2005, June 6, 2006, and July 25, 2006
US models withdrawn effective December 2005, May 2006, or June 2007

ThinkCentre® A51 Desktop (8129) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type	Slot x model bay	Processor	GHz	L2 cache	Bus MHz	EM64T	Memory ⁸	SATA disk	EIDE optical	Chip set	PCIe ethernet	Modem adptr	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date	
A51	8129-11U	3x4	Pentium® 4 516	2.93	1MB	533	EM64T	256MB	40GB ²	CD	GMA 900	GV	10/100	No	XP Pro ⁵	1-yr	No	Sep05
A51	8129-12U	3x4	Pentium 4 516	2.93	1MB	533	EM64T	512MB	40GB	CD-RW	GMA 900	GV	10/100	No	XP Pro	1-yr	No	Sep05
A51	8129-13U	3x4	Pentium 4 519K	3.06	1MB	533	EM64T	256MB	40GB	CD	GMA 900	GV	10/100	No	XP Pro	1-yr	No	Sep05
A51	8129-14U	3x4	Pentium 4 519K	3.06	1MB	533	EM64T	512MB	40GB	CD-RW	GMA 900	GV	10/100	No	XP Pro	1-yr	No	Sep05
A51	8129-21U	4x4	Pentium 4 521	2.8	1MB	800	EM64T	512MB	40GB	CD	GMA 900	G	Gigabit	No	XP Pro	1-yr	No	Sep05
A51	8129-D1U	4x4	Pentium 4 630	3.00	2MB	800	EM64T	512MB	40GB	CD	GMA 900	G	Gigabit	No	XP Pro	1-yr	No	Sep05
A51	8129-D2U	4x4	Pentium 4 630	3.00	2MB	800	EM64T	512MB	80GB	CD-RW	GMA 900	G	Gigabit	No	XP Pro	1-yr	No	Sep05
A51	8129-E1U	4x4	Pentium 4 640	3.20	2MB	800	EM64T	512MB	80GB	Combo	GMA 900	G	Gigabit	No	XP Pro	1-yr	No	Sep05

These small and medium business (SMB) models are part of the US TopSeller™ Program

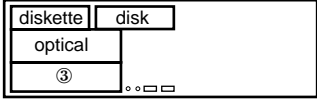
Positioning	<i>Quality, choice, and affordability</i>										Desktop						
Processor	Intel® Pentium 4 Processor 516 with 533MHz bus, 519K with XD and 533MHz bus, or 521, 630, 640 with XD and 800MHz bus 521/6xx: Hyper-Threading (HT) technology; 6xx: EIST; All: EM64T 1MB or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket										Bay ① 3.5", SL 1", access, std diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 5.25", HH 1.6" access, open Bay ④ 3.5", SL 1", no access, std disk						
Proc features	521/6xx: Hyper-Threading (HT) technology; 6xx: EIST; All: EM64T 1MB or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket										3x4 models with 915GV chipset: Slot 1: half-length, full-height, PCI Express x1 Slot 2: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)						
L2 cache	1MB or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket										4x4 models with 915G chipset: Slot 1: full-length, full-height, PCI Express x16 Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)						
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket										3x4 models with 915GV chipset: Slot 1: half-length, full-height, PCI Express x1 Slot 2: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)						
Memory - std/max ⁹	256 or 512MB std / 4GB max Four 240-pin gold plated DIMM sockets / one or two sockets used (256MB DIMM in each socket) / PC2-3200 400MHz DDR2 / non-parity / CAS latency 3 (CL3) / unbuffered / dual-channel capable										4x4 models with 915G chipset: Slot 1: full-length, full-height, PCI Express x16 Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)						
Memory	Four 240-pin gold plated DIMM sockets / one or two sockets used (256MB DIMM in each socket) / PC2-3200 400MHz DDR2 / non-parity / CAS latency 3 (CL3) / unbuffered / dual-channel capable										4x4 models with 915G chipset: Slot 1: full-length, full-height, PCI Express x16 Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)						
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector										4x4 models with 915G chipset: Slot 1: full-length, full-height, PCI Express x16 Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)						
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts Serial ATA / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard <i>Some:</i> 48X/20X ⁴ CD-ROM <i>Some:</i> 48X/32X/48X Max ⁴ CD-RW <i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) One 2-drop EIDE 80-conductor cable to optical / 1 planar connector 3.5" 1.44MB diskette drive										• Business black color • Supports up to 100 lb monitor on top of metal cover • 17.4" W X 15.7"D X 5.5"H • 442mm W X 400mm D X 140mm H • 24 to 31 lb (11 to 14 kg) • Bay 1, 2, 3, and 4 in cage flips up (latched and pivoting) • Toolless install and removal of disk, optical, diskette • Toolless install and removal of cover • Toolless install and remove of adapter cards						
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard <i>Some:</i> 48X/20X ⁴ CD-ROM <i>Some:</i> 48X/32X/48X Max ⁴ CD-RW <i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) One 2-drop EIDE 80-conductor cable to optical / 1 planar connector 3.5" 1.44MB diskette drive										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
SATA cables	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard <i>Some:</i> 48X/20X ⁴ CD-ROM <i>Some:</i> 48X/32X/48X Max ⁴ CD-RW <i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) One 2-drop EIDE 80-conductor cable to optical / 1 planar connector 3.5" 1.44MB diskette drive										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
EIDE CD	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard <i>Some:</i> 48X/20X ⁴ CD-ROM <i>Some:</i> 48X/32X/48X Max ⁴ CD-RW <i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) One 2-drop EIDE 80-conductor cable to optical / 1 planar connector 3.5" 1.44MB diskette drive										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
EIDE CD-RW	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard <i>Some:</i> 48X/20X ⁴ CD-ROM <i>Some:</i> 48X/32X/48X Max ⁴ CD-RW <i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) One 2-drop EIDE 80-conductor cable to optical / 1 planar connector 3.5" 1.44MB diskette drive										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
EIDE Combo	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard <i>Some:</i> 48X/20X ⁴ CD-ROM <i>Some:</i> 48X/32X/48X Max ⁴ CD-RW <i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) One 2-drop EIDE 80-conductor cable to optical / 1 planar connector 3.5" 1.44MB diskette drive										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
EIDE controller	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard <i>Some:</i> 48X/20X ⁴ CD-ROM <i>Some:</i> 48X/32X/48X Max ⁴ CD-RW <i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) One 2-drop EIDE 80-conductor cable to optical / 1 planar connector 3.5" 1.44MB diskette drive										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
EIDE cables	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard <i>Some:</i> 48X/20X ⁴ CD-ROM <i>Some:</i> 48X/32X/48X Max ⁴ CD-RW <i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) One 2-drop EIDE 80-conductor cable to optical / 1 planar connector 3.5" 1.44MB diskette drive										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
Diskette drive	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard <i>Some:</i> 48X/20X ⁴ CD-ROM <i>Some:</i> 48X/32X/48X Max ⁴ CD-RW <i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) One 2-drop EIDE 80-conductor cable to optical / 1 planar connector 3.5" 1.44MB diskette drive										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
Chipset	Intel 915GV or 915G Express Chipset / 82915GV or G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O for serial, parallel, diskette, keyboard, mouse, auto-thermal control										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
Rear audio ports	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm]										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1888 codec One internal beeper										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
Beeper	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1888 codec One internal beeper										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
Ethernet	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1888 codec One internal beeper										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
Cooling fans	Two variable speed fans (front and power supply)										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
Preload with Windows XP Professional⁵	Accessories										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
Microsoft® Windows® XP Professional with Service Pack 2	256MB PC2-4200 CL4 NP DDR2 UDIMM 73P4970 512MB PC2-4200 CL4 NP DDR2 UDIMM 73P4971 1GB PC2-4200 CL4 NP DDR2 UDIMM 73P4972 2GB PC2-4200 CL4 NP DDR2 UDIMM 73P4973 160GB Serial ATA300 Disk (7200 rpm) 09N4254 Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 Super Multi-Burner Drive 40Y8638 USB 2.0 Portable 80GB Hard Disk 40Y8726 ThinkVision® C190 19" (18.0" vis) (black) 6739P0N ThinkVision L151 15" Monitor (black) 9205AB6 ThinkVision L151p 15" Monitor (black) 9205HB2 ThinkVision L192p 19" Monitor (black) 9419HB2 ThinkVision L201p 20.1" Monitor (black) 9320HB1 DVI-I PCIe Connection Adapter (ADD2)* 73P2516 ATI® RADEON® X300 SE 128MB Dual Head* 40Y8405 ATI RADEON X700 128MB Dual Head* 73P2518 *only supported on 915G chipset models										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
- Disk-to-Disk Recovery (in hidden protected area)	256MB PC2-4200 CL4 NP DDR2 UDIMM 73P4970 512MB PC2-4200 CL4 NP DDR2 UDIMM 73P4971 1GB PC2-4200 CL4 NP DDR2 UDIMM 73P4972 2GB PC2-4200 CL4 NP DDR2 UDIMM 73P4973 160GB Serial ATA300 Disk (7200 rpm) 09N4254 Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 Super Multi-Burner Drive 40Y8638 USB 2.0 Portable 80GB Hard Disk 40Y8726 ThinkVision® C190 19" (18.0" vis) (black) 6739P0N ThinkVision L151 15" Monitor (black) 9205AB6 ThinkVision L151p 15" Monitor (black) 9205HB2 ThinkVision L192p 19" Monitor (black) 9419HB2 ThinkVision L201p 20.1" Monitor (black) 9320HB1 DVI-I PCIe Connection Adapter (ADD2)* 73P2516 ATI® RADEON® X300 SE 128MB Dual Head* 40Y8405 ATI RADEON X700 128MB Dual Head* 73P2518 *only supported on 915G chipset models										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
Preloaded	Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 Super Multi-Burner Drive 40Y8638 USB 2.0 Portable 80GB Hard Disk 40Y8726 ThinkVision® C190 19" (18.0" vis) (black) 6739P0N ThinkVision L151 15" Monitor (black) 9205AB6 ThinkVision L151p 15" Monitor (black) 9205HB2 ThinkVision L192p 19" Monitor (black) 9419HB2 ThinkVision L201p 20.1" Monitor (black) 9320HB1 DVI-I PCIe Connection Adapter (ADD2)* 73P2516 ATI® RADEON® X300 SE 128MB Dual Head* 40Y8405 ATI RADEON X700 128MB Dual Head* 73P2518 *only supported on 915G chipset models										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
• Rescue and Recovery™	Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 Super Multi-Burner Drive 40Y8638 USB 2.0 Portable 80GB Hard Disk 40Y8726 ThinkVision® C190 19" (18.0" vis) (black) 6739P0N ThinkVision L151 15" Monitor (black) 9205AB6 ThinkVision L151p 15" Monitor (black) 9205HB2 ThinkVision L192p 19" Monitor (black) 9419HB2 ThinkVision L201p 20.1" Monitor (black) 9320HB1 DVI-I PCIe Connection Adapter (ADD2)* 73P2516 ATI® RADEON® X300 SE 128MB Dual Head* 40Y8405 ATI RADEON X700 128MB Dual Head* 73P2518 *only supported on 915G chipset models										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
• Access Program	Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 Super Multi-Burner Drive 40Y8638 USB 2.0 Portable 80GB Hard Disk 40Y8726 ThinkVision® C190 19" (18.0" vis) (black) 6739P0N ThinkVision L151 15" Monitor (black) 9205AB6 ThinkVision L151p 15" Monitor (black) 9205HB2 ThinkVision L192p 19" Monitor (black) 9419HB2 ThinkVision L201p 20.1" Monitor (black) 9320HB1 DVI-I PCIe Connection Adapter (ADD2)* 73P2516 ATI® RADEON® X300 SE 128MB Dual Head* 40Y8405 ATI RADEON X700 128MB Dual Head* 73P2518 *only supported on 915G chipset models										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
• Update Connector™ ¹⁵	Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 Super Multi-Burner Drive 40Y8638 USB 2.0 Portable 80GB Hard Disk 40Y8726 ThinkVision® C190 19" (18.0" vis) (black) 6739P0N ThinkVision L151 15" Monitor (black) 9205AB6 ThinkVision L151p 15" Monitor (black) 9205HB2 ThinkVision L192p 19" Monitor (black) 9419HB2 ThinkVision L201p 20.1" Monitor (black) 9320HB1 DVI-I PCIe Connection Adapter (ADD2)* 73P2516 ATI® RADEON® X300 SE 128MB Dual Head* 40Y8405 ATI RADEON X700 128MB Dual Head* 73P2518 *only supported on 915G chipset models										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
• Adobe Reader	Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 Super Multi-Burner Drive 40Y8638 USB 2.0 Portable 80GB Hard Disk 40Y8726 ThinkVision® C190 19" (18.0" vis) (black) 6739P0N ThinkVision L151 15" Monitor (black) 9205AB6 ThinkVision L151p 15" Monitor (black) 9205HB2 ThinkVision L192p 19" Monitor (black) 9419HB2 ThinkVision L201p 20.1" Monitor (black) 9320HB1 DVI-I PCIe Connection Adapter (ADD2)* 73P2516 ATI® RADEON® X300 SE 128MB Dual Head* 40Y8405 ATI RADEON X700 128MB Dual Head* 73P2518 *only supported on 915G chipset models										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
• Norton AntiVirus (OEM version)	Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 Super Multi-Burner Drive 40Y8638 USB 2.0 Portable 80GB Hard Disk 40Y8726 ThinkVision® C190 19" (18.0" vis) (black) 6739P0N ThinkVision L151 15" Monitor (black) 9205AB6 ThinkVision L151p 15" Monitor (black) 9205HB2 ThinkVision L192p 19" Monitor (black) 9419HB2 ThinkVision L201p 20.1" Monitor (black) 9320HB1 DVI-I PCIe Connection Adapter (ADD2)* 73P2516 ATI® RADEON® X300 SE 128MB Dual Head* 40Y8405 ATI RADEON X700 128MB Dual Head* 73P2518 *only supported on 915G chipset models										• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant						
• PC-Doctor™ (diagnostics)	Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 Super Multi-Burner Drive 40Y8638 USB 2.0 Portable 80GB Hard Disk 40Y8726 ThinkVision® C190 19" (18.0" vis) (black) 6739P0N ThinkVision L151 15" Monitor (black) 9205AB6 ThinkVision L151p 15" Monitor (black) 9205HB2 ThinkVision L192p 19" Monitor (black) 9419HB2 ThinkVision L201p 20.1" Monitor (black) 9320HB1 DVI-I PCIe Connection Adapter (ADD2)* 73P2516 ATI® RADEON® X300 SE 128MB Dual Head* 40Y8405 ATI RA																

ThinkCentre® A51 Desktop (8133) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Bus MHz	EM64T	Memory ⁸	SATA disk	EIDE optical	Graphics Chipset	PCIe ethernet	Modem adptr	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
A51	8133-22U	4x4	Pentium® 4 520	2.8	1MB	800		512MB	40GB ²	CD	GMA 900 915G	Gigabit	No	XP Pro ⁵	3-yr	No	Apr 05
A51	8133-31U	4x4	Pentium 4 530	3.0	1MB	800		512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	Apr 05
A51	8133-41U	4x4	Pentium 4 540	3.2	1MB	800		512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	Apr 05
A51	8133-24U	4x4	Pentium 4 521	2.8	1MB	800	EM64T	512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8133-34U	4x4	Pentium 4 531	3.0	1MB	800	EM64T	512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8133-44U	4x4	Pentium 4 541	3.2	1MB	800	EM64T	512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8133-D2U	4x4	Pentium 4 630	3.00	2MB	800	EM64T	512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8133-E1U	4x4	Pentium 4 640	3.20	2MB	800	EM64T	512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8133-F1U	4x4	Pentium 4 650	3.40	2MB	800	EM64T	512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05

These small and medium business (SMB) models are part of the US TopSeller™ Program

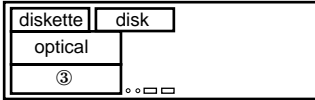
Positioning Processor	<i>Quality, choice, and affordability</i> Intel® Pentium 4 Processor 520, 530, 540 with 800MHz bus or 521, 531, 541, 630, 640, 650 with XD, EM64T, and 800MHz bus		Desktop 
Proc features	All: Hyper-Threading (HT) technology; 6xx: EIST		
L2 cache Implementation	1MB or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket		
Memory - std/max ⁶	512MB std / 4GB max		
Memory	Four 240-pin gold plated DIMM sockets / two sockets used (256MB DIMM in each socket) / non-parity / dual-channel capable <i>April models: PC2-3200 400MHz DDR2 / CAS latency 3 (CL3)</i> <i>July models: PC2-4200 533MHz DDR2 / CAS latency 4 (CL4)</i>		Bay ① 3.5", SL 1", access, std diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 5.25", HH 1.6" access, open Bay ④ 3.5", SL 1", no access, std disk Slot 1: full-length, full-height, PCI Express x16 Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v) • Business black color • Supports up to 100 lb monitor on top of metal cover • 17.4" W X 15.7"D X 5.5"H • 442mm W X 400mm D X 140mm H • 24 to 31 lb (11 to 14 kg) • Bay 1, 2, 3, and 4 in cage flips up (latched and pivoting) • Toolless install and removal of disk, optical, diskette • Toolless install and removal of cover • Toolless install and remove of adapter cards
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector		
SATA disk	40GB / SATA150 7200 rpm / vibration dampening mounts		
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6		
SATA cables	One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard		
EIDE CD	48X-20X ⁴ CD-ROM		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)		
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / 1 planar connector		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 915G Express Chipset / 82915G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O for serial, parallel, keyboard, mouse, auto-thermal controls		• PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)		SECURITY • One lock to secure both cover and entire system to fixed object: - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington Microsaver cable) - No keylock • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm]		
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1888 codec		
Beeper	One internal beeper		
Ethernet	Gigabit ethernet on systemboard / Broadcom® BCM5751 controller (MAC/PHY) / PCIe x1 / Wake on LAN® / PXE 2.0 and RPL remote boot		
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Cooling fans	Two variable speed fans (front and power supply)		
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		
Preload with Windows XP Professional⁵	Accessories		
Microsoft® Windows® XP Professional with Service Pack 2	256MB PC2-4200 CL4 NP DDR2 UDIMM	73P4970	
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-4200 CL4 NP DDR2 UDIMM	73P4971	
	1GB PC2-4200 CL4 NP DDR2 UDIMM	73P4972	
	2GB PC2-4200 CL4 NP DDR2 UDIMM	73P4973	
	160GB Serial ATA300 Disk (7200 rpm)	09N4254	
	Multi-Burner Plus ⁶ (DVD±RW; internal)	73P3370	
	USB 2.0 Memory Key 1GB	40Y7421	
	USB 2.0 Super Multi-Burner Drive	40Y8638	
	USB 2.0 Portable 80GB Hard Disk	40Y8726	
	ThinkVision® C170 17" (16.0" vis) (black)	6737P6N	
	ThinkVision C190 19" (18.0" vis) (black)	6739P0N	
	ThinkVision L151 15" Monitor (black)	9205AB6	
	ThinkVision L151p 15" Monitor (black)	9205HB2	
	ThinkVision L171p 17" Monitor (black)	9417HB2	
	ThinkVision L192p 19" Monitor (black)	9419HB2	
	ThinkVision L201p 20.1" Monitor (black)	9320HB1	
	DVI-I PCIe Connection Adapter (ADD2)	73P2516	
	ATI® RADEON® X300 SE 128MB Dual Head	40Y8405	
	ATI RADEON X700 128MB Dual Head	73P2518	
	Kensington® MicroSaver® Desktop Lock	06P3839	
	Belkin® 800VA UPS with AVR technology	31P7662	
	Optical 3-button ScrollPoint Mouse (black)	31P7405	
	Enh Perf Wireless Keyboard and Mouse	73P4067	
	Enhanced Performance USB Keyboard	73P2620	
	Other options at lenovo.com/options		
	License - CD not included - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client		
	Preloadable • Software Delivery Assistant • System Migration Assistant • IBM Director Agent		
	Rescue and Recovery™ • Access Program • Update Connector™.15 • Adobe Reader • Norton AntiVirus (OEM version) • PC-Doctor™ (diagnostics)		
	LIMITED WARRANTY¹ ⇒ 3-year parts and labor ⇒ International Warranty Service ⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts ³ , 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations): ⁷ • 3-year LOR 9x5, Next Business Day (ThinkPlus™ part number 41C9197) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) ⇒ Other ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ 24x7 ¹⁴ toll-free support for warranty issues during the warranty period ¹ via 800-IBM-SERV (426-7378)		

See footnotes for important warranty information
US models announced April 19 or July 19, 2005
US models withdrawn effective August 2005, December 2005, or May 2006

ThinkCentre® A51 Desktop (8135) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 GHz cache	Bus MHz	EM64T	Memory ⁸	SATA disk	EIDE optical	Graphics Chipset	PCIe ethernet	Modem	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date	
A51	8135-A1U	3x4	Celeron® D 335J	2.80	256K	533	256MB	40GB ²	CD	GMA 900	915GV	10/100	No	XP Pro ⁵	3/1-yr LOR	No	Apr 05
A51	8135-B1U	3x4	Celeron D 345J	3.06	256K	533	256MB	40GB	CD	GMA 900	915GV	10/100	No	XP Pro	3/1-yr LOR	No	Apr 05
A51	8135-32U	4x4	Pentium® 4 530	3.0	1MB	800	256MB	40GB	CD	GMA 900	915G	Gigabit	No	XP Pro	3/1-yr LOR	No	Apr 05
A51	8135-42U	4x4	Pentium 4 540	3.2	1MB	800	256MB	40GB	CD	GMA 900	915G	Gigabit	No	XP Pro	3/1-yr LOR	No	Apr 05
A51	8135-A2U	3x4	Celeron D 336	2.80	256K	533	EM64T 256MB	40GB	CD	GMA 900	915GV	10/100	No	XP Pro	3/1-yr LOR	No	July 05
A51	8135-B2U	3x4	Celeron D 346	3.06	256K	533	EM64T 256MB	40GB	CD	GMA 900	915GV	10/100	No	XP Pro	3/1-yr LOR	No	July 05
A51	8135-35U	4x4	Pentium 4 531	3.0	1MB	800	EM64T 256MB	40GB	CD	GMA 900	915G	Gigabit	No	XP Pro	3/1-yr LOR	No	July 05
A51	8135-45U	4x4	Pentium 4 541	3.2	1MB	800	EM64T 256MB	40GB	CD	GMA 900	915G	Gigabit	No	XP Pro	3/1-yr LOR	No	July 05

Positioning Processor	<i>Quality, choice, and affordability</i> Intel® Celeron D Processor 335J, 336, 345J, 346 with Execute Disable Bit and 533MHz system bus or Intel® Pentium 4 530, 531, 540, 541 with 800MHz system bus <i>Celeron 336/346 and Pentium 531/541: XD and EM64T</i> <i>Pentium: Hyper-Threading (HT) technology</i>	Desktop  Bay ① 3.5", SL 1", access, std diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 5.25", HH 1.6" access, open Bay ④ 3.5", SL 1", no access, std disk
Hyper-Threading L2 cache Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket	
Memory - std/max ⁸ Memory	256MB std / 4GB max Four 240-pin gold plated DIMM sockets / one socket used / non-parity / unbuffered / dual-channel capable <i>April models: PC2-3200 400MHz DDR2 / CAS latency 3 (CL3)</i> <i>July models: PC2-4200 533MHz DDR2 / CAS latency 4 (CL4)</i>	3x4 models with 915GV chipset: Slot 1: half-length, full-height, PCI Express x1 Slot 2: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915GV or G GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector	4x4 models with 915G chipset: Slot 1: full-length, full-height, PCI Express x16 Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)
SATA disk SATA controller SATA cables	40GB / SATA150 7200 rpm / vibration dampening mounts Serial ATA / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard	<ul style="list-style-type: none"> • Business black color • Supports up to 100 lb monitor on top of metal cover • 17.4" W X 15.7"D X 5.5"H • 442mm W X 400mm D X 140mm H • 24 to 31 lb (11 to 14 kg) • Bay 1, 2, 3, and 4 in cage flips up (latched and pivoting) • Toolless install and removal of disk, optical, diskette • Toolless install and removal of cover • Toolless install and remove of adapter cards
EIDE CD EIDE controller EIDE cables	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on planar	
Diskette drive	3.5" 1.44MB diskette drive	
Chipset	Intel 915GV or 915G Express Chipset / 82915GV or G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O for serial, parallel, diskette, keyboard, mouse, auto-thermal control	<ul style="list-style-type: none"> • PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0c • SMBIOS 2.3.1-compliant • DMI 2.0-compliant
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)	SECURITY <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington Microsaver cable) - No keylock • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Rear audio ports	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm]	
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1888 codec	
Beeper	One internal beeper	
Ethernet	<i>915GV models:</i> 10/100 ethernet on systemboard / Broadcom® BCM5751F controller (MAC/PHY) / PCIe x1 / Wake on LAN® / PXE 2.0 and RPL remote boot <i>915G models:</i> Gigabit ethernet on systemboard / Broadcom BCM5751 controller (MAC/PHY) / PCIe x1 / Wake on LAN / PXE 2.0 and RPL remote boot	
Modem	None	
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black	
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black	
Cooling fans	Two variable speed fans (front and power supply)	

Preload with Windows XP Professional ⁵	Accessories	
Microsoft® Windows® XP Professional with Service Pack 2	256MB PC2-4200 CL4 NP DDR2 UDIMM	73P4970
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-4200 CL4 NP DDR2 UDIMM	73P4971
Preloaded	1GB PC2-4200 CL4 NP DDR2 UDIMM	73P4972
• Rescue and Recovery™	2GB PC2-4200 CL4 NP DDR2 UDIMM	73P4973
• Access Program	160GB Serial ATA300 Disk (7200 rpm)	09N4254
• Update Connector™ ¹⁵	Multi-Burner Plus® (DVD±RW; internal)	73P3370
• Adobe Reader	USB 2.0 Memory Key 1GB	40Y7421
• Norton AntiVirus (OEM version)	USB 2.0 Portable 80GB Hard Disk	40Y8726
• PC-Doctor™ (diagnostics)	USB 2.0 Super Multi-Burner Drive	40Y8638
Downloadable	ThinkVision® C170 17" (16.0" vis) (black)	6737P6N
• Software Delivery Assistant	ThinkVision C190 19" (18.0" vis) (black)	6739P0N
• System Migration Assistant	ThinkVision L171p 17" Monitor (black)	9417HB2
• IBM Director Agent	ThinkVision L192p 19" Monitor (black)	9419HB2
License - CD not included	ThinkVision L201p 20.1" Monitor (black)	9320HB1
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	DVI-I PCIe Connection Graphic Adapter*	73P2516
	ATI® RADEON® X300 SE 128MB Dual Head*	40Y8405
	ATI RADEON X700 128MB Dual Head*	73P2518
	NVIDIA® GeForce 6200 64MB Dual Head*	73P2517
	*only supported on 915G chipset models	
	Kensington® MicroSaver® Desktop Lock	06P3839
	Enh Perf Wireless Keyboard and Mouse	73P4067
	Other options at lenovo.com/options	

See footnotes for important warranty information
US models announced April 19 or July 19, 2005
US models withdrawn effective August 2005, December 2005, or May 2006

ThinkCentre® A51 Tower (8131) - Express - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type	Slot x model bay	Processor	L2 cache GHz	Bus MHz	Memory in MB	Diskette drive	SATA disk	EIDE optical	Graphics GMA 900	Chipset Ethernet	Modem & spkrs	Preload Mouse	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
A51	8131-A1U	3x4	Celeron® 325J	2.53	256K	533	256 Dskte	40GB ² CD-RW	900	GV	10/100	Yes	Opcl XP Home ⁵	1 yr	No	May 05
A51	8131-A2U	3x4	Celeron 325J	2.53	256K	533	256	40GB CD	900	GV	10/100	No	2 btn XP Home	1 yr	No	May 05
A51	8131-A3U	3x4	Celeron 325J	2.53	256K	533	256 Dskte	40GB CD	900	GV	10/100	No	Opcl XP Pro	1 yr	No	May 05
A51	8131-A4U	3x4	Celeron 330J	2.66	256K	533	256	40GB CD	900	GV	10/100	No	2 btn XP Home	1 yr	No	May 05
A51	8131-A5U	3x4	Celeron 330J	2.66	256K	533	256 Dskte	40GB CD	900	GV	10/100	No	Opcl XP Pro	1 yr	No	May 05
A51	8131-ABU	3x4	Celeron 330J	2.66	256K	533	256	40GB CD	900	GV	10/100	No	2 btn DOS licens	1 yr	No	May 05
A51	8131-A9U	3x4	Celeron 335J	2.80	256K	533	256 Dskte	40GB CD	900	GV	10/100	No	Opcl XP Pro	1 yr	No	May 05
A51	8131-11U	4x4	Pentium® 4	2.66	1MB	533	256 Dskte	40GB CD	900	G	Gigabit	No	2 btn XP Home	1 yr	No	May 05
A51	8131-12U	4x4	Pentium 4	2.66	1MB	533	256 Dskte	40GB CD	900	G	Gigabit	No	Opcl XP Pro	1 yr	No	May 05
A51	8131-13U	4x4	Pentium 4	2.66	1MB	533	256 Dskte	80GB CD-RW	900	G	Gigabit	No	Opcl XP Pro	1 yr	No	May 05
A51	8131-16U	4x4	Pentium 4 515	2.93	1MB	533	256 Dskte	40GB CD	900	G	Gigabit	No	Opcl XP Pro	1 yr	No	May 05
A51	8131-17U	4x4	Pentium 4 515	2.93	1MB	533	512 Dskte	40GB CD-RW	900	G	Gigabit	No	Opcl XP Pro	1 yr	No	May 05
A51	8131-19U	3x4	Pentium 4 515	2.93	1MB	533	256	40GB CD	900	GV	10/100	No	2 btn DOS licens	1 yr	No	May 05
A51	8131-33U	4x4	Pentium 4 530	3.0	1MB	800	HT 256 Dskte	40GB CD	900	G	Gigabit	No	Opcl XP Pro	1 yr	No	May 05
A51	8131-34U	4x4	Pentium 4 530	3.0	1MB	800	HT 512 Dskte	40GB CD	900	G	Gigabit	No	Opcl XP Pro	1 yr	No	May 05
A51	8131-35U	4x4	Pentium 4 530	3.0	1MB	800	HT 512 Dskte	80GB CD-RW	900	G	Gigabit	No	Opcl XP Pro	1 yr	No	May 05
A51	8131-37U	4x4	Pentium 4 530	3.0	1MB	800	HT 512 Dskte	80GB CD	900	G	Gigabit	No	Opcl XP Pro	1 yr	No	May 05
A51	8131-38U	4x4	Pentium 4 530	3.0	1MB	800	HT 512 Dskte	80GB CD	900	G	Gigabit	No	Opcl XP Pro	1 yr	No	May 05
A51	8131-41U	4x4	Pentium 4 540	3.2	1MB	800	HT 512 Dskte	40GB CD	900	G	Gigabit	No	Opcl XP Pro	1 yr	No	May 05
A51	8131-42U	4x4	Pentium 4 540	3.2	1MB	800	HT 512 Dskte	80GB CD-RW	900	G	Gigabit	No	Opcl XP Pro	1 yr	No	May 05
A51	8131-45U	4x4	Pentium 4 540	3.2	1MB	800	HT 256	40GB CD	900	G	Gigabit	No	2 btn DOS licens	1 yr	No	May 05
A51	8131-47U	4x4	Pentium 4 540	3.2	1MB	800	HT 512 Dskte	80GB CD	900	G	Gigabit	No	Opcl XP Pro	1 yr	No	May 05

These small and medium business (SMB) models are part of the US ThinkCentre Express Program

Positioning Processor	Quality, choice, and affordability Intel® Celeron D Processor 325J (2.53GHz), 330J (2.66GHz), 335J (2.80GHz) with Execute Disable Bit and 533MHz bus or Intel Pentium 4 at 2.66, 515 (2.93GHz), 530 (3.0GHz), 540 (3.2GHz) with 533 or 800MHz system bus	Tower	
Hyper-Threading L2 cache Implementation	Some: Hyper-Threading (HT) technology 256KB or 1MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket	<ul style="list-style-type: none"> Business black color 7.0" W X 17.7" D X 17.0" H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 	
Memory - std/max ² Memory	256 or 512MB std / 4GB max Four 240-pin gold plated DIMM sockets / one or two sockets used (256MB DIMM in each socket) / PC2-3200 400MHz DDR2 / non-parity / CAS latency 3 (CL3) / unbuffered / dual channel capable	<ul style="list-style-type: none"> Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, std diskette Bay ④ 3.5", SL 1", no access, std disk 	
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G or GV GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector	<ul style="list-style-type: none"> 3x4 models with 915GV chipset: Slot 1: full-length, full-height, PCI Express x1 Slot 2: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v) 4x4 models with 915G chipset: Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)-modem* Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v) 	
SATA disk SATA controller SATA cables EIDE CD EIDE CD-RW EIDE controller EIDE cables Diskette drive	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / four SATA connectors Some: 48X-20X ⁴ CD-ROM Some: 48X/32X/48X Max ⁴ CD-RW Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) One 2-drop EIDE 80-conductor cable to optical / one connector Some: 3.5" 1.44MB diskette drive	<ul style="list-style-type: none"> 4x4 models with 915G chipset: Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)-modem* Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v) 	
Chipset	Intel 915G or 915GV Express Chipset / 82915G or GV Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O for serial, parallel, diskette, keyboard, mouse, auto-thermal controls	<ul style="list-style-type: none"> *some models 	
Front ports Rear ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm) Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	<p>SECURITY</p> <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) - No keylock Power-on and administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement 	
Rear audio ports Audio	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm] Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1888 codec Some: External active speakers / Jazz Infinity® / 2-piece / 3 watts / black color		
Speakers Beeper Ethernet	One internal beeper 915GV models: 10/100 ethernet on systemboard / Broadcom® BCM5751F controller (MAC/PHY) / PCIe x1 / Wake on LAN® / PXE 2.0 and RPL remote boot 915G models: Gigabit ethernet on systemboard / Broadcom BCM5751 controller (MAC/PHY) / PCIe x1 / Wake on LAN / PXE 2.0 and RPL remote boot Some: 56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter		
Modem	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black Some: [2 btn] Std 2-Button PS/2 Mouse (6-pin PS/2 connector), black Some: [Opcl] Optical Wheel Mouse (USB only), 400 dpi, black		
Keyboard Mouse	Two variable speed fans (front and power supply) 310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		
Cooling fans Power supply			
Accessories	<ul style="list-style-type: none"> 256MB PC2-4200 CL4 NP DDR2 UDIMM 73P4970 512MB PC2-4200 CL4 NP DDR2 UDIMM 73P4971 1GB PC2-4200 CL4 NP DDR2 UDIMM 73P4972 2GB PC2-4200 CL4 NP DDR2 UDIMM 73P4973 80GB Serial ATA150 Disk (7200 rpm) 09N4253 160GB Serial ATA150 Disk (7200 rpm) 09N4254 Kensington® MicroSaver® Desktop Lock 06P3839 	<ul style="list-style-type: none"> USB 2.0 Portable Multi-Burner Drive 22P9163 USB 2.0 Memory Key 1GB 40Y7421 ThinkVision® L151 15" Monitor 9205AB2 ThinkVision L151p 15" Monitor 9205HB2 ThinkVision L171 17" Monitor 9417AB1 ThinkVision L171p 17" Monitor 9417HB7 ThinkVision C170 17" (16.0" vis) 6737P6N Other options at lenovo.com/options 	
		<p>LIMITED WARRANTY¹</p> <ul style="list-style-type: none"> ↔ 1 year parts and labor ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ ThinkPlus™ services at lenovo.com/thinkplus/warranty ↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 	

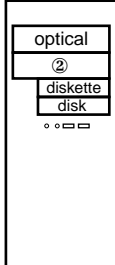
See footnotes for important warranty information
US models announced April 19, 2005
US models withdrawn effective August or December 2005

ThinkCentre® A51 Tower (8131) - TopSeller (July 2005) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Slot x Type-model bay	Processor	L2 GHz cache	Bus MHz	Memory ⁸ in MB	Diskette drive	SATA disk	EIDE optical	Graphics GMA 900	Chipset Ethernet & spkrs	Modem & Mouse	Preload XP Home ⁵	Limited warranty ⁹	Workhorse Gbl, Educ	Avail date
A51	8131-AGU 3x4	Celeron® D 326	2.53	256K	533	256 Dskte	40GB ²	CD-RW	900	GV 10/100	Yes Opcl	XP Home ⁵	1-yr	No	July 05
A51	8131-AHU 3x4	Celeron D 326	2.53	256K	533	256	40GB	CD	900	GV 10/100	No 2 btn	XP Home	1-yr	No	July 05
A51	8131-AJU 3x4	Celeron D 326	2.53	256K	533	256 Dskte	40GB	CD	900	GV 10/100	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-AKU 3x4	Celeron D 331	2.66	256K	533	256	40GB	CD	900	GV 10/100	No 2 btn	XP Home	1-yr	No	July 05
A51	8131-ALU 3x4	Celeron D 331	2.66	256K	533	256 Dskte	40GB	CD	900	GV 10/100	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-ANU 3x4	Celeron D 331	2.66	256K	533	256	40GB	CD	900	GV 10/100	No 2 btn	DOS licens	1-yr	No	July 05
A51	8131-APU 3x4	Celeron D 336	2.80	256K	533	256 Dskte	40GB	CD	900	GV 10/100	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-1BU 4x4	Pentium® 4 506	2.66	1MB	533	256 Dskte	40GB	CD	900	G Gigabit	No 2 btn	XP Home	1-yr	No	July 05
A51	8131-1CU 4x4	Pentium 4 506	2.66	1MB	533	256 Dskte	40GB	CD	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-1DU 4x4	Pentium 4 506	2.66	1MB	533	256 Dskte	80GB	CD-RW	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-1HU 4x4	Pentium 4 516	2.93	1MB	533	256 Dskte	40GB	CD	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-1JU 4x4	Pentium 4 516	2.93	1MB	533	512 Dskte	40GB	CD-RW	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-1KU 3x4	Pentium 4 516	2.93	1MB	533	256	40GB	CD	900	GV 10/100	No 2 btn	DOS licens	1-yr	No	July 05
A51	8131-1MU 3x4	Pentium 4 516	2.93	1MB	533	256	40GB	CD	900	GV 10/100	No 2 btn	XP Home	1-yr	No	July 05
A51	8131-1NU 3x4	Pentium 4 516	2.93	1MB	533	256	40GB	CD	900	GV 10/100	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-1PU 3x4	Pentium 4 516	2.93	1MB	533	512	80GB	CD	900	GV 10/100	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-1RU 4x4	Pentium 4 519	3.06	1MB	533	256	40GB	CD	900	G Gigabit	No 2 btn	DOS licens	1-yr	No	July 05
A51	8131-1SU 4x4	Pentium 4 519	3.06	1MB	533	256 Dskte	80GB	CD	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-1TU 4x4	Pentium 4 519	3.06	1MB	533	512 Dskte	80GB	Combo	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-3BU 4x4	Pentium 4 531	3.0	1MB	800	HT 256 Dskte	40GB	CD	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-3CU 4x4	Pentium 4 531	3.0	1MB	800	HT 512 Dskte	40GB	CD	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-3DU 4x4	Pentium 4 531	3.0	1MB	800	HT 512 Dskte	80GB	CD-RW	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-3FU 4x4	Pentium 4 531	3.0	1MB	800	HT 512 Dskte	80GB	CD	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-3GU 4x4	Pentium 4 531	3.0	1MB	800	HT 512 Dskte	80GB	CD	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-48U 4x4	Pentium 4 541	3.2	1MB	800	HT 512 Dskte	40GB	CD	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-49U 4x4	Pentium 4 541	3.2	1MB	800	HT 512 Dskte	80GB	CD-RW	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-4CU 4x4	Pentium 4 541	3.2	1MB	800	HT 256	40GB	CD	900	G Gigabit	No 2 btn	DOS licens	1-yr	No	July 05
A51	8131-4EU 4x4	Pentium 4 541	3.2	1MB	800	HT 512 Dskte	80GB	CD	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-D2U 4x4	Pentium 4 630	3.00	2MB	800	HT 512 Dskte	40GB	CD	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-D3U 4x4	Pentium 4 630	3.00	2MB	800	HT 512 Dskte	80GB	Combo	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-E1U 4x4	Pentium 4 640	3.20	2MB	800	HT 256 Dskte	40GB	CD	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-E2U 4x4	Pentium 4 640	3.20	2MB	800	HT 512 Dskte	80GB	CD	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-E3U 4x4	Pentium 4 640	3.20	2MB	800	HT 512 Dskte	80GB	Combo	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-F1U 4x4	Pentium 4 650	3.40	2MB	800	HT 256 Dskte	40GB	CD	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-F2U 4x4	Pentium 4 650	3.40	2MB	800	HT 512 Dskte	80GB	CD	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05
A51	8131-F3U 4x4	Pentium 4 650	3.40	2MB	800	HT 512 Dskte	80GB	Combo	900	G Gigabit	No Opcl	XP Pro	1-yr	No	July 05

These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning Processor	<i>Quality, choice, and affordability</i> Intel® Celeron D Processor 326, 331, 336 with EM64T, Execute Disable Bit and 533MHz bus or Intel Pentium 4 Proc 506, 516, 519, 531, 541, 630, 640, 650 with EM64T, Execute Disable Bit (except 516), and 533 or 800MHz bus <i>Some:</i> Hyper-Threading (HT) technology; 6xx: EIST	Tower • Business black color • 7.0" W X 17.7"D X 17.0"H • 178mm W X 450mm D X 432mm H • 25.0 to 27.5 lb (11.3 to 12.5 kg) • Handle on top front • Thumbscrew to remove bay 3 and 4 • Toolless install and removal of disk, optical, diskette • Toolless install and removal of side cover • Toolless install and removal of adapter cards	
Hyper-Threading L2 cache Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket		
Memory - std/max ⁸ Memory	256 or 512MB std / 4GB max Four 240-pin gold plated DIMM sockets / one or two sockets used (256MB DIMM in each socket) / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable		
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915GV or G / 333MHz / one 15-pin analog connector	Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, std diskette Bay ④ 3.5", SL 1", no access, std disk	
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts	3x4 models with 915GV chipset: Slot 1: full-length, full-height, PCI Express x1 Slot 2: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)	
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6	4x4 models with 915G chipset: Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)-modem* Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)	
SATA cables	One SATA cable (one 1-drop to disk) / four SATA connectors	*some models	
EIDE optical	<i>One of following:</i> 48X-20X ⁴ CD-ROM, 48X/32X/48X Max ⁴ CD-RW, 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)		
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / 1 planar connector		
Diskette drive	<i>Some:</i> 3.5" 1.44MB diskette drive		
Chipset	Intel 915GV or 915G Express Chipset / 82915GV or G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O		
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)	LIMITED WARRANTY⁹	
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	<ul style="list-style-type: none"> ➤ 1-year parts and labor ➤ International Warranty Service⁹ ➤ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ➤ ThinkPlus™ services at lenovo.com/thinkplus/warranty ➤ Post-warranty maintenance services at lenovo.com/thinkplus/warranty ➤ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 	
Rear audio ports	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm]		
Audio	Integrated digital audio / SoundMAX® Cadenza / AC '97 interface / ADI1888 codec		
Speakers	<i>Some:</i> External active speakers / Jazz Infinity® / 2-piece / 3 watts / black color		
Beeper	One internal beeper		
Ethernet	915GV models: 10/100 ethernet on systemboard / Broadcom® BCM5751F 915G models: Gigabit ethernet on systemboard / Broadcom BCM5751		
Modem	<i>Some:</i> 56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter		
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	<i>Some:</i> [2 btn] Std 2-Button PS/2 Mouse (6-pin PS/2 connector), black <i>Some:</i> [Opcl] Optical Wheel Mouse (USB only), 400 dpi, black		
Cooling fans	Two variable speed fans (front and power supply)		
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		

See footnotes for important warranty information
US models announced July 19, 2005
US models withdrawn effective December 2005 or May 2006

ThinkCentre® A51 Tower (8138) - Express - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type	Slot x model bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	Memory ^o	SATA disk	EIDE optical	Graphics Chipset	PCle ethernet	Modem adptr	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
A51	8138-A1U	3x4	Celeron® 325J	2.53	256K	533		256MB	40GB ²	CD	GMA 900 915GV	10/100	No	XP Pro ⁵	3 yr	No	May 05
A51	8138-A2U	3x4	Celeron 330J	2.66	256K	533		256MB	40GB	CD	GMA 900 915GV	10/100	No	XP Pro	3 yr	No	May 05
A51	8138-A3U	3x4	Celeron 335J	2.80	256K	533		256MB	40GB	CD	GMA 900 915GV	10/100	No	XP Pro	3 yr	No	May 05
A51	8138-12U	4x4	Pentium® 4	2.66	1MB	533		256MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8138-13U	4x4	Pentium 4	2.66	1MB	533		256MB	80GB	CD-RW	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8138-14U	4x4	Pentium 4 515	2.93	1MB	533		256MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8138-15U	4x4	Pentium 4 515	2.93	1MB	533		512MB	40GB	CD-RW	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8138-31U	4x4	Pentium 4 530	3.0	1MB	800	HT	256MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8138-32U	4x4	Pentium 4 530	3.0	1MB	800	HT	512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8138-33U	4x4	Pentium 4 530	3.0	1MB	800	HT	512MB	80GB	CD-RW	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8138-36U	4x4	Pentium 4 530	3.0	1MB	800	HT	512MB	80GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8138-41U	4x4	Pentium 4 540	3.2	1MB	800	HT	512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8138-42U	4x4	Pentium 4 540	3.2	1MB	800	HT	512MB	80GB	CD-RW	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8138-44U	4x4	Pentium 4 540	3.2	1MB	800	HT	512MB	80GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05

These small and medium business (SMB) models are part of the US ThinkCentre Express Program

Positioning Processor	<i>Quality, choice, and affordability</i> Intel® Celeron D Processor 325J (2.53GHz), 330J (2.66GHz), 335J (2.80GHz) with Execute Disable Bit and 533MHz bus or Intel Pentium 4 at 2.66, 515 (2.93GHz), 530 (3.0GHz), 540 (3.2GHz) with 533 or 800MHz system bus	Power <ul style="list-style-type: none"> Business black color 7.0" W X 17.7"D X 17.0"H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 	
Hyper-Threading L2 cache Implementation	<i>Some: Hyper-Threading (HT) technology</i> 256KB or 1MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket		
Memory - std/max ^o Memory	256 or 512MB std / 4GB max Four 240-pin gold plated DIMM sockets / one or two sockets used (256MB DIMM in each socket) / PC2-3200 400MHz DDR2 / non-parity / CAS latency 3 (CL3) / unbuffered / dual channel capable	Graphics Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, std diskette Bay ④ 3.5", SL 1", no access, std disk 3x4 models with 915GV chipset: Slot 1: full-length, full-height, PCI Express x1 Slot 2: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v) 4x4 models with 915G chipset: Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)	
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G or GV GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector		
SATA disk SATA controller SATA cables EIDE CD EIDE CD-RW EIDE controller EIDE cables	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / 4 SATA connectors on planar <i>Some: 48X-20X⁴ CD-ROM</i> <i>Some: 48X/32X/48X Max⁴ CD-RW</i> Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on planar		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 915G or 915GV Express Chipset / 82915G or GV Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O for serial, parallel, diskette, keyboard, mouse, auto-thermal controls	SECURITY <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® Microsaver® cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement 	
Front ports Rear ports Rear audio ports Audio Beeper Ethernet	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm) Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15) Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm] Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1888 codec One internal beeper <i>915GV models:</i> 10/100 ethernet on systemboard / Broadcom® BCM5751F controller (MAC/PHY) / PCIe x1 / Wake on LAN® / PXE 2.0 and RPL remote boot <i>915G models:</i> Gigabit ethernet on systemboard / Broadcom BCM5751 controller (MAC/PHY) / PCIe x1 / Wake on LAN / PXE 2.0 and RPL remote boot		
Modem	None	LIMITED WARRANTY¹ <ul style="list-style-type: none"> 3 year parts and labor International Warranty Service^o Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3 year LOR 9x5, Next Business Day (ThinkPlus™ part number 41C9197) 3 year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) Other ThinkPlus services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 	
Keyboard Mouse Cooling fans Power supply	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black Optical Wheel Mouse (USB only), 400 dpi, black Two variable speed fans (front and power supply) 310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		
Preload with Windows XP Professional⁵	Accessories		
Microsoft® Windows® XP Professional with Service Pack 2	256MB PC2-4200 CL4 NP DDR2 UDIMM	73P4970	
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-4200 CL4 NP DDR2 UDIMM	73P4971	
	1GB PC2-4200 CL4 NP DDR2 UDIMM	73P4972	
	2GB PC2-4200 CL4 NP DDR2 UDIMM	73P4973	
	160GB Serial ATA150 Disk (7200 rpm)	09N4254	
Preloaded	Multi-Burner Plus ^o (DVD±RW; internal)	73P3370	
• Rescue and Recovery™	USB 2.0 Memory Key 1GB	40Y7421	
• Access Program	USB 2.0 Portable Multi-Burner Drive	22P9163	
• Update Connector™.15	ThinkVision® L151 15" Monitor (black)	9205AB2	
• Adobe Reader	ThinkVision L171p 17" Monitor (black)	9417HB7	
• Norton AntiVirus (OEM version)	ThinkVision L191p 19" Monitor (black)	9419HB7	
• PC-Doctor™ (diagnostics)	ThinkVision L200p 20.1" Monitor (black)	6736HC9	
Downloadable	ThinkVision C170 17" (16.0" vis) (black)	6737P6N	
• Software Delivery Assistant	ATI® RADEON® X700 128MB Dual Head	73P2518	
• System Migration Assistant	Preferred Pro USB Keyboard	73P5220	
• IBM Director Agent	Other options at lenovo.com/options		

See footnotes for important warranty information
US models announced April 19, 2005
US models withdrawn effective August or December 2005

ThinkCentre® A51 Tower (8138) - TopSeller (July 2005) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type	Slot x model bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	Memory ^o	SATA disk	EIDE optical	Graphics Chipset	PCIe ethernet	Modem	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
A51	8138-A8U	3x4	Celeron® D 326	2.53	256K	533		256MB	40GB ²	CD	GMA 900 915GV	10/100	No	XP Pro ⁵	3-yr	No	July 05
A51	8138-ADU	3x4	Celeron D 331	2.66	256K	533		256MB	40GB	CD	GMA 900 915GV	10/100	No	XP Pro	3-yr	No	July 05
A51	8138-B2U	3x4	Celeron D 336	2.80	256K	533		256MB	40GB	CD	GMA 900 915GV	10/100	No	XP Pro	3-yr	No	July 05
A51	8138-19U	4x4	Pentium® 4 506	2.66	1MB	533		256MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-1AU	4x4	Pentium 4 506	2.66	1MB	533		256MB	80GB	CD-RW	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-1FU	4x4	Pentium 4 516	2.93	1MB	533		256MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-1GU	4x4	Pentium 4 516	2.93	1MB	533		512MB	40GB	CD-RW	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-37U	4x4	Pentium 4 531	3.0	1MB	800	HT	256MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-38U	4x4	Pentium 4 531	3.0	1MB	800	HT	512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-39U	4x4	Pentium 4 531	3.0	1MB	800	HT	512MB	80GB	CD-RW	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-3CU	4x4	Pentium 4 531	3.0	1MB	800	HT	512MB	80GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-3DU	4x4	Pentium 4 531	3.0	1MB	800	HT	512MB	80GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-45U	4x4	Pentium 4 541	3.2	1MB	800	HT	512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-46U	4x4	Pentium 4 541	3.2	1MB	800	HT	512MB	80GB	CD-RW	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-48U	4x4	Pentium 4 541	3.2	1MB	800	HT	512MB	80GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-D3U	4x4	Pentium 4 630	3.00	2MB	800	HT	512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-D4U	4x4	Pentium 4 630	3.00	2MB	800	HT	512MB	80GB	Combo	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-E2U	4x4	Pentium 4 640	3.20	2MB	800	HT	256MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-E3U	4x4	Pentium 4 640	3.20	2MB	800	HT	512MB	80GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-E4U	4x4	Pentium 4 640	3.20	2MB	800	HT	512MB	80GB	Combo	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-F2U	4x4	Pentium 4 650	3.40	2MB	800	HT	256MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-F3U	4x4	Pentium 4 650	3.40	2MB	800	HT	512MB	80GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8138-F4U	4x4	Pentium 4 650	3.40	2MB	800	HT	512MB	80GB	Combo	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05

These small and medium business (SMB) models are part of the US TopSeller™ Program

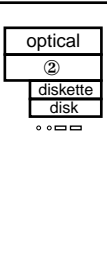
Positioning	Quality, choice, and affordability										Tower			
Processor	Intel® Celeron D Processor 326, 331, 336 with EM64T, Execute Disable Bit, and 533MHz bus or Intel Pentium 4 at 506, 516, 531, 541, 630, 640, 650 with EM64T, Execute Disable Bit (except 516), and 533 or 800MHz bus <i>Some: Hyper-Threading (HT) technology; 6xx: EIST</i> 256KB, 1MB, or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket										<ul style="list-style-type: none"> Business black color 7.0" W X 17.7"D X 17.0"H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 			
Proc features	L2 cache Implementation										Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, std diskette Bay ④ 3.5", SL 1", no access, std disk			
Memory - std/max ²	256 or 512MB std / 4GB max Four 240-pin gold plated DIMM sockets / one or two sockets used (256MB DIMM in each socket) / PC2-4200 533MHz DDR2 / (non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable)										3x4 models with 915GV chipset: Slot 1: full-length, full-height, PCI Express x1 Slot 2: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)			
Memory											4x4 models with 915G chipset: Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)			
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915GV or G / 333MHz / one 15-pin analog connector													
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts													
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6													
SATA cables	One SATA cable (one 1-drop to disk) / 4 SATA connectors on planar													
EIDE optical	<i>One of following:</i> 48X-20X ⁴ CD-ROM, 48X/32X/48X Max ⁴ CD-RW, 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo													
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)													
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / 1 planar connector													
Diskette drive	3.5" 1.44MB diskette drive													
Chipset	Intel 915GV or 915G Express Chipset / 82915GV or G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O													
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)												SECURITY <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® Microsaver® cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement 	
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)													
Rear audio ports	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm]													
Audio	Integrated digital audio / SoundMAX® Cadenza / AC '97 interface / ADI1888 codec													
Beeper	One internal beeper													
Ethernet	915GV models: 10/100 ethernet on systemboard / Broadcom® BCM5751F 915G models: Gigabit ethernet on systemboard / Broadcom BCM5751													
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black													
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black													
Cooling fans	Two variable speed fans (front and power supply)													
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs													
Preload with Windows XP Professional⁵	Accessories													
Microsoft® Windows® XP Professional with Service Pack 2	256MB PC2-4200 CL4 NP DDR2 UDIMM										73P4970			
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-4200 CL4 NP DDR2 UDIMM										73P4971			
	1GB PC2-4200 CL4 NP DDR2 UDIMM										73P4972			
	2GB PC2-4200 CL4 NP DDR2 UDIMM										73P4973			
	160GB Serial ATA300 Disk (7200 rpm)										09N4254			
	Multi-Burner Plus® (DVD±RW; internal)										73P3370			
	USB 2.0 Memory Key 1GB										40Y7421			
	ThinkVision® L192p 19" Monitor (black)										9419HB2			
	ThinkVision L201p 20.1" Monitor (black)										9320HB1			
	ATI® RADEON® X300 SE 128MB Dual Head*40Y8405										73P2518			
	ATI RADEON X700 128MB Dual Head*										73P2518			
	*only supported on 915G chipset models													
	Other options at lenovo.com/options													
													LIMITED WARRANTY¹	
													⇐ 3-year parts and labor ⇐ International Warranty Service® ⇐ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts ³ , 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇐ ThinkPlus™ services at lenovo.com/thinkplus/warranty	

See footnotes for important warranty information
 US models announced July 19, 2005
 US models withdrawn effective December 2005 or May 2006

ThinkCentre® A51 Tower (8122) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	SATA Memory ^g	EIDE disk	EIDE optical	Chipset	PCI ethernet & spkrs	Modem	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
A51	8122-A1U	3x4	Celeron® 325J	2.53 256K	533		256MB 40GB ²	CD		GMA 900 915GV	10/100	Yes	XP Home ⁵	1 yr	No	May 05
A51	8122-A2U	3x4	Celeron 330J	2.66 256K	533		256MB 40GB	CD		GMA 900 915GV	10/100	Yes	XP Home	1 yr	No	May 05
A51	8122-A3U	3x4	Celeron 330J	2.66 256K	533		512MB 80GB	CD-RW		GMA 900 915GV	10/100	Yes	XP Home	1 yr	No	May 05
A51	8122-A8U	3x4	Celeron 335J	2.80 256K	533		256MB 40GB	CD		GMA 900 915GV	10/100	Yes	XP Home	1 yr	No	May 05
A51	8122-A9U	3x4	Celeron 335J	2.80 256K	533		512MB 80GB	CD-RW		GMA 900 915GV	10/100	Yes	XP Home	1 yr	No	May 05
A51	8122-11U	4x4	Pentium® 4	2.66 1MB	533		256MB 40GB	CD		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05
A51	8122-12U	4x4	Pentium 4	2.66 1MB	533		512MB 80GB	CD-RW		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05
A51	8122-13U	4x4	Pentium 4 515	2.93 1MB	533		256MB 40GB	CD		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05
A51	8122-14U	4x4	Pentium 4 515	2.93 1MB	533		256MB 80GB	CD-RW		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05
A51	8122-15U	4x4	Pentium 4 515	2.93 1MB	533		512MB 80GB	CD-RW		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05
A51	8122-16U	4x4	Pentium 4 515	2.93 1MB	533		512MB 80GB	Combo		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05
A51	8122-31U	4x4	Pentium 4 530	3.0 1MB	800	HT	256MB 40GB	CD		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05
A51	8122-32U	4x4	Pentium 4 530	3.0 1MB	800	HT	256MB 40GB	CD-RW		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05
A51	8122-33U	4x4	Pentium 4 530	3.0 1MB	800	HT	512MB 80GB	CD-RW		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05
A51	8122-34U	4x4	Pentium 4 530	3.0 1MB	800	HT	512MB 80GB	Combo		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05
A51	8122-35U	4x4	Pentium 4 530	3.0 1MB	800	HT	512MB 80GB	DVD±RW ⁶		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05
A51	8122-41U	4x4	Pentium 4 540	3.2 1MB	800	HT	512MB 80GB	CD-RW		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05
A51	8122-42U	4x4	Pentium 4 540	3.2 1MB	800	HT	512MB 80GB	Combo		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05
A51	8122-43U	4x4	Pentium 4 540	3.2 1MB	800	HT	512MB 80GB	DVD±RW		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05
A51	8122-51U	4x4	Pentium 4 550	3.4 1MB	800	HT	512MB 80GB	CD-RW		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05
A51	8122-52U	4x4	Pentium 4 550	3.4 1MB	800	HT	512MB 80GB	DVD±RW		GMA 900 915G	Gigabit	Yes	XP Home	1 yr	No	May 05

Positioning Processor	<i>Quality, choice, and affordability</i> Intel® Celeron D Processor 325J (2.53GHz), 330J (2.66GHz), 335J (2.80GHz) with Execute Disable Bit and 533MHz bus or Intel Pentium 4 at 2.66, 515 (2.93GHz), 530 (3.0GHz), 540 (3.2GHz), 550 (3.4GHz) with 533 or 800MHz system bus		Tower <ul style="list-style-type: none"> • Business black color • 7.0" W X 17.7" D X 17.0" H • 178mm W X 450mm D X 432mm H • 25.0 to 27.5 lb (11.3 to 12.5 kg) • Handle on top front • Thumbscrew to remove bay 3 and 4 • Toolless install and removal of disk, optical, diskette • Toolless install and removal of side cover • Toolless install and removal of adapter cards 
Hyper-Threading L2 cache Implementation	Some: Hyper-Threading (HT) technology 256KB or 1MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket		
Memory - std/max ^g Memory	256 or 512MB std / 4GB max Four 240-pin gold plated DIMM sockets / one or two sockets used (256MB DIMM in each socket) / PC2-3200 400MHz DDR2 / non-parity / CAS latency 3 (CL3) / unbuffered / dual channel capable		
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G or GV GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector		Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, std diskette Bay ④ 3.5", SL 1", no access, std disk
SATA disk SATA controller SATA cables	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard		3x4 models with 915GV chipset: Slot 1: full-length, full-height, PCI Express x1 Slot 2: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)
EIDE CD EIDE CD-RW EIDE Combo EIDE DVD±RW EIDE controller EIDE cables Diskette drive	Some: 48X-20X ⁴ CD-ROM Some: 48X/32X/48X Max ⁴ CD-RW Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo Some: DVD and CD burner / Multi-Burner Plus (part 73P3370) Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) One 2-drop EIDE 80-conductor cable to optical / one connector 3.5" 1.44MB diskette drive		4x4 models with 915G chipset: Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)-modem* Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v) *some models
Chipset	Intel 915G or 915GV Express Chipset / 82915G or GV Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O for serial, parallel, diskette, keyboard, mouse, auto-thermal controls		SECURITY <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington Microsaver cable) - No keylock • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement
Front ports Rear ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm) Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		LIMITED WARRANTY¹ <ul style="list-style-type: none"> ↔ 1 year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ ThinkPlus™ services at lenovo.com/thinkplus/warranty ↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)
Rear audio ports Audio	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm] Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1888 codec External active speakers / Jazz Infinity® / 2-piece / 3 watts / black color One internal beeper		
Speakers Beeper Ethernet	One internal beeper <i>915GV models:</i> 10/100 ethernet on systemboard / Broadcom® BCM5751F controller (MAC/PHY) / PCIe x1 / Wake on LAN® / PXE 2.0 and RPL remote boot <i>915G models:</i> Gigabit ethernet on systemboard / Broadcom BCM5751 controller (MAC/PHY) / PCIe x1 / Wake on LAN / PXE 2.0 and RPL remote boot		
Modem	56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter		
Keyboard Mouse Cooling fans Power supply	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black Optical Wheel Mouse (USB only), 400 dpi, black Two variable speed fans (front and power supply) 310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		
Preload with Windows XP Home⁵	Accessories		
Microsoft® Windows® XP Home Edition with Service Pack 2	256MB PC2-4200 CL4 NP DDR2 UDIMM	73P4970	
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-4200 CL4 NP DDR2 UDIMM	73P4971	
	1GB PC2-4200 CL4 NP DDR2 UDIMM	73P4972	
	2GB PC2-4200 CL4 NP DDR2 UDIMM	73P4973	
	160GB Serial ATA150 Disk (7200 rpm)	09N4254	
	Multi-Burner Plus ⁶ (DVD±RW; internal)	73P3370	
Preloaded (only some listed) • Rescue and Recovery™	Other options at lenovo.com/options		

See footnotes for important warranty information
US models announced April 19, 2005
US models withdrawn effective August or December 2005

ThinkCentre® A51 Tower (8122) - July 2005 - withdrawn

Created by Lenovo Training Solutions
 Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	SATA Memory*	EIDE disk	EIDE optical	Second optical	Chipset Graphics	PCle ethernet	Modem & spkrs	FireWire adapter	Preload	Limited warranty	Avail date
A51	8122-ALU	3x4	Celeron® D 326	2.53	256K	533	256MB	40GB ²	CD		GMA	GV	10/100	Yes	XP Home ⁵	1-yr	Jul 05
A51	8122-AMU	3x4	Celeron D 331	2.66	256K	533	256MB	40GB	CD		GMA	GV	10/100	Yes	XP Home	1-yr	Jul 05
A51	8122-ANU	3x4	Celeron D 331	2.66	256K	533	512MB	80GB	CD-RW		GMA	GV	10/100	Yes	XP Home	1-yr	Jul 05
A51	8122-AUU	3x4	Celeron D 331	2.66	256K	533	256MB	40GB	CD-RW		GMA	GV	10/100	Yes	XP Home	1-yr	Jul 05
A51	8122-AVU	3x4	Celeron D 331	2.66	256K	533	256MB	80GB	CD-RW		GMA	GV	10/100	Yes	XP Home	1-yr	Jul 05
A51	8122-AXU	3x4	Celeron D 336	2.80	256K	533	256MB	40GB	CD		GMA	GV	10/100	Yes	XP Home	1-yr	Jul 05
A51	8122-AYU	3x4	Celeron D 336	2.80	256K	533	512MB	80GB	CD-RW		GMA	GV	10/100	Yes	XP Home	1-yr	Jul 05
A51	8122-G8U	3x4	Celeron D 336	2.80	256K	533	256MB	80GB	Combo		GMA	GV	10/100	Yes	XP Home	1-yr	Jul 05
A51	8122-1BU	4x4	Pentium® 4 506	2.66	1MB	533	256MB	40GB	CD		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-1CU	4x4	Pentium 4 506	2.66	1MB	533	512MB	80GB	CD-RW		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-1DU	4x4	Pentium 4 516	2.93	1MB	533	256MB	40GB	CD		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-1EU	4x4	Pentium 4 516	2.93	1MB	533	256MB	80GB	CD-RW		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-1FU	4x4	Pentium 4 516	2.93	1MB	533	512MB	80GB	CD-RW		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-1GU	4x4	Pentium 4 516	2.93	1MB	533	512MB	80GB	Combo		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-3FU	4x4	Pentium 4 531	3.0	1MB	800	256MB	40GB	CD		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-3GU	4x4	Pentium 4 531	3.0	1MB	800	256MB	40GB	CD-RW		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-3HU	4x4	Pentium 4 531	3.0	1MB	800	512MB	80GB	CD-RW		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-3JU	4x4	Pentium 4 531	3.0	1MB	800	512MB	80GB	Combo		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-3KU	4x4	Pentium 4 531	3.0	1MB	800	512MB	80GB	DVD±RW ⁶		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-3VU	4x4	Pentium 4 531	3.0	1MB	800	512MB	80GB	Combo		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-4AU	4x4	Pentium 4 541	3.2	1MB	800	512MB	80GB	CD-RW		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-4BU	4x4	Pentium 4 541	3.2	1MB	800	512MB	80GB	Combo		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-4CU	4x4	Pentium 4 541	3.2	1MB	800	512MB	80GB	DVD±RW		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-53U	4x4	Pentium 4 551	3.4	1MB	800	512MB	80GB	CD-RW		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-54U	4x4	Pentium 4 551	3.4	1MB	800	512MB	80GB	DVD±RW		GMA	G	Gigabit	Yes	XP Home	1-yr	Jul 05
A51	8122-55U	4x4	Pentium 4 551	3.4	1MB	800	512MB	160G	DVD±RW	DVD X600	G	Gigabit	Yes	1394 XP Pro	1-yr	Jul 05	
A51	8122-D1U	4x4	Pentium 4 630	3.00	2MB	800	512MB	80GB	CD-RW		GMA	G	Gigabit	No	XP Pro	1-yr	Jul 05
A51	8122-D2U	4x4	Pentium 4 630	3.00	2MB	800	512MB	160G	Combo		GMA	G	Gigabit	No	XP Pro	1-yr	Jul 05
A51	8122-E1U	4x4	Pentium 4 640	3.20	2MB	800	512MB	160G	Combo		GMA	G	Gigabit	Yes	XP Pro	1-yr	Jul 05

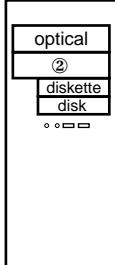
Positioning Processor	<i>Quality, choice, and affordability</i> Intel® Celeron D Processor 326, 331, 336 with EM64T, Execute Disable Bit, and 533MHz bus or Intel Pentium 4 Processor at 506, 516, 531, 541, 630, 640 with EM64T, Execute Disable Bit (except 516), and 533 or 800MHz bus <i>Some: Hyper-Threading (HT) technology; 6xx: EIST</i>	Tower <ul style="list-style-type: none"> Business black color 7.0" W X 17.7" D X 17.0" H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 	
Proc features L2 cache Implementation	256KB, 1MB, or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket		
Memory - std/max*	256 or 512MB std / 4GB max	Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, std diskette Bay ④ 3.5", SL 1", no access, std disk 3x4 models with 915GV chipset: Slot 1: full-length, full-height, PCI Express x1 Slot 2: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v) 4x4 models with 915G chipset: Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)-modem* Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v) *some models	
Memory	Four 240-pin gold plated DIMM sockets / one or two sockets used (256MB DIMM in each socket) / PC2-4200 533MHz DDR2 / non-parity / CAS latency 3 (CL3) / unbuffered / dual-channel capable		
Graphics (one of following)	<ul style="list-style-type: none"> Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915GV or G / 333MHz / one 15-pin analog connector ATI® RADEON® X600 PRO / PCI Express x16 adapter / 128MB 600MHz DDR1 / 400MHz RAMDAC / three connectors: analog DB-15, digital DVI-I, S-Video out for TV-out / dual head support 		
SATA disk	40, 80, or 160GB / SATA150 7200rpm / vibration dampening mounts		
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in ICH6		
SATA cables	One SATA cable (one 1-drop to disk) / 4 planar SATA connectors		
EIDE CD, CD-RW	<i>Some: 48X-20X⁴ CD-ROM; Some: 48X/32X/48X Max⁴ CD-RW</i>		
EIDE Combo	<i>Some: 48X/32X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo</i>		
EIDE DVD±RW	<i>Some: DVD and CD burner / Multi-Burner Plus (part 73P3370)</i>		
EIDE DVD	<i>Some: 16X-48X Max⁴ DVD-ROM</i>		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)		
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one connector		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 915GV or 915G Express Chipset / 82915GV or G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O		
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm]		
Audio	Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1888 codec <i>Some: external active speakers / Jazz Infinity® / 2-piece / 3 watts / black color</i>		
Speakers	One internal beeper		
Beeper	<i>Some: FireWire PCI adapter / 1394A, 400Mbps, dual 6-pin ports on rear, 4-pin port on front of system, no external cables included</i>		
IEEE 1394			
Ethernet	915GV models: 10/100 ethernet on systemboard / Broadcom® BCM5751F 915G models: Gigabit ethernet on systemboard / Broadcom BCM5751 <i>Some: 56K¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter</i>		
Modem			
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Cooling fans	Two variable speed fans (front and power supply)		
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		
	<ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington Microsaver cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement 		
	<ul style="list-style-type: none"> 1-year parts and labor limited warranty¹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) 		

See footnotes for important warranty information
 US models announced July 19, 2005
 US models withdrawn effective December 2005 or May 2006

ThinkCentre® A51 Tower (8124) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	GHz	Bus MHz	Hyper-Thread	Memory ⁵	SATA disk	EIDE optical	Graphics Chipset	PCIe ethernet	Modem	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
A51	8124-A1U	3x4	Celeron® 335J	2.80	256K	533		256MB	40GB ²	CD	GMA 900 915GV	10/100	Yes	XP Pro ⁵	3 yr	No	May 05
A51	8124-11U	4x4	Pentium® 4	2.66	1MB	533		256MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8124-16U	4x4	Pentium 4 515	2.93	1MB	533		256MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8124-17U	4x4	Pentium 4 515	2.93	1MB	533		256MB	40GB	CD	GMA 900 915G	Gigabit	Yes	XP Pro	3 yr	No	May 05
A51	8124-18U	4x4	Pentium 4 515	2.93	1MB	533		512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8124-34U	4x4	Pentium 4 530	3.0	1MB	800	HT	256MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8124-35U	4x4	Pentium 4 530	3.0	1MB	800	HT	512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8124-44U	4x4	Pentium 4 540	3.2	1MB	800	HT	256MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8124-45U	4x4	Pentium 4 540	3.2	1MB	800	HT	512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8124-54U	4x4	Pentium 4 550	3.4	1MB	800	HT	256MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05
A51	8124-55U	4x4	Pentium 4 550	3.4	1MB	800	HT	512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3 yr	No	May 05

Positioning Processor	<i>Quality, choice, and affordability</i> Intel® Celeron D Processor 335J (2.80GHz) with Execute Disable Bit and 533MHz system bus or Intel Pentium 4 at 2.66, 515 (2.93GHz), 530 (3.0GHz), 540 (3.2GHz), 550 (3.4GHz) with 533 or 800MHz system bus <i>Some: Hyper-Threading (HT) technology</i> 256KB or 1MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket	Tower • Business black color • 7.0" W X 17.7" D X 17.0" H • 178mm W X 450mm D X 432mm H • 25.0 to 27.5 lb (11.3 to 12.5 kg) • Handle on top front • Thumbscrew to remove bay 3 and 4 • Toolless install and removal of disk, optical, diskette • Toolless install and removal of side cover • Toolless install and removal of adapter cards	
Hyper-Threading L2 cache Implementation	256 or 512MB std / 4GB max Four 240-pin gold plated DIMM sockets / one or two sockets used (256MB DIMM in each socket) / PC2-3200 400MHz DDR2 / non-parity / CAS latency 3 (CL3) / unbuffered / dual channel capable	Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, std diskette Bay ④ 3.5", SL 1", no access, std disk	
Memory - std/max ⁵ Memory	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915G or GV GMCH / uses main memory (up to 128MB with 256MB+) / 333MHz / one 15-pin analog D-sub connector	3x4 models with 915GV chipset: Slot 1: full-length, full-height, PCI Express x1 Slot 2: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)	
Graphics	40GB / SATA150 7200 rpm / vibration dampening mounts Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6 One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard 48X-20X ⁴ CD-ROM / EIDE Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6) One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on planar	4x4 models with 915G chipset: Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)-modem* Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v) *some models	
SATA disk	Intel 915G or 915GV Express Chipset / 82915G or GV Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O for serial, parallel, diskette, keyboard, mouse, auto-thermal controls	SYSTEMS MANAGEMENT • PC 2001-compliant • Advanced Configuration and Power Interface (ACPI) 2.0b • SMBIOS 2.3.1-compliant • DMI 2.0-compliant	
SATA controller	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)	SECURITY • One lock to secure both cover and entire system to fixed object: - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington Microsaver cable) - No keylock • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement	
SATA cables	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	LIMITED WARRANTY¹ ⇒ 3 year parts and labor ⇒ International Warranty Service⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ ThinkPlus™ services at lenovo.com/thinkplus/warranty ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)	
EIDE CD	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm] Integrated digital audio / SoundMAX® Cadenza / software-based audio (done by processor and ICH6) / AC '97 interface / ADI1888 codec One internal beeper		
EIDE controller	915GV models: 10/100 ethernet on systemboard / Broadcom® BCM5751F controller (MAC/PHY) / PCIe x1 / Wake on LAN® / PXE 2.0 and RPL remote boot 915G models: Gigabit ethernet on systemboard / Broadcom BCM5751 controller (MAC/PHY) / PCIe x1 / Wake on LAN / PXE 2.0 and RPL remote boot <i>Some: 56K¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter</i>		
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one EIDE connector on planar		
Diskette drive	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Chipset	Optical Wheel Mouse (USB only), 400 dpi, black		
Front ports	Two variable speed fans (front and power supply)		
Rear ports	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		
Rear audio ports			
Audio			
Beeper			
Ethernet			
Modem			
Keyboard			
Mouse			
Cooling fans			
Power supply			

Preload with Windows XP Professional ⁵	Accessories
Microsoft® Windows® XP Professional with Service Pack 2	256MB PC2-4200 CL4 NP DDR2 UDIMM 73P4970
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-4200 CL4 NP DDR2 UDIMM 73P4971
Preloaded	1GB PC2-4200 CL4 NP DDR2 UDIMM 73P4972
• Rescue and Recovery™	2GB PC2-4200 CL4 NP DDR2 UDIMM 73P4973
• Access Program	160GB Serial ATA150 Disk (7200 rpm) 09N4254
• Update Connector™.15	Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370
• Adobe Reader	USB 2.0 Memory Key 1GB 40Y7421
• Norton AntiVirus (OEM version)	ThinkVision® L151 15" Monitor (black) 9205AB2
• PC-Doctor™ (diagnostics)	ThinkVision L171p 17" Monitor (black) 9417HB7
Downloadable	ThinkVision L191p 19" Monitor (black) 9419HB7
• Software Delivery Assistant	ThinkVision L200p 20.1" Monitor (black) 6736HC9
• System Migration Assistant	ThinkVision C170 17" (16.0" vis) (black) 6737P6N
• IBM Director Agent	ThinkVision C190 19" (18.0" vis) (black) 6739P0N
License - CD not included	NVIDIA® GeForce 6200 64MB Dual Head 73P2517
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	ATI® RADEON® X700 128MB Dual Head 73P2518
	Enh Perf Wireless Keyboard and Mouse 73P4067
	Enhanced Performance USB Keyboard 73P2620
	Preferred Pro USB Keyboard 73P5220
	Other options at lenovo.com/options

See footnotes for important warranty information
US models announced April 19, 2005
US models withdrawn effective August or December 2005
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ThinkCentre® A51 Tower (8124) - July 2005 - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type	Slot x model bay	Processor	L2 cache	GHz	Bus MHz	Hyper-Thread	SATA Memory ^o	EIDE disk	EIDE optical	Graphics Chipset	PCIe ethernet	Modem	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date	
A51	8124-A6U	3x4	Celeron® D	336.2	80	256K	533	256MB	40GB ²	CD	GMA 900 915GV	10/100	Yes	XP Pro ⁵	3-yr	No	July 05	
A51	8124-1CU	4x4	Pentium® 4	506	2.66	1MB	533	256MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05	
A51	8124-1GU	4x4	Pentium 4	516	2.93	1MB	533	256MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05	
A51	8124-1HU	4x4	Pentium 4	516	2.93	1MB	533	256MB	40GB	CD	GMA 900 915G	Gigabit	Yes	XP Pro	3-yr	No	July 05	
A51	8124-1JU	4x4	Pentium 4	516	2.93	1MB	533	512MB	40GB	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05	
A51	8124-3AU	4x4	Pentium 4	531	3.0	1MB	800	256MB	40GB	HT	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8124-3BU	4x4	Pentium 4	531	3.0	1MB	800	512MB	40GB	HT	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8124-4AU	4x4	Pentium 4	541	3.2	1MB	800	256MB	40GB	HT	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8124-4BU	4x4	Pentium 4	541	3.2	1MB	800	512MB	40GB	HT	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8124-5AU	4x4	Pentium 4	551	3.4	1MB	800	256MB	40GB	HT	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8124-5BU	4x4	Pentium 4	551	3.4	1MB	800	512MB	40GB	HT	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8124-D1U	4x4	Pentium 4	630	3.00	2MB	800	256MB	40GB	HT	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8124-E3U	4x4	Pentium 4	640	3.20	2MB	800	256MB	40GB	HT	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05
A51	8124-F3U	4x4	Pentium 4	650	3.40	2MB	800	256MB	40GB	HT	CD	GMA 900 915G	Gigabit	No	XP Pro	3-yr	No	July 05

Positioning	<i>Quality, choice, and affordability</i>										Tower						
Processor	Intel® Celeron D Processor 336 with EM64T, Execute Disable Bit, and 533MHz bus or Intel Pentium 4 at 506, 516, 531, 541, 551, 630, 640, 650 with EM64T, Execute Disable Bit (except 516), and 533 or 800MHz bus <i>Some: Hyper-Threading (HT) technology; 6xx: EIST</i> 256KB, 1MB, or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket										<ul style="list-style-type: none"> Business black color 7.0" W X 17.7"D X 17.0"H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 						
Hyper-Threading L2 cache	Some: Hyper-Threading (HT) technology; 6xx: EIST 256KB, 1MB, or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket										<ul style="list-style-type: none"> Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, std diskette Bay ④ 3.5", SL 1", no access, std disk 						
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket										3x4 models with 915GV chipset: Slot 1: full-length, full-height, PCI Express x1 Slot 2: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)						
Memory - std/max ²	256 or 512MB std / 4GB max										4x4 models with 915G chipset: Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v)-modem* Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v) *some models						
Memory	Four 240-pin gold plated DIMM sockets / one or two sockets used (256MB DIMM in each socket) / PC2-4200 533MHz DDR2 / non-parity / CAS latency 3 (CL3) / unbuffered / dual-channel capable																
Graphics	Intel Graphics Media Accelerator 900 (GMA 900) / integrated graphics in 915GV or G / 333MHz / one 15-pin analog connector																
SATA disk	40GB / SATA150 7200 rpm / vibration dampening mounts																
SATA controller	Serial ATA 1.0 / 150 MB/sec SATA150 / integrated in ICH6																
SATA cables	One SATA cable (one 1-drop to disk) / four SATA connectors on systemboard																
EIDE CD	48X-20X ⁴ CD-ROM / EIDE																
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH6)																
EIDE cable	One 2-drop EIDE 80-conductor cable to optical / 1 planar connector																
Diskette drive	3.5" 1.44MB diskette drive																
Chipset	Intel 915GV or 915G Express Chipset / 82915GV or G Graphics Memory Controller Hub (GMCH) / 82801FB I/O Controller Hub (ICH6) for SATA150, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O for serial, parallel, diskette, keyboard, mouse, auto-thermal controls																
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)										SYSTEMS MANAGEMENT <ul style="list-style-type: none"> PC 2001-compliant Advanced Configuration and Power Interface (ACPI) 2.0c SMBIOS 2.3.1-compliant DMI 2.0-compliant 						
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)																
Rear audio ports	Microphone-in (mono), line-in (stereo), line-out (stereo) [all 3.5mm]										SECURITY <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington Microsaver cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement 						
Audio	Integrated digital audio / SoundMAX® Cadenza / AC '97 interface / ADI1888 codec																
Beeper	One internal beeper																
Ethernet	915GV models: 10/100 ethernet on systemboard / Broadcom® BCM5751F controller (MAC/PHY) / PCIe x1 / Wake on LAN® / PXE 2.0 and RPL remote boot 915G models: Gigabit ethernet on systemboard / Broadcom BCM5751 controller (MAC/PHY) / PCIe x1 / Wake on LAN / PXE 2.0 and RPL remote boot <i>Some: 56K¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter</i>																
Modem	Some: 56K¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter																
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black																
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black																
Cooling fans	Two variable speed fans (front and power supply)																
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs																
Preload with Windows XP Professional⁵		Accessories															
Microsoft® Windows® XP Professional with Service Pack 2		256MB PC2-4200 CL4 NP DDR2 UDIMM										73P4970					
- Disk-to-Disk Recovery (in hidden protected area)		512MB PC2-4200 CL4 NP DDR2 UDIMM										73P4971					
Preloaded		1GB PC2-4200 CL4 NP DDR2 UDIMM										73P4972					
• Rescue and Recovery™		2GB PC2-4200 CL4 NP DDR2 UDIMM										73P4973					
• Access Program		160GB Serial ATA300 Disk (7200 rpm)										09N4254					
• Update Connector™.15		Multi-Burner Plus ⁶ (DVD±RW; internal)										73P3370					
• Adobe Reader		USB 2.0 Memory Key 1GB										40Y7421					
• Norton AntiVirus (OEM version)		USB 2.0 CD-RW/DVD-ROM Combo II Drive										40Y8637					
• PC-Doctor™ (diagnostics)		ThinkVision® C170 17" (16.0" vis) (black)										6737P6N					
Downloadable		ThinkVision C190 19" (18.0" vis) (black)										6739P0N					
• Software Delivery Assistant		ThinkVision L171p 17" Monitor (black)										9417HB2					
• System Migration Assistant		ThinkVision L192p 19" Monitor (black)										9419HB2					
• IBM Director Agent		ThinkVision L201p 20.1" Monitor (black)										9320HB1					
License - CD not included		NVIDIA® GeForce 6200 64MB Dual Head*										73P2517					
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client		ATI® RADEON® X300 SE 128MB Dual Head*40Y8405										73P2518					
		ATI RADEON X700 128MB Dual Head*										73P2518					
		*only supported on 915G chipset models															
		Enh Perf Wireless Keyboard and Mouse										73P4067					
		Other options at lenovo.com/options															
LIMITED WARRANTY¹ <ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ ThinkPlus™ services at lenovo.com/thinkplus/warranty ↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 																	

See footnotes for important warranty information
US models announced July 19, 2005
US models withdrawn effective May 2006

ThinkCentre® A52 Tower (8153) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type	Slot x bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	Execute disable	Memory ^a	SATA disk	EIDE optical	Graphics	Chipset	Cover switch	Key-board warranty ¹	Limited Gbl, Educ	Workhorse Avail	
A52	8153-12U	4x4	Pentium® 4 516	2.93	1MB	533			512MB	40GB ²	CD	GMA 950	945G	No	Pref	1-yr	No	Jul 05
A52	8153-14U	4x4	Pentium 4 516	2.93	1MB	533			512MB	80GB	Combo	GMA 950	945G	No	Pref	1-yr	No	Jul 05
A52	8153-21U	4x4	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	40GB	CD	GMA 950	945G	No	Finger	1-yr	No	Jul 05
A52	8153-22U	4x4	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	80GB	CD	GMA 950	945G	No	Pref	1-yr	No	Jul 05
A52	8153-23U	4x4	Pentium 4 531	3.00	1MB	800	HT	XD	512MB	80GB	Combo	GMA 950	945G	No	Finger	1-yr	No	Jul 05
A52	8153-31U	4x4	Pentium 4 541	3.20	1MB	800	HT	XD	512MB	80GB	CD	GMA 950	945G	No	Pref	1-yr	No	Jul 05
A52	8153-32U	4x4	Pentium 4 541	3.20	1MB	800	HT	XD	512MB	80GB	Combo	GMA 950	945G	No	Finger	1-yr	No	Jul 05
A52	8153-41U	4x4	Pentium 4 551	3.40	1MB	800	HT	XD	512MB	80GB	Combo	GMA 950	945G	No	Finger	1-yr	No	Jul 05
A52	8153-D1U	4x4	Pentium 4 630	3.00	2MB	800	HT	XD	512MB	80GB	CD	GMA 950	945G	No	Pref	1-yr	No	Jul 05
A52	8153-D2U	4x4	Pentium 4 630	3.00	2MB	800	HT	XD	512MB	80GB	Combo	GMA 950	945G	No	Finger	1-yr	No	Jul 05
A52	8153-E1U	4x4	Pentium 4 640	3.20	2MB	800	HT	XD	512MB	80GB	CD	GMA 950	945G	No	Pref	1-yr	No	Jul 05
A52	8153-E2U	4x4	Pentium 4 640	3.20	2MB	800	HT	XD	512MB	80GB	Combo	GMA 950	945G	No	Finger	1-yr	No	Jul 05

These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning	<i>Quality, choice, and affordability</i>										Tower		
Processor	Intel® Pentium 4 Processor 516, 531, 541, 551, 630, or 640 with single-core, EM64T, and 533 or 800MHz system bus										<ul style="list-style-type: none"> Business black color 7.0" W X 17.7" D X 17.0" H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 		
Processor features	Some: Hyper-Threading (HT) technology, Execute Disable Bit (XD)										Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, std diskette Bay ④ 3.5", SL 1", no access, std disk		Slot 1: full-length, full-height, PCI Express x16 (75w max) Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v)
L2 cache	1MB or 2MB std and max / ECC / full speed												
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket												
Memory - std/max ^a	512MB std / 4GB max / DDR2 only												
Memory	Four 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable												
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector												
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts												
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7												
SATA cables	One SATA cable (one 1-drop to disk) / 4 SATA connectors on planar												
EIDE CD	Some: 48X-20X ⁴ CD-ROM												
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo												
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)												
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard												
Diskette drive	3.5" 1.44MB diskette drive												
Chipset	Intel 945G Express Chipset / 82945G Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log										<ul style="list-style-type: none"> PC 2001-compliant ACPI 2.0c-compliant SMBIOS 2.3.4-compliant DMI 2.0 and SMBus 2.0-compliant Asset ID¹⁹ (system specific info in chip) 		
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)										SECURITY <ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington Microsaver cable) No keylock Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement Some: fingerprint reader keyboard 		
Rear ports	Six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)												
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)												
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software												
Speaker	One internal speaker for business audio												
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1												
Security chip	Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant												
Keyboard	[Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black (one of following) [Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), blk												
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black												
Cooling fans	Two variable speed fans (front and power supply)												
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs												
Preload with Windows XP Professional⁵	Accessories												
Microsoft® Windows® XP Professional with Service Pack 2	256MB PC2-5300 CL5 NP DDR2 UDIMM										73P4982		
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-5300 CL5 NP DDR2 UDIMM										73P4983		
	1GB PC2-5300 CL5 NP DDR2 UDIMM										73P4984		
	2GB PC2-4200 CL4 NP DDR2 UDIMM										73P4973		
	250GB Serial ATA300 Disk (7200 rpm)										41N3015		
	Multi-Burner Plus ⁶ (DVD±RW; internal)										73P3370		
Preloaded	USB Fingerprint Reader										73P4774		
• Access Program	USB Gemplus GemPC Smart Card Reader										41N3040		
• Rescue and Recovery™	USB 2.0 Memory Key 1GB										40Y7421		
• Norton AntiVirus (OEM version)	USB 2.0 Super Multi-Burner Drive										40Y8638		
• PC-Doctor™ (diagnostics)	USB 2.0 Portable 80GB Hard Disk										40Y8726		
• Client Security Software	ThinkVision® C190 19" (18.0" vis) (black)										6739P0N		
• Multimedia Center for Think Offerings (combo models)	ThinkVision L171p 17" Monitor (black)										9417HB2		
• RecordNow and DLA (combo models)	ThinkVision L192p 19" Monitor (black)										9419HB2		
• InterVideo WinDVD (combo models)	ThinkVision L201p 20.1" Monitor (black)										9320HB1		
Downloadable	Kensington® MicroSaver® Desktop Lock										06P3839		
• Software Delivery Assistant	Enh Perf Wireless Keyboard and Mouse										73P4067		
• System Migration Assistant	Preferred Pro USB Fingerprint Keyboard										73P4730		
• IBM Director Agent	NVIDIA® GeForce 6200 64MB Dual Head										73P2517		
License - CD not included	ATI® RADEON® X300 SE 128MB Dual Head										40Y8405		
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	ATI RADEON X700 128MB Dual Head										73P2518		
	Other options at lenovo.com/options												
LIMITED WARRANTY¹													
<ul style="list-style-type: none"> 1-year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3-year LOR 9x5, Next Business Day (ThinkPlus™ part number 41C9188) Other ThinkPlus services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 													

See footnotes for important warranty information
US models announced June 28, 2005
US models withdrawn effective May 2006

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ThinkCentre® A52 Small (8157) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type	Slot x bay	Processor	L2 cache	Bus MHz	Hyper-Thread	Execute disable	Memory ⁸	Diskette drive	SATA disk	EIDE optical	Cover switch	Key-board	Limited warranty ¹	Workhorse Gbl, Educ	Avail date			
A52	8157-12U	2x3	Pentium® 4	531	3.00	1MB	800	HT	XD	512MB	Diskette	80GB ²	CD	GMA 950	Yes	Pref	3-yr	No	Jul 05

These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning Processor	<i>Quality, choice, and affordability</i> Intel® Pentium 4 Processor 531 with single-core, EM64T, Hyper-Threading (HT) technology, Execute Disable Bit (XD), and 800MHz system bus	Small	
L2 cache Implementation	1MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket	Bay ① 3.5", slim .5", access, std diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk	
Memory - std/max ⁹ Memory	512MB std / 4GB max / DDR2 only Two 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports optional DVI-I PCIe adptr only)	
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector	<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1"D X 3.3"H (3.4"H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • With vertical stand: 5.0" W X 15.4"D X 13.6"H • With vertical stand: 127mm W X 390mm D X 346mm H • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • System stand for vertical orientation 	
SATA disk	80GB / SATA150 7200 rpm / vibration dampening mounts		
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7		
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar		
EIDE CD	48X-20X ⁴ CD-ROM		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)		
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 945G Express Chipset / 82945G Graphics Mem Cont Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log		
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Six USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1		
Security chip	Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant		
Keyboard	[Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Cooling fans	Three variable speed fans (two front and one power supply)		
Power supply	225 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		
Preload with Windows XP Professional⁵	Accessories		
Microsoft® Windows® XP Professional with Service Pack 2	256MB PC2-5300 CL5 NP DDR2 UDIMM	73P4982	
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983	
Preloaded	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	
• Access Program	2GB PC2-4200 CL4 NP DDR2 UDIMM	73P4973	
• Rescue and Recovery™	160GB Serial ATA300 Disk (7200 rpm)	09N4254	
• Adobe Reader	250GB Serial ATA300 Disk (7200 rpm)	41N3015	
• Norton AntiVirus (OEM version)	Multi-Burner Plus® (DVD±RW; internal)	73P3370	
• PC-Doctor™ (diagnostics)	USB Portable Diskette Drive	05K9276	
• Client Security Software	USB Fingerprint Reader	73P4774	
Downloadable	USB 2.0 Memory Key 512MB	40Y8596	
• Software Delivery Assistant	USB 2.0 Memory Key 1GB	40Y7421	
• System Migration Assistant	USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637	
• IBM Director Agent	USB 2.0 Portable 80GB Hard Disk	40Y8726	
License - CD not included	USB 2.0 Super Multi-Burner Drive	40Y8638	
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	ThinkVision® C170 17" (16.0" vis) (black)	6737P6N	
	ThinkVision C190 19" (18.0" vis) (black)	6739P0N	
	ThinkVision L151 15" Monitor (black)	9205AB6	
	ThinkVision L151p 15" Monitor (black)	9205HB2	
	ThinkVision L171 17" Monitor (black)	9417AB1	
	ThinkVision L171p 17" Monitor (black)	9417HB2	
	ThinkVision L192p 19" Monitor (black)	9419HB2	
	ThinkVision L201p 20.1" Monitor (black)	9320HB1	
	Belkin® 800VA UPS with AVR technology	31P7662	
	ScrollPoint Pro Optical Mouse (black)	31P8700	
	Optical 3-button ScrollPoint Mouse (black)	31P7405	
	Kensington® MicroSaver® Desktop Lock	06P3839	
	Enhanced Performance USB Keyboard	73P2620	
	Enh Perf Wireless Keyboard and Mouse	73P4067	
	Preferred Pro USB Fingerprint Keyboard	73P4730	
	DVI-I PCIe Connection Adapter (ADD2)	73P2516	
	Other options at lenovo.com/options		
			SECURITY
			<ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement • Cover intrusion switch
			ThinkCentre desktops implement ThinkVantage™ technologies and design; visit thinkcentre.com/thinkvantage
			LIMITED WARRANTY¹
			<ul style="list-style-type: none"> ↪ 3-year parts and labor ↪ International Warranty Service⁹ ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↪ Post-warranty maintenance services at lenovo.com/thinkplus/warranty ↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)

See footnotes for important warranty information
US model announced June 28, 2005
US model withdrawn effective May 2006

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(BL2) May 2006

ThinkCentre® A52 Desktop (8163) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Bus MHz	EM64T	Memory ⁵	Diskette drive	SATA disk	EIDE optical	Graphics	Cover switch	Key-board	Floor stand	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
A52	8163-12U	3x3	Pentium® 4 531	3.00	1MB	800	EM64T 512MB	Diskette	80GB ²	CD	GMA 950	No	Finger	No	1-year	No	Aug 05
A52	8163-13U	3x3	Pentium 4 541	3.20	1MB	800	EM64T 512MB	Diskette	80GB	CD	GMA 950	No	Finger	No	1-year	No	Aug 05
A52	8163-14U	3x3	Pentium 4 551	3.40	1MB	800	EM64T 512MB	Diskette	80GB	CD	GMA 950	No	Finger	No	1-year	No	Aug 05
Positioning	<i>Quality, choice, and affordability</i>										Desktop						
Processor	Intel® Pentium 4 Processor 531, 541, or 551 with single-core, EM64T, Hyper-Threading (HT) technology, Execute Disable Bit (XD), and 800MHz system bus																
L2 cache Implementation	1MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket										Bay ① 5.25", HH 1.6", access, std or opt optical Bay ② 3.5", SL 1", access, std or opt diskette Bay ③ 3.5", SL 1", no access, std disk						
Memory - std/max ⁶	512MB std / 4GB max / DDR2 only										Slot 1: full-length (170mm), low-profile, PCI Express x16 (25w max), supports optional ADD2 card Slot 2: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)						
Memory	Four 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable										<ul style="list-style-type: none"> • Business black color; metal case • 13.8" W X 15.2"D X 4.2"H • 350mm W X 385mm D X 108mm H • With vertical stand: 5.9" W X 15.2"D X 15.0"H • With vertical stand: 150mm W X 385mm D X 380mm H • 18.5 to 22.0 lb (8.4 to 10.0 kg) • All three bays flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI) • Toolless systemboard and adapter retention • Steel chassis supports 100 lb (45kg) monitor on top 						
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector																
SATA disk	80GB / SATA150 7200 rpm / vibration dampening mounts																
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7																
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar																
EIDE CD	48X-20X ⁴ CD-ROM																
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)																
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard																
Diskette drive	3.5" 1.44MB diskette drive																
Chipset	Intel 945G Express Chipset / 82945G Graphics Mem Cont Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log										SECURITY <ul style="list-style-type: none"> • Security chip (see information on left) • Security slot (in rear for attachment of optional Kensington Microsaver cable) <ul style="list-style-type: none"> - optional cable also locks the cover by deactivating the cover release buttons • U-bolt anchoring feature (U-bolt is optional; supports optional padlock) • Power-on password • Administrator password • Hard disk password (user and master) • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement • Fingerprint reader keyboard 						
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)																
Rear ports	Six USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)																
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)																
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software																
Speaker	One internal speaker for business audio																
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1																
Security chip	Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant																
Keyboard	[Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black																
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black																
Cooling fans	Three variable speed fans (two front and one power supply)																
Power supply	225 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs																
Preload with Windows XP Professional⁵	Accessories																
Microsoft® Windows® XP Professional with Service Pack 2	256MB PC2-5300 CL5 NP DDR2 UDIMM										73P4982						
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-5300 CL5 NP DDR2 UDIMM										73P4983						
Preloaded	1GB PC2-5300 CL5 NP DDR2 UDIMM										73P4984						
• Access Program	2GB PC2-4200 CL4 NP DDR2 UDIMM										73P4973						
• Rescue and Recovery™	250GB Serial ATA300 Disk (7200 rpm)										41N3015						
• Adobe Reader	Multi-Burner Plus® (DVD±RW; internal)										73P3370						
• Norton AntiVirus (OEM version)	USB Portable Diskette Drive										05K9276						
• PC-Doctor™ (diagnostics)	USB Fingerprint Reader										73P4774						
• Client Security Software	USB Gemplus GemPC Smart Card Reader										41N3040						
Downloadable	USB 2.0 Memory Key 512MB										40Y8596						
• Software Delivery Assistant	USB 2.0 Memory Key 1GB										40Y7421						
• System Migration Assistant	USB 2.0 CD-RW/DVD-ROM Combo II Drive										40Y8637						
• IBM Director Agent	USB 2.0 Super Multi-Burner Drive										40Y8638						
License - CD not included	ThinkVision® C190 19" (18.0" vis) (black)										6739P0N						
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	ThinkVision L151 15" Monitor (black)										9205AB6						
	ThinkVision L151p 15" Monitor (black)										9205HB2						
	ThinkVision L171 17" Monitor (black)										9417AB1						
	ThinkVision L171p 17" Monitor (black)										9417HB2						
	ThinkVision L192p 19" Monitor (black)										9419HB2						
	ThinkVision L201p 20.1" Monitor (black)										9320HB1						
	Belkin® 800VA UPS with AVR technology										31P7662						
	USB Optical Wheel Mouse (black)										06P4069						
	ScrollPoint Pro Optical Mouse (black)										31P8700						
	Optical 3-button ScrollPoint Mouse (black)										31P7405						
	Kensington® MicroSaver® Desktop Lock										06P3839						
	Enhanced Performance USB Keyboard										73P2620						
	Enh Perf Wireless Keyboard and Mouse										73P4067						
	Preferred Pro USB Fingerprint Keyboard										73P4730						
	DVI-I PCIe Connection Adapter (ADD2)										73P2516						
	ATI® RADEON® X300 SE 128MB Dual Head										40Y8405						
	Other options at lenovo.com/options																
										ThinkCentre desktops implement ThinkVantage™ technologies and design; visit thinkcentre.com/thinkvantage							
										LIMITED WARRANTY¹ <ul style="list-style-type: none"> ↪ 1-year parts and labor ↪ International Warranty Service⁹ ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) • 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) • 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) ↪ Post-warranty maintenance services at lenovo.com/thinkplus/warranty ↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 							

See footnotes for important warranty information
US models announced August 23, 2005
US models withdrawn effective May 2006

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ThinkCentre® A52 Tower (8168) - Pentium 4 - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	SATA Memory ⁸	EIDE disk	optical	Modem Graphics	Ext adapter	Key-Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
A52	8168-24U	4x4	Pentium® 4 531	3.00	1MB	800	HT	512MB	40GB ²	CD	GMA Modem	Spkrs	Pref XP Home	1-yr	No	Jul 05
A52	8168-25U	4x4	Pentium 4 531	3.00	1MB	800	HT	512MB	80GB	CD	GMA		Pref XP Pro	1-yr	No	Jul 05
A52	8168-26U	4x4	Pentium 4 531	3.00	1MB	800	HT	512MB	80GB	CD-RW	GMA Modem	Spkrs	Finger XP Home	1-yr	No	Jul 05
A52	8168-32U	4x4	Pentium 4 541	3.20	1MB	800	HT	512MB	80GB	CD	GMA Modem		Pref XP Home	1-yr	No	Jul 05
A52	8168-33U	4x4	Pentium 4 541	3.20	1MB	800	HT	512MB	80GB	Combo	GMA		Finger XP Pro	1-yr	No	Jul 05
A52	8168-41U	4x4	Pentium 4 551	3.40	1MB	800	HT	512MB	80GB	DVD±RW ⁶	GMA Modem		Finger XP Pro	1-yr	No	Jul 05
A52	8168-D1U	4x4	Pentium 4 630	3.00	2MB	800	HT	512MB	80GB	Combo	GMA		Pref XP Pro	1-yr	No	Jul 05
A52	8168-E1U	4x4	Pentium 4 640	3.20	2MB	800	HT	512MB	80GB	Combo	GMA		Finger XP Pro	1-yr	No	Jul 05

Positioning Processor	<i>Quality, choice, and affordability</i> Intel® Pentium 4 Processor 531, 541, 551, 630, or 640 with single-core, EM64T, Hyper-Threading (HT) technology, Execute Disable Bit (XD), and 800MHz system bus	Tower <ul style="list-style-type: none"> Business black color 7.0" W X 17.7" D X 17.0" H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 	
L2 cache Implementation	1MB or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket		
Memory - std/max ⁸	512MB std / 4GB max / DDR2 only	<ul style="list-style-type: none"> PC 2001-compliant ACPI 2.0c-compliant SMBIOS 2.3.4-compliant DMI 2.0-compliant SMBus 2.0-compliant Asset ID¹⁹ (system specific info in chip) 	<p>SECURITY</p> <ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington Microsaver cable) No keylock Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement Some: fingerprint reader keyboard
Memory	Four 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable		
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector		
SATA disk	40 or 80GB / SATA150 7200 rpm / vibration dampening mounts		
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7		
SATA cables	One SATA cable (one 1-drop to disk) / 4 SATA connectors on planar		
EIDE CD	Some: 48X-20X ⁴ CD-ROM		
EIDE CD-RW	Some: 48X/32X/48X Max ⁴ CD-RW		
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
EIDE DVD±RW	Some: DVD and CD burner / Multi-Burner Plus (part 73P3370)		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)		
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 945G Express Chipset / 82945G Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log		
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software		
External speakers	Some: External active speakers / Jazz Infinity® / 2-piece / 3 watts / black color		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1		
Modem	Some: 56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter		
Security chip	Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant		
Keyboard (one of following)	[Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black		
Mouse	[Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Cooling fans	Optical Wheel Mouse (USB only), 400 dpi, black		
Power supply	Two variable speed fans (front and power supply)		
	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		

Preload with Windows XP Home ⁵	Accessories
Microsoft® Windows® XP Home Edition with Service Pack 2	256MB PC2-5300 CL5 NP DDR2 UDIMM 73P4982
- Disk-to-Disk Recovery	512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983
Preload with Windows XP Professional⁵	1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984
Microsoft Windows XP Professional with Service Pack 2	2GB PC2-4200 CL4 NP DDR2 UDIMM 73P4973
- Disk-to-Disk Recovery	250GB Serial ATA300 Disk (7200 rpm) 41N3015
Preloaded (all)	Multi-Burner Plus ⁶ (DVD±RW; internal) 73P3370
• Access Program	USB Fingerprint Reader 73P4774
• Rescue and Recovery™	USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637
• Adobe Reader	USB 2.0 Memory Key 1GB 40Y7421
• Norton AntiVirus (OEM version)	ThinkVision® C190 19" (18.0" vis) (black) 6739P0N
• PC-Doctor™ (diagnostics)	ThinkVision L151 15" Monitor (black) 9205AB6
• Client Security Software	ThinkVision L151p 15" Monitor (black) 9205HB2
• Multimedia Center for Think Offerings (CD-RW, combo, DVD±RW)	ThinkVision L171p 17" Monitor (black) 9417HB2
• RecordNow and DLA (CD-RW, combo, DVD±RW)	ThinkVision L192p 19" Monitor (black) 9419HB2
• InterVideo WinDVD (combo, DVD±RW)	ThinkVision L201p 20.1" Monitor (black) 9320HB1
• InterVideo WinDVD Creator (DVD±RW)	Kensington® MicroSaver® Desktop Lock 06P3839
License - CD not included	ScrollPoint Pro Optical Mouse (black) 31P8700
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	Enh Perf Wireless Keyboard and Mouse 73P4067
	Preferred Pro USB Fingerprint Keyboard 73P4730
	DVI-I PCIe Connection Adapter (ADD2) 73P2516
	NVIDIA® GeForce 6200 64MB Dual Head 73P2517
	ATI® RADEON® X300 SE 128MB Dual Head 40Y8405
	ATI RADEON X700 128MB Dual Head 73P2518
	Other options at lenovo.com/options

See footnotes for important warranty information
US models announced June 28, 2005
US models withdrawn effective May 2006

ThinkCentre® A52 Tower (8168) - Pentium D - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Slot x	Name	Type-model	Processor	GHz	L2 cache	Bus MHz	Hyper-Thread	Dual core	Memory ⁸	SATA disk	EIDE optical	FireWire adapter	Key-Preload board	Limited warranty ¹	Workhorse Gbl, Educ	Avail date	
A52	8168-D6U	4x4	Pentium® D 820	2.80	2x1MB	800	No	Dual	512MB	80GB ²	Combo	X700	Pref	XP Pro ⁵	1-yr	No	Jul 05
A52	8168-D7U	4x4	Pentium D 820	2.80	2x1MB	800	No	Dual	512MB	160GB	DVD±RW ⁶	X700	1394 Finger	XP Pro	1-yr	No	Jul 05

Positioning Processor	<i>Quality, choice, and affordability</i> Intel® Pentium D Processor 820 (2.80GHz) with dual-core, EM64T, Execute Disable Bit, and 800MHz system bus	Tower <ul style="list-style-type: none"> Business black color 7.0" W X 17.7"D X 17.0"H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 	
L2 cache Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket		
Memory - std/max ⁸	512MB std / 4GB max / DDR2 only	Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, std diskette Bay ④ 3.5", SL 1", no access, std disk Slot 1: full-length, full-height, PCI Express x16 - used Slot 2: full-length, full-height, PCI Express x1 Slot 3: full-length, full-height, 32-bit PCI 2.3 (5v) - used* Slot 4: full-length, full-height, 32-bit PCI 2.3 (5v) * FireWire adapter in slot in some models	
Memory	Four 240-pin gold plated DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable		
Graphics	ATI® RADEON® X700 / PCI Express x16 adapter / 128MB 600MHz DDR1 / 400MHz RAMDAC / three connectors: analog DB-15, digital DVI-I, S-Video out for TV-out / dual head support		
SATA disk	80 or 160GB / SATA150 7200 rpm / vibration dampening mounts		
SATA controller	Serial ATA / 300 MB/sec SATA300 / integrated in ICH7		
SATA cables	One SATA cable (one 1-drop to disk) / 4 SATA connectors on planar		
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
EIDE DVD±RW	<i>Some:</i> DVD and CD burner / Multi-Burner Plus (part 73P3370)		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)		
EIDE cables	One 2-drop EIDE cable to optical / one connector on systemboard		
Diskette drive	3.5" 1.44MB diskette drive		
Chipset	Intel 945G Express Chipset / 82945G Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / Winbond® PC8375S Super I/O for security chip (TPM), Asset ID, serial, parallel, diskette, keybrd, mouse, auto-thermal controls, hardware event log	<ul style="list-style-type: none"> PC 2001-compliant ACPI 2.0c-compliant SMBIOS 2.3.4-compliant DMI 2.0-compliant SMBus 2.0-compliant Asset ID¹⁹ (system specific info in chip) 	
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	<h3>SECURITY</h3> <ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington Microsaver cable) No keylock Power-on password Administrator password Hard disk password (user and master) Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement <i>Some:</i> fingerprint reader keyboard 	
Rear ports	Six USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1981HD codec / SoundMAX® Cadenza software		
Speakers	External active speakers / Jazz Infinity® / 2-piece / 3 watts / black color		
Beeper	One internal beeper		
IEEE 1394	<i>Some:</i> FireWire PCI adapter / 1394A, 400Mbps, dual 6-pin ports on rear, 4-pin port on front of system, no external cables included		
Ethernet	Gigabit ethernet on systemboard / Intel 82573E (MAC/PHY) / PCIe x1 / full duplex / Wake on LAN® / PXE 2.0 and RPL remote boot		
Modem	None		
Security chip	Trusted Platform Module / in NS PC8375S chip / TCG 1.2-compliant		
Keyboard	[Finger] Preferred Pro USB Fingerprint Keyboard (USB connector), black (one of following) [Pref] 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), blk		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Cooling fans	Two variable speed fans (front and power supply)		
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		
Preload with Windows XP Professional⁵	Microsoft® Windows® XP Professional with Service Pack 2 - Disk-to-Disk Recovery (in hidden protected area)	Accessories	
		256MB PC2-5300 CL5 NP DDR2 UDIMM	73P4982
		512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983
		1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984
		2GB PC2-4200 CL4 NP DDR2 UDIMM	73P4973
		250GB Serial ATA300 Disk (7200 rpm)	41N3015
		Multi-Burner Plus ⁶ (DVD±RW; internal)	73P3370
		USB Portable Diskette Drive	05K9276
		USB Fingerprint Reader	73P4774
		USB Gemplus GemPC Smart Card Reader	41N3040
		USB 2.0 Memory Key 1GB	40Y7421
		USB 2.0 Super Multi-Burner Drive	40Y8638
		ThinkVision® C170 17" (16.0" vis) (black)	6737P6N
		ThinkVision C190 19" (18.0" vis) (black)	6739P0N
		ThinkVision L151 15" Monitor (black)	9205AB6
		ThinkVision L171p 17" Monitor (black)	9417HB2
		ThinkVision L192p 19" Monitor (black)	9419HB2
		ThinkVision L201p 20.1" Monitor (black)	9320HB1
		Belkin® 800VA UPS with AVR technology	31P7662
		ScrollPoint Pro Optical Mouse (black)	31P8700
		Optical 3-button ScrollPoint Mouse (black)	31P7405
		Kensington® MicroSaver® Desktop Lock	06P3839
		Enhanced Performance USB Keyboard	73P2620
		Enh Perf Wireless Keyboard and Mouse	73P4067
		Preferred Pro USB Fingerprint Keyboard	73P4730
		DVI-I PCIe Connection Adapter (ADD2)	73P2516
		NVIDIA® GeForce 6200 64MB Dual Head	73P2517
		ATI® RADEON® X300 SE 128MB Dual Head	40Y8405
		ATI RADEON X700 128MB Dual Head	73P2518
		Other options at lenovo.com/options	
			ThinkCentre desktops implement ThinkVantage™ technologies and design; visit thinkcentre.com/thinkvantage
			LIMITED WARRANTY¹
			↪ 1-year parts and labor
			↪ International Warranty Service⁹
			↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts², 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)
			↪ Onsite service upgrade options (in eligible locations):⁷
			• 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189)
			• 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191)
			• 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188)
			↪ Other ThinkPlus services at lenovo.com/thinkplus/warranty
			↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)

See footnotes for important warranty information
US models announced June 28, 2005
US models withdrawn effective May 2006

ThinkCentre® A52 Tower (8287) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Hyper-Core	Thread	Memory ⁸	Diskette Drive	SATA disk	EIDE optical	FireWire	Int or ext speaker	Preload	Limited warranty ¹	Avail date	
A52	8287-D3U	4x4	Pentium® 4 630	3.00	2MB	single	HT	512MB	None	40GB ²	Combo	GMA 950	Ext spks	XP Home	1-yr	Jan 06	
A52	8287-D4U	4x4	Pentium 4 630	3.00	2MB	single	HT	512MB	None	80GB	CD	GMA 950	Internal	XP Pro	1-yr	Jan 06	
A52	8287-D5U	4x4	Pentium 4 630	3.00	2MB	single	HT	512MB	None	80GB	Combo	GMA 950	Internal	XP Pro	1-yr	Jan 06	
A52	8287-D6U	4x4	Pentium 4 630	3.00	2MB	single	HT	512MB	None	80GB	DVD±RW ⁶	GMA 950	1394	Ext spks	XP Home	1-yr	Jan 06
A52	8287-E1U	4x4	Pentium 4 640	3.20	2MB	single	HT	512MB	None	40GB	CD	GMA 950	Internal	XP Pro	1-yr	Jan 06	
A52	8287-E2U	4x4	Pentium 4 640	3.20	2MB	single	HT	512MB	None	80GB	Combo	GMA 950	Ext spks	XP Pro	1-yr	Jan 06	
A52	8287-E3U	4x4	Pentium 4 640	3.20	2MB	single	HT	512MB	None	160GB	DVD±RW	X300 SE	1394	Ext spks	XP Pro	1-yr	Jan 06
A52	8287-F1U	4x4	Pentium 4 650	3.40	2MB	single	HT	512MB	None	80GB	CD	GMA 950	Internal	XP Pro	1-yr	Jan 06	
A52	8287-F2U	4x4	Pentium 4 650	3.40	2MB	single	HT	512MB	None	80GB	Combo	GMA 950	Ext spks	XP Pro	1-yr	Jan 06	
A52	8287-F3U	4x4	Pentium 4 650	3.40	2MB	single	HT	512MB	None	250GB	DVD±RW	X300 SE	1394	Ext spks	XP Pro	1-yr	Jan 06
A52	8287-G1U	4x4	Pentium D 820	2.80	2x1MB	dual		512MB	None	250GB	DVD±RW	X300 SE	1394	Ext spks	XP Pro	1-yr	Jan 06

These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning	Quality, reliability, and manageability										Tower		
Processor	Intel® Pentium 4 Processor 630, 640, 650 with single-core, EM64T, Hyper-Threading (HT) technology, EIST, Execute Disable Bit, 800MHz system bus, and 2MB L2 cache, or Intel® Pentium D Processor 820 (2.80GHz) with dual-core , EM64T, Execute Disable Bit, 800MHz system bus, and 2x1MB L2 cache (not shared) Processor and L2 cache in FC-LGA4 in LGA775 socket										<ul style="list-style-type: none"> Business black color 7.0" W X 17.7"D X 17.0"H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 		
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket										Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", no access, std disk		
Memory - std/max ⁵	512MB std / 4GB max										Slot 1: 3/4-length, full-height, PCI Express x16 (75w max) Slot 2: 3/4-length, full-height, PCI Express x1 Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: 3/4-length, full-height, 32-bit PCI 2.3 (5v)		
Memory	Four 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable												
Graphics (one of following)	<ul style="list-style-type: none"> Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G / 400MHz / supports dual independent display ATI® RADEON® X300 SE / PCI Express x16 adapter / 128MB 400MHz DDR1 / 400MHz RAMDAC / two 15-pin analog D-sub connectors / dual head support 												
SATA disk	40, 80, 160, or 250GB / SATA150 7200 rpm / vibration dampening												
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in ICH7												
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar												
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM												
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo												
EIDE DVD±RW	<i>Some:</i> DVD and CD burner / double-layer / Multi-Burner Plus (part 73P3370)												
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)												
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / 1 planar connector												
Diskette drive	None / use optional external USB-based diskette drive												
Chipset	Intel 945G Express Chipset / 82945G Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O												
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)												
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)												
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)												
Audio	Integrated digital audio / AC '97 interface / AD1888 codec / SoundMAX® software												
External speakers	<i>Some:</i> [Ext spks] 2-piece speakers, 6 watts (3 watts each), black, Infinity logo												
Speaker	<i>Some:</i> [Internal] one internal speaker for business audio												
IEEE 1394	<i>Some:</i> FireWire PCI adapter / 1394A, 400Mbps, dual 6-pin ports on rear, 4-pin port on front of system, no external cables included												
Ethernet	Gigabit ethernet on systemboard / Broadcom BCM5789 / PCIe x1 / Wake on LAN												
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black												
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black												
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs												
Preload with Windows XP Home⁵	Accessories												
Microsoft® Windows® XP Home Edition	256MB PC2-4200 CL4 NP DDR2 UDIMM										73P4970		
- Disk-to-Disk Recovery	512MB PC2-4200 CL4 NP DDR2 UDIMM										73P4971		
Preload with Windows XP Professional⁵	1GB PC2-4200 CL4 NP DDR2 UDIMM										73P4972		
Microsoft Windows XP Professional	2GB PC2-4200 CL4 NP DDR2 UDIMM										73P4973		
- Disk-to-Disk Recovery	256MB PC2-5300 CL5 NP DDR2 UDIMM										73P4982		
	512MB PC2-5300 CL5 NP DDR2 UDIMM										73P4983		
Preloaded (all; only some listed)	1GB PC2-5300 CL5 NP DDR2 UDIMM										73P4984		
• Rescue and Recovery™	160GB Serial ATA300 Disk (7200 rpm)										09N4254		
• Client Security Solution™	Super Multi-Burner DL DVD±RW Drive										41N5581		
• ThinkVantage Productivity Center	USB 2.0 Portable Multi-Burner Drive										22P9163		
• ThinkVantage System Update	USB 2.0 Super Multi-Burner Drive										40Y8638		
• Symantec® Client Security™	USB 2.0 Lenovo Webcam										40Y8519		
• Diskkeeper Lite	Lenovo L192 Wide 19" Monitor (black)										6920AB1		
• Multimedia Center for Think Offerings (combo, DVD, DVD±RW)	ThinkVision® L201p 20.1" Monitor (black)										9220HB1		
• Sonic RecordNow and Drive Letter Access (combo, DVD±RW)	DVI-I PCIe Connection Adapter (ADD2)										73P2516		
• InterVideo WinDVD (combo, DVD, DVD±RW)	NVIDIA® GeForce 6200 64MB Dual Head										73P2517		
• InterVideo WinDVD Creator (DVD±RW)	ATI® RADEON® X300 SE 128MB Dual Head										41U4813		
	ATI RADEON X700 128MB Dual Head										73P2518		
	ATI X1600 Pro 256MB VGA/DVI-I/TV-out										41A4073		
	Other options at lenovo.com/options												
											SECURITY <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® Microsaver® cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement 		
											ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage		
											LIMITED WARRANTY¹ <ul style="list-style-type: none"> 1-year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) Other ThinkPlus services at lenovo.com/thinkplus/warranty Post-warranty maintenance services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 		

See footnotes for important warranty information
US models announced January 10, 2006
US models withdrawn effective December 2006

ThinkCentre® A52 Tower (8287) - TopSeller (February 2006) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Hyper-Core	Thread	Memory ⁸	Diskette Drive	SATA disk	EIDE optical	FireWire Graphics adapter	Int or ext speaker	Preload	Limited warranty ¹	Avail date	
A52	8287-42U	4x4	Pentium® 4 521	2.8	1MB	single	HT	512MB	None	160GB ²	DVD±RW ⁶	GMA 950	Internal	XP Pro	1-yr	Feb 06	
A52	8287-47U	4x4	Pentium 4 521	2.8	1MB	single	HT	512MB	None	80GB	Combo	GMA 950	Internal	XP Pro	1-yr	Feb 06	
A52	8287-49U	4x4	Pentium 4 521	2.8	1MB	single	HT	512MB	None	80GB	CD	GMA 950	Internal	XP Pro	1-yr	Feb 06	
A52	8287-H8U	4x4	Pentium 4 661	3.6	2MB	single	HT	512MB	None	80GB	CD	GMA 950	Internal	XP Pro	1-yr	Feb 06	
A52	8287-H9U	4x4	Pentium 4 661	3.6	2MB	single	HT	512MB	None	80GB	Combo	GMA 950	Ext spks	XP Pro	1-yr	Feb 06	
A52	8287-HBU	4x4	Pentium 4 661	3.6	2MB	single	HT	512MB	None	250GB	DVD±RW	X300 SE	1394	Ext spks	XP Pro	1-yr	Feb 06
A52	8287-81U	4x4	Pentium D 920	2.80	2x2MB	dual		512MB	None	250GB	DVD±RW	X300 SE	1394	Ext spks	XP Pro	1-yr	Feb 06
A52	8287-91U	4x4	Pentium D 930	3.00	2x2MB	dual		512MB	None	250GB	DVD±RW	X300 SE	1394	Ext spks	XP Pro	1-yr	Feb 06

These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning Processor	<i>Quality, reliability, and manageability</i> Intel® Pentium 4 Processor 521 or 661 with single-core, EM64T, Hyper-Threading (HT) technology, EIST (6xx only), Execute Disable Bit, 800MHz bus, and 1MB or 2MB L2 cache, or Intel Pentium D Processor 920 or 930 with dual-core , EM64T, Execute Disable Bit, 800MHz system bus, and 2x2MB L2 cache	Tower	
Implementation	Processor and L2 cache in FC-LGA4/LGA6 in LGA775 socket	<ul style="list-style-type: none"> Business black color 7.0" W X 17.7" D X 17.0" H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 	
Memory - std/max ⁹	512MB std / 4GB max	Bay ① 5.25", HH 1.6", access, std optical	<p>SECURITY</p> <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® Microsaver® cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement
Memory	Four 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	Bay ② 5.25", HH 1.6", access, open	
Graphics (one of following)	<ul style="list-style-type: none"> Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G / 400MHz / supports dual independent display ATI® RADEON® X300 SE / PCI Express x16 adapter / 128MB 400MHz DDR1 / 400MHz RAMDAC / two 15-pin analog D-sub connectors / dual head support 	Bay ③ 3.5", SL 1", access, open	
SATA disk	80, 160, or 250GB / SATA300 7200 rpm / vibration dampening	Bay ④ 3.5", SL 1", no access, std disk	
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in ICH7	Slot 1: 3/4-length, full-height, PCI Express x16 (75w max)	
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar	Slot 2: 3/4-length, full-height, PCI Express x1	
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM	Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v)	
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo	Slot 4: 3/4-length, full-height, 32-bit PCI 2.3 (5v)	
EIDE DVD±RW	<i>Some:</i> DVD and CD burner / double-layer / Multi-Burner Plus (part 73P3370)		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)		
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / 1 planar connector		
Diskette drive	None / use optional external USB-based diskette drive		
Chipset	Intel 945G Express Chipset / 82945G Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O		
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	Integrated digital audio / AC '97 interface / AD1888 codec / SoundMAX® software		
External speakers	<i>Some:</i> [Ext spks] 2-piece speakers, 6 watts (3 watts each), black, Infinity logo		
Speaker	<i>Some:</i> [Internal] one internal speaker for business audio		
IEEE 1394	<i>Some:</i> FireWire PCI adapter / 1394A, 400Mbps, dual 6-pin ports on rear, 4-pin port on front of system, no external cables included		
Ethernet	Gigabit ethernet on systemboard / Broadcom BCM5789 / PCIe x1 / Wake on LAN		
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black	ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage	
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		
Preload with Windows XP Professional⁵ Accessories		LIMITED WARRANTY¹	
Microsoft® Windows® XP Professional	256MB PC2-4200 CL4 NP DDR2 UDIMM	73P4970	<ul style="list-style-type: none"> 1-year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) Other ThinkPlus services at lenovo.com/thinkplus/warranty Post-warranty maintenance services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹
- Disk-to-Disk Recovery	512MB PC2-4200 CL4 NP DDR2 UDIMM	73P4971	
Preloaded (only some listed)	1GB PC2-4200 CL4 NP DDR2 UDIMM	73P4972	
• Rescue and Recovery™	2GB PC2-4200 CL4 NP DDR2 UDIMM	73P4973	
• Access Connections™	256MB PC2-5300 CL5 NP DDR2 UDIMM	73P4982	
• Client Security Solution™	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983	
• ThinkVantage Productivity Center	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	
• ThinkVantage System Update	250GB Serial ATA300 Disk (7200 rpm)	41N3015	
• Symantec® Client Security™	Super Multi-Burner DL DVD±RW Drive	41N5581	
• Diskeeper Lite	USB Portable Diskette Drive	05K9276	
• PC-Doctor™ (diagnostics)	USB Fingerprint Reader	41U3167	
• Google Desktop	USB 2.0 Memory Key 1GB	40Y7421	
• Multimedia Center for Think Offerings (combo, DVD±RW)	USB 2.0 Super Multi-Burner Drive	40Y8638	
• Sonic RecordNow and Drive Letter Access (combo, DVD±RW)	Lenovo L192 Wide 19" Monitor (black)	6920AB1	
• InterVideo WinDVD (combo, DVD±RW)	ThinkVision® L201p 20.1" Monitor (black)	9220HB1	
• InterVideo WinDVD Creator (DVD±RW)	Kensington® MicroSaver® Desktop Lock	06P3839	
License - CD not included	DVI-I PCIe Connection Adapter (ADD2)	73P2516	
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	NVIDIA® GeForce 6200 64MB Dual Head	73P2517	
	ATI® RADEON® X300 SE 128MB Dual Head	41U4813	
	ATI RADEON X700 128MB Dual Head	73P2518	
	ATI X1600 Pro 256MB VGA/DVI-I/TV-out	41A4073	
	Other options at lenovo.com/options		

See footnotes for important warranty information
US models announced February 21, 2006
US models withdrawn effective December 2006

ThinkCentre® A52 Tower (8287) - TopSeller (August 2006) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Hyper-Thread	Core	Memory ^a	Diskette Drive	SATA disk	EIDE optical	Graphics	Preload warranty ^b	Limited Workhorse Gbl, Educ	Avail date
A52	8287-2AU	4x4	Pentium® 4 524	3.06	1MB	Single	HT	512MB	None	80GB	CD	GMA 950	XP Pro	1-yr	Aug 06
A52	8287-2BU	4x4	Pentium 4 524	3.06	1MB	Single	HT	512MB	None	80GB	Combo	GMA 950	XP Pro	1-yr	Aug 06
A52	8287-2CU	4x4	Pentium 4 524	3.06	1MB	Single	HT	512MB	None	160GB	DVD±RW	GMA 950	XP Pro	1-yr	Aug 06
A52	8287-2DU	4x4	Pentium 4 524	3.06	1MB	Single	HT	1GB	None	160GB	DVD±RW	GMA 950	XP Pro	1-yr	Aug 06
A52	8287-54U	4x4	Pentium 4 541	3.20	1MB	Single	HT	512MB	None	80GB	CD	GMA 950	XP Pro	1-yr	Aug 06
A52	8287-55U	4x4	Pentium 4 541	3.20	1MB	Single	HT	512MB	None	80GB	Combo	GMA 950	XP Pro	1-yr	Aug 06
A52	8287-57U	4x4	Pentium 4 541	3.20	1MB	Single	HT	512MB	None	160GB	DVD±RW	GMA 950	XP Pro	1-yr	Aug 06
A52	8287-GKU	4x4	Pentium D 820	2.80	2x1MB	Dual		512MB	None	80GB	CD	GMA 950	XP Pro	1-yr	Aug 06
A52	8287-GLU	4x4	Pentium D 820	2.80	2x1MB	Dual		512MB	None	80GB	Combo	GMA 950	XP Pro	1-yr	Aug 06
A52	8287-J2U	4x4	Pentium D 945	3.40	2x2MB	Dual		512MB	None	80GB	CD	GMA 950	XP Pro	1-yr	Aug 06
A52	8287-J3U	4x4	Pentium D 945	3.40	2x2MB	Dual		512MB	None	80GB	Combo	GMA 950	XP Pro	1-yr	Aug 06

These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning	Quality, reliability, and manageability										Tower		
Processor	Intel® Pentium 4 Processor 524 or 541 with single-core, EM64T, Hyper-Threading (HT) technology, Execute Disable Bit, 533MHz (524 only) or 800MHz system bus, and 1MB L2 cache or Intel Pentium D Processor 820 or 945 with dual-core , EM64T, EIST (9xx only), Execute Disable Bit, 800MHz system bus, and 2x1MB (8xx) or 2x2MB (9xx) L2 cache										<ul style="list-style-type: none"> Business black color 7.0" W X 17.7"D X 17.0"H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 		
Implementation	Processor and L2 cache in FC-LGA4/LGA6 in LGA775 socket										<ul style="list-style-type: none"> Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", no access, std disk 		
Memory - std/max ^a	512MB or 1GB std / 4GB max										<ul style="list-style-type: none"> Slot 1: 3/4-length, full-height, PCI Express x16 (75w max) Slot 2: 3/4-length, full-height, PCI Express x1 Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: 3/4-length, full-height, 32-bit PCI 2.3 (5v) 		
Memory	Four 240-pin DIMM sockets / <i>model 2DU</i> : two sockets used (512MB per socket); <i>other models</i> : one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable												
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector / supports dual independent display												
SATA disk	80 or 160GB / SATA300 7200 rpm / vibration dampening												
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in ICH7												
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar												
EIDE CD	<i>Some</i> : 48X-20X ⁴ CD-ROM												
EIDE Combo	<i>Some</i> : 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo												
EIDE DVD±RW	<i>Some</i> : DVD and CD burner / double-layer / Multi-Burner Plus (part 73P3370)												
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)												
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / 1 planar connector												
Diskette drive	None / use optional external USB-based diskette drive												
Chipset	Intel 945G Express Chipset / 82945G Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O												
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)												
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)												
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)												
Audio	Integrated digital audio / AC '97 interface / AD1888 codec / SoundMAX® software												
Speaker	One internal speaker for business audio												
IEEE 1394	None												
Ethernet	Gigabit ethernet on planar / Broadcom BCM5789 / PCIe x1 / Wake on LAN®												
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black												
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black												
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs												
Preload with Windows XP Professional⁵	Accessories												
Microsoft® Windows® XP Professional	256MB PC2-4200 CL4 NP DDR2 UDIMM										73P4970		
Preloaded (only some listed)	512MB PC2-4200 CL4 NP DDR2 UDIMM										73P4971		
• Education model: VitalSource Library education software	1GB PC2-4200 CL4 NP DDR2 UDIMM										73P4972		
• Education model: Adobe® Photoshop® Elements plus Adobe Premiere® Elements	2GB PC2-4200 CL4 NP DDR2 UDIMM										73P4973		
• Rescue and Recovery™	256MB PC2-5300 CL5 NP DDR2 UDIMM										73P4982		
• Client Security Solution™	512MB PC2-5300 CL5 NP DDR2 UDIMM										73P4983		
• ThinkVantage Productivity Center	1GB PC2-5300 CL5 NP DDR2 UDIMM										73P4984		
• ThinkVantage System Update	250GB Serial ATA300 Disk (7200 rpm)										41N3015		
• Diskeeper Lite	Super Multi-Burner DL DVD±RW Drive										41N5581		
• PC-Doctor™ (diagnostics)	USB Fingerprint Reader										41U3167		
• Multimedia Center for Think Offerings (Combo, DVD±RW)	USB 2.0 Lenovo Webcam										40Y8519		
• Sonic RecordNow and Drive Letter Access (Combo, DVD±RW)	USB 2.0 Memory Key 1GB										40Y7421		
• InterVideo WinDVD (Combo, DVD±RW)	USB 2.0 Super Multi-Burner Drive										40Y8638		
• InterVideo WinDVD Creator (DVD±RW)	Lenovo L192 Wide 19" Monitor (black)										6920AB1		
CD	ThinkVision® L201p 20.1" Monitor (black)										9220HB1		
• Education model: Adobe Photoshop Elements plus Adobe Premiere Elements	Kensington® MicroSaver® Desktop Lock										06P3839		
	DVI-I PCIe Connection Adapter (ADD2)										73P2516		
	NVIDIA® GeForce 6200 64MB Dual Head										73P2517		
	ATI® RADEON® X300 SE 128MB Dual Head										41U4813		
	ATI RADEON X700 128MB Dual Head										73P2518		
	ATI X1600 Pro 256MB VGA/DVI-I/TV-out										41A4073		
	Other options at lenovo.com/options												
ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage													
LIMITED WARRANTY¹													
↔ 1-year parts and labor													
↔ International Warranty Service³													
↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)													
↔ Onsite service upgrade options (in eligible locations):⁷													
• 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189)													
• 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191)													
• 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188)													
↔ Other ThinkPlus services at lenovo.com/thinkplus/warranty													
↔ Post warranty maintenance services available													
↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹													

See footnotes for important warranty information
US models announced August 1, 2006
US models withdrawn effective December 2006

ThinkCentre® A52 Tower (8288) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	Core	L2 cache	Bus Hyper-Thread	Diskette Memory [®]	SATA Drive	EIDE optical	Graphics	Int or ext speaker	Preload	Limited warranty ¹	Avail date	
A52	8288-A1U	3x4	Celeron® 331	2.66	Single	256KB	533	256MB	None	40GB ²	CD	GMA 950	Internal	XP Home	1-yr	Mar 06
A52	8288-A2U	3x4	Celeron 331	2.66	Single	256KB	533	256MB	None	40GB	CD	GMA 950	Internal	XP Pro	1-yr	Mar 06
A52	8288-ABU	3x4	Celeron 336	2.80	Single	256KB	533	256MB	None	40GB	CD	GMA 950	Internal	XP Pro	1-yr	Mar 06
A52	8288-ACU	3x4	Celeron 336	2.80	Single	256KB	533	512MB	None	80GB	Combo	GMA 950	Internal	XP Home	1-yr	Mar 06
A52	8288-21U	3x4	Pentium® 4 516	2.93	Single	1MB	533	256MB	None	40GB	CD	GMA 950	Internal	XP Home	1-yr	Mar 06
A52	8288-22U	3x4	Pentium 4 516	2.93	Single	1MB	533	512MB	None	40GB	CD	GMA 950	Internal	XP Pro	1-yr	Mar 06
A52	8288-27U	3x4	Pentium 4 519K3.06	3.06	Single	1MB	533	512MB	None	40GB	CD	GMA 950	Internal	XP Pro	1-yr	Mar 06
A52	8288-28U	3x4	Pentium 4 519K3.06	3.06	Single	1MB	533	512MB	None	80GB	Combo	GMA 950	Internal	XP Pro	1-yr	Mar 06
A52	8288-41U	3x4	Pentium 4 521	2.80	Single	1MB	800	512MB	None	80GB	Combo	GMA 950	Internal	XP Pro	1-yr	Mar 06
A52	8288-42U	3x4	Pentium 4 521	2.80	Single	1MB	800	512MB	None	80GB	CD	GMA 950	Internal	XP Pro	1-yr	Mar 06
A52	8288-49U	3x4	Pentium 4 521	2.80	Single	1MB	800	512MB	None	160GB DVD±RW [®]	GMA 950	Internal	XP Pro	1-yr	Mar 06	
A52	8288-DAU	3x4	Pentium 4 630	3.00	Single	2MB	800	512MB	None	80GB	Combo	GMA 950	Internal	XP Pro	1-yr	Mar 06
A52	8288-G1U	3x4	Pentium D 820	2.80	Dual	2x1MB	800	512MB	None	80GB	Combo	GMA 950	Internal	XP Pro	1-yr	May 06
A52	8288-G4U	3x4	Pentium D 820	2.80	Dual	2x1MB	800	512MB	None	80GB	CD	GMA 950	Internal	XP Pro	1-yr	May 06
A52	8288-G5U	3x4	Pentium D 820	2.80	Dual	2x1MB	800	512MB	None	160GB DVD±RW	GMA 950	Internal	XP Pro	1-yr	May 06	

These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning Processor	Mainstream enterprise stability and manageability Intel® Celeron Processor 331 or 336 with single-core, EM64T, Execute Disable Bit, and 533MHz system bus or Intel Pentium 4 Processor 516, 519K, 521, or 630 with single core, EM64T, Hyper-Threading technology (521/6xx only), EIST (6xx only), Execute Disable Bit (except 516), and 533 or 800MHz system bus or Intel® Pentium D Processor 820 with dual-core, EM64T, Execute Disable Bit, 800MHz system bus, and 2x1MB L2 cache 256KB, 1MB, or 2MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket		Tower • Business black color • 6.9"W X 17.0" D X 15.7"H • 175mm W X 432mm D X 400mm H • 22.0 lb (10.0 kg) • Handle on top front	
L2 cache Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket			
Memory - std/max ² Memory	256MB or 512MB std / 2GB max Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable		Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, opt diskette Bay ④ 3.5", 1" high, no access, std disk	
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945GZ GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector / 945GZ does not support dual independent display		Slot 1: half-length, full-height, 32-bit PCI 2.3 Slot 2: half-length, full-height, 32-bit PCI 2.3 Slot 3: half-length, full-height, PCI Express x1	
SATA disk	40, 80, or 160GB / SATA150 7200 rpm / vibration dampening		SECURITY • One lock to secure both cover and entire system to fixed object: - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) - No keylock • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement	
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in ICH7			
SATA cables	One SATA cable (one 1-drop to disk) / two SATA planar connectors			
EIDE CD	Some: 48X-20X ⁴ CD-ROM			
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo			
EIDE DVD±RW	Some: DVD and CD burner / double-layer / Multi-Burner Plus (part 73P3370)			
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)			
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one planar connector			
Diskette drive	None / use optional external USB-based diskette drive			
Chipset	Intel 945GZ Express Chipset / 82945GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O			
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)			
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)			
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (mono, 3.5mm)			
Audio	Integrated digital audio / AC '97 interface / AD1888 codec / SoundMAX® software			
Speaker	One internal speaker for business audio			
IEEE 1394	None			
Ethernet	10/100 ethernet on planar / Broadcom® 4401 / PCI 2.3 / Wake on LAN®			
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black			
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black			
Power supply	230 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs			
Preload with Windows XP Home⁵ Microsoft® Windows® XP Home Edition			Accessories 256MB PC2-4200 CL4 NP DDR2 UDIMM 73P4970	
Preload with Windows XP Professional⁵ Microsoft Windows XP Professional			512MB PC2-4200 CL4 NP DDR2 UDIMM 73P4971	
Preloaded (all; only some listed)			1GB PC2-4200 CL4 NP DDR2 UDIMM 73P4972	
• Rescue and Recovery™			2GB PC2-4200 CL4 NP DDR2 UDIMM 73P4973	
• Access Connections™			250GB Serial ATA300 Disk (7200 rpm) 41N3015	
• ThinkVantage Productivity Center			Super Multi-Burner DL DVD±RW Drive 41N5581	
• Client Security Solution™			USB Portable Diskette Drive 05K9276	
• Symantec® Client Security™			USB Fingerprint Reader 41U3167	
• Multimedia Center for Think Offerings (combo, DVD±RW)			USB 2.0 Memory Key 1GB 40Y7421	
• Sonic RecordNow and Drive LetterAccess (combo, DVD±RW)			USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637	
• InterVideo WinDVD (combo, DVD±RW)			USB 2.0 Super Multi-Burner Drive 40Y8638	
• InterVideo WinDVD Creator (DVD±RW)			Lenovo L192 Wide 19" Monitor (black) 6920AB1	
			ThinkVision® L192p 19" Monitor (black) 9419HC2	
			Enh Perf Wireless Keyboard and Mouse 73P4067	
			Preferred Pro USB Fingerprint Keyboard 73P4730	
			Other options at lenovo.com/options	
			LIMITED WARRANTY¹	
			↔ 1-year parts and labor	
			↔ International Warranty Service ⁹	
			↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts ³ , 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)	
			↔ Onsite service upgrade options (in eligible locations): ⁷	
			• 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189)	
			• 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188)	
			↔ Other ThinkPlus services at lenovo.com/thinkplus/warranty	
			↔ 24x7 ¹⁴ toll-free support for warranty issues during the warranty period ¹	

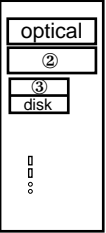
See footnotes for important warranty information
US models announced February 21 or May 30, 2006
US models withdrawn effective December 2006

ThinkCentre® A52 Tower (8288) - TopSeller (August 2006) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	Core	L2 cache	Bus Hyper-Thread	Diskette Memory	Media Drive	SATA disk	EIDE optical	Graphics	Preload	Limited warranty ¹	Avail date	
A52	8288-4BU	3x4	Pentium® 4 524	3.06	Single	1MB	533 HT	512MB	None	80GB	CD	GMA 950	XP Pro	1-yr	Aug 06	
A52	8288-4CU	3x4	Pentium 4 524	3.06	Single	1MB	533 HT	512MB	None	9-in-1	160GB	Combo	GMA 950	XP Home	1-yr	Aug 06
A52	8288-4DU	3x4	Pentium 4 524	3.06	Single	1MB	533 HT	512MB	None	80GB	Combo	GMA 950	XP Pro	1-yr	Aug 06	
A52	8288-4EU	3x4	Pentium 4 524	3.06	Single	1MB	533 HT	512MB	None	9-in-1	160GB	DVD±RW ⁶	GMA 950	XP Home	1-yr	Aug 06
A52	8288-35U	3x4	Pentium 4 541	3.20	Single	1MB	800 HT	512MB	None	80GB	CD	GMA 950	XP Pro	1-yr	Aug 06	
A52	8288-36U	3x4	Pentium 4 541	3.20	Single	1MB	800 HT	512MB	None	80GB	Combo	GMA 950	XP Pro	1-yr	Aug 06	
A52	8288-37U	3x4	Pentium 4 541	3.20	Single	1MB	800 HT	512MB	None	9-in-1	160GB	DVD±RW	GMA 950	XP Home	1-yr	Aug 06
A52	8288-94U	3x4	Pentium D 945	3.40	Dual	2x2MB	800	512MB	None	80GB	CD	GMA 950	XP Pro	1-yr	Aug 06	
A52	8288-95U	3x4	Pentium D 945	3.40	Dual	2x2MB	800	512MB	None	80GB	Combo	GMA 950	XP Pro	1-yr	Aug 06	
A52	8288-96U	3x4	Pentium D 945	3.40	Dual	2x2MB	800	512MB	None	9-in-1	160GB	DVD±RW	GMA 950	XP Home	1-yr	Aug 06

These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning	<i>Mainstream enterprise stability and manageability</i>	
Processor	Intel Pentium 4 Processor 524 or 541 with single core, EM64T, Hyper-Threading technology, Execute Disable Bit, 533MHz or 800MHz system bus, and 1MB L2 cache, or Intel® Pentium D Processor 945 with dual-core, EM64T, EIST, Execute Disable Bit, 800MHz system bus, and 2x2MB L2 cache Processor and L2 cache in FC-LGA4 in LGA775 socket	Tower <ul style="list-style-type: none"> • Business black color • 6.9"W X 17.0" D X 15.7"H • 175mm W X 432mm D X 400mm H • 22.0 lb (10.0 kg) • Handle on top front 
Implementation		
Memory - std/max ⁵	512MB std / 2GB max	
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945GZ GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector / 945GZ does not support dual independent display	Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, std or opt diskette or media reader Bay ④ 3.5", 1" high, no access, std disk
SATA disk	80 or 160GB / SATA300 7200 rpm / vibration dampening	Slot 1: half-length, full-height, 32-bit PCI 2.3
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in ICH7	Slot 2: half-length, full-height, 32-bit PCI 2.3
SATA cables	One SATA cable (one 1-drop to disk) / two SATA planar connectors	Slot 3: half-length, full-height, PCI Express x1
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM	
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo	
EIDE DVD±RW	<i>Some:</i> DVD and CD burner / double-layer / Multi-Burner Plus (part 73P3370)	
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)	
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one planar connector	
Diskette drive	None / use optional external USB-based diskette drive	
Media reader	<i>Some:</i> 9-in-1 media reader / occupies diskette drive bay / internal USB 2.0	
Chipset	Intel 945GZ Express Chipset / 82945GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O	
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (mono, 3.5mm)	
Audio	Integrated digital audio / AC '97 interface / AD1888 codec / SoundMAX® software	
Speaker	One internal speaker for business audio	
IEEE 1394	None	
Ethernet	10/100 ethernet on planar / Broadcom® 4401 / PCI 2.3 / Wake on LAN®	
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black	
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black	
Power supply	230 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs	
		SECURITY <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) - No keylock • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement
		ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage

Preload with Windows XP Home⁵ Microsoft® Windows® XP Home Edition Preload with Windows XP Professional⁵ Microsoft® Windows® XP Professional Preloaded (all; only some listed) <ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • Symantec® Client Security™ • Diskeeper Lite • PC-Doctor™ (diagnostics) • Multimedia Center for Think Offerings (Combo, DVD±RW) • Sonic RecordNow and Drive Letter Access (Combo, DVD±RW) • InterVideo WinDVD (combo, DVD±RW) License - CD not included (all) <ul style="list-style-type: none"> - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client (Notes client not supported on XP Home) 	Accessories <table border="0"> <tr><td>256MB PC2-4200 CL4 NP DDR2 UDIMM</td><td>73P4970</td></tr> <tr><td>512MB PC2-4200 CL4 NP DDR2 UDIMM</td><td>73P4971</td></tr> <tr><td>1GB PC2-4200 CL4 NP DDR2 UDIMM</td><td>73P4972</td></tr> <tr><td>2GB PC2-4200 CL4 NP DDR2 UDIMM</td><td>73P4973</td></tr> <tr><td>256MB PC2-5300 CL5 NP DDR2 UDIMM</td><td>73P4982</td></tr> <tr><td>512MB PC2-5300 CL5 NP DDR2 UDIMM</td><td>73P4983</td></tr> <tr><td>1GB PC2-5300 CL5 NP DDR2 UDIMM</td><td>73P4984</td></tr> <tr><td>250GB Serial ATA300 Disk (7200 rpm)</td><td>41N3015</td></tr> <tr><td>48X/32X/48X/16X Max¹¹ Combo drive (blk)</td><td>73P3300</td></tr> <tr><td>Super Multi-Burner DL DVD±RW Drive</td><td>41N5581</td></tr> <tr><td>USB Portable Diskette Drive</td><td>05K9276</td></tr> <tr><td>USB 2.0/Analog Headset by Sennheiser</td><td>40Y8518</td></tr> <tr><td>USB 2.0 Lenovo Webcam</td><td>40Y8519</td></tr> <tr><td>USB 2.0 Memory Key 1GB</td><td>40Y7421</td></tr> <tr><td>USB 2.0 CD-RW/DVD-ROM Combo II Drive</td><td>40Y8637</td></tr> <tr><td>USB 2.0 Super Multi-Burner Drive</td><td>40Y8638</td></tr> <tr><td>Lenovo L192 Wide 19" Monitor (black)</td><td>6920AB1</td></tr> <tr><td>ThinkVision® L201p 20.1" Monitor (black)</td><td>9220HB1</td></tr> <tr><td>Kensington® MicroSaver® Desktop Lock</td><td>06P3839</td></tr> <tr><td>Optical 3-button ScrollPoint Mouse (black)</td><td>31P7405</td></tr> <tr><td>Enh Perf Wireless Keyboard and Mouse</td><td>73P4067</td></tr> <tr><td>USB Keyboard with UltraNav™</td><td>31P8950</td></tr> </table> Other options at lenovo.com/options	256MB PC2-4200 CL4 NP DDR2 UDIMM	73P4970	512MB PC2-4200 CL4 NP DDR2 UDIMM	73P4971	1GB PC2-4200 CL4 NP DDR2 UDIMM	73P4972	2GB PC2-4200 CL4 NP DDR2 UDIMM	73P4973	256MB PC2-5300 CL5 NP DDR2 UDIMM	73P4982	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	250GB Serial ATA300 Disk (7200 rpm)	41N3015	48X/32X/48X/16X Max ¹¹ Combo drive (blk)	73P3300	Super Multi-Burner DL DVD±RW Drive	41N5581	USB Portable Diskette Drive	05K9276	USB 2.0/Analog Headset by Sennheiser	40Y8518	USB 2.0 Lenovo Webcam	40Y8519	USB 2.0 Memory Key 1GB	40Y7421	USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637	USB 2.0 Super Multi-Burner Drive	40Y8638	Lenovo L192 Wide 19" Monitor (black)	6920AB1	ThinkVision® L201p 20.1" Monitor (black)	9220HB1	Kensington® MicroSaver® Desktop Lock	06P3839	Optical 3-button ScrollPoint Mouse (black)	31P7405	Enh Perf Wireless Keyboard and Mouse	73P4067	USB Keyboard with UltraNav™	31P8950	LIMITED WARRANTY¹ <ul style="list-style-type: none"> ⇒ 1-year parts and labor ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) • 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) ⇒ Other ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ Post warranty maintenance services available ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹
256MB PC2-4200 CL4 NP DDR2 UDIMM	73P4970																																													
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See footnotes for important warranty information
US models announced August 1, 2006
US models withdrawn effective December 2006

ThinkCentre® A52 Tower (8296) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Hyper-Thread	Memory ⁶	Diskette Drive	SATA disk	EIDE optical	Graphics	FireWire adapter	Ext spkrs	Preload	Limited warranty ¹	Avail date
A52	8296-D3U	4x4	Pentium® 4 630	3.00	2MB	single	HT	512MB	None	80GB ²	CD	GMA 950	None	None	XP Pro	3-yr	Jan 06
A52	8296-D4U	4x4	Pentium 4 630	3.00	2MB	single	HT	512MB	None	80GB	Combo	GMA 950	None	None	XP Pro	3-yr	Jan 06
A52	8296-E6U	4x4	Pentium 4 640	3.20	2MB	single	HT	512MB	None	80GB	CD	GMA 950	None	None	XP Pro	3-yr	Jan 06
A52	8296-EAU	4x4	Pentium 4 640	3.20	2MB	single	HT	512MB	None	80GB	Combo	GMA 950	None	None	XP Pro	3-yr	Jan 06
A52	8296-F1U	4x4	Pentium 4 650	3.40	2MB	single	HT	512MB	None	80GB	Combo	GMA 950	None	None	XP Pro	3-yr	Jan 06
A52	8296-48U	4x4	Pentium 4 521	2.80	1MB	single	HT	512MB	None	80GB	Combo	GMA 950	None	None	XP Pro	3-yr	Jan 06
A52	8296-4AU	4x4	Pentium 4 521	2.80	1MB	single	HT	512MB	None	80GB	CD	GMA 950	None	None	XP Pro	3-yr	Jan 06

These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning	<i>Quality, reliability, and manageability</i>										Tower		
Processor	Intel® Pentium 4 Processor 521, 630, 640, 650 with single-core, EM64T, Hyper-Threading (HT) technology, EIST (6xx only), Execute Disable Bit, 800MHz system bus, and 1 or 2MB L2 cache										<ul style="list-style-type: none"> Business black color 7.0" W X 17.7" D X 17.0" H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 		
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket										<ul style="list-style-type: none"> Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", no access, std disk 		
Memory - std/max ⁹	512MB std / 4GB max										<ul style="list-style-type: none"> Slot 1: 3/4-length, full-height, PCI Express x16 (75w max) Slot 2: 3/4-length, full-height, PCI Express x1 Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: 3/4-length, full-height, 32-bit PCI 2.3 (5v) 		
Memory	Four 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable												
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector / supports dual independent display												
SATA disk	80GB / SATA300 7200 rpm / rubber vibration dampening mounts												
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in ICH7												
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar												
EIDE CD	Some: 48X-20X ⁴ CD-ROM												
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo												
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)												
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / 1 planar connector												
Diskette drive	None / use optional external USB-based diskette drive												
Chipset	Intel 945G Express Chipset / 82945G Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O										SECURITY <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® Microsaver® cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement 		
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)												
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)												
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)												
Audio	Integrated digital audio / AC '97 interface / AD1888 codec / SoundMAX® software												
External speakers	None												
Speaker	One internal speaker for business audio												
IEEE 1394	None												
Ethernet	Gigabit ethernet on planar / Broadcom BCM5789 / PCIe x1 / Wake on LAN®												
Modem	None												
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black												
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black												
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs												

Preload with Windows XP Professional⁵	Accessories	
Microsoft® Windows® XP Professional	256MB PC2-4200 CL4 NP DDR2 UDIMM	73P4970
- Disk-to-Disk Recovery	512MB PC2-4200 CL4 NP DDR2 UDIMM	73P4971
Preloaded	1GB PC2-4200 CL4 NP DDR2 UDIMM	73P4972
• Rescue and Recovery™	2GB PC2-4200 CL4 NP DDR2 UDIMM	73P4973
• Access Connections™	256MB PC2-5300 CL5 NP DDR2 UDIMM	73P4982
• Client Security Solution™	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983
• ThinkVantage Productivity Center	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984
• ThinkVantage System Update	250GB Serial ATA300 Disk (7200 rpm)	41N3015
• Symantec® Client Security™	48X/32X/48X/16X Max ¹¹ Combo drive (blk)	73P3300
• Diskeeper Lite	Super Multi-Burner DL DVD±RW Drive	41N5581
• PC-Doctor™ (diagnostics)	USB Portable Diskette Drive	05K9276
• Adobe® Reader	USB Fingerprint Reader	41U3167
• Multimedia Center for Think Offerings (combo models)	USB 2.0/Analog Headset by Sennheiser	40Y8518
• Sonic RecordNow and Drive LetterAccess (combo models)	USB 2.0 Memory Key 1GB	40Y7421
• InterVideo WinDVD (combo models)	USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637
Downloadable	USB 2.0 Super Multi-Burner Drive	40Y8638
• Software Delivery Assistant	Lenovo L192 Wide 19" Monitor (black)	6920AB1
• System Migration Assistant	ThinkVision® L192p 19" Monitor (black)	9419HC2
• IBM Director Agent (not XP Home)	ThinkVision L201p 20.1" Monitor (black)	9220HB1
License - CD not included	Kensington® MicroSaver® Desktop Lock	06P3839
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	Enhanced Performance USB Keyboard	73P2620
	Preferred Pro USB Fingerprint Keyboard	73P4730
	USB Keyboard with UltraNav™	31P8950
	DVI-I PCIe Connection Adapter (ADD2)	73P2516
	NVIDIA® GeForce 6200 64MB Dual Head	73P2517
	ATI® RADEON® X300 SE 128MB Dual Head	41U4813
	ATI RADEON X700 128MB Dual Head	73P2518
	ATI X1600 Pro 256MB VGA/DVI-I/TV-out	41A4073
	Other options at lenovo.com/options	
ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage		
LIMITED WARRANTY¹		
<ul style="list-style-type: none"> 3 year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) Post-warranty maintenance services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 		

See footnotes for important warranty information
US models announced January 10 or February 21, 2006
US models withdrawn effective December 2006

ThinkCentre® A52 Tower (8329) - withdrawn

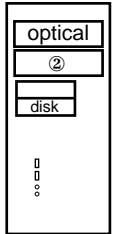
Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Hyper-Core	Thread	Memory [®]	Diskette Drive	SATA disk	EIDE optical	EIDE Graphics	Mo-dem	Int or ext speaker	Preload	Limited warranty ¹	Avail date
A52	8329-46U	3x4	Pentium®4 521	2.80	1MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Mar 06
A52	8329-49U	3x4	Pentium 4 524	3.06	1MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Aug 06
A52	8329-64U	3x4	Pentium 4 541	3.20	1MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Aug 06
A52	8329-D1U	3x4	Pentium 4 630	3.00	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Mar 06
A52	8329-E1U	3x4	Pentium 4 640	3.20	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Mar 06
A52	8329-F1U	3x4	Pentium 4 650	3.40	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Mar 06
A52	8329-H1U	3x4	Pentium 4 661	3.60	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Mar 06
A52	8329-G1U	3x4	Pentium D 820	2.80	2x1MB	Dual		512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	May 06
A52	8329-82U	3x4	Pentium D 920	2.80	2x2MB	Dual		512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Mar 06
A52	8329-92U	3x4	Pentium D 930	3.00	2x2MB	Dual		512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Mar 06
A52	8329-J3U	3x4	Pentium D 945	3.40	2x2MB	Dual		512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Aug 06

Positioning **Mainstream enterprise stability and manageability**
 Processor **Intel® Pentium 4 Processor 521, 524, 541, 630, 640, 650 or 661** with single-core, EM64T, Hyper-Threading (HT) technology, EIST (6xx only), Execute Disable Bit, 533MHz (524 only) or 800MHz system bus, and 1MB (5xx) or 2MB (6xx) L2 cache or **Intel Pentium D Processor 820, 920, 930, or 945** with dual-core, EM64T, EIST (9xx only), Execute Disable Bit, 800MHz system bus, and **2x1MB (8xx) or 2x2MB (9xx) L2 cache**
 Implementation Processor and L2 cache in FC-LGA4/LGA6 in LGA775 socket

Tower

- Business black color
- 6.9"W X 17.0" D X 15.7"H
- 175mm W X 432mm D X 400mm H
- 22.0 lb (10.0 kg)
- Handle on top front



Memory - std/max[®] **512MB std / 2GB max**
 Memory Two 240-pin DIMM sockets / one socket used / **PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable**

Bay ① 5.25", 1.6" high, access, std optical
 Bay ② 5.25", 1.6" high, access, open
 Bay ③ 3.5", 1" high, access, opt diskette
 Bay ④ 3.5", 1" high, no access, std disk

Slot 1: half-length, full-height, 32-bit PCI 2.3
 Slot 2: half-length, full-height, 32-bit PCI 2.3
 Slot 3: half-length, full-height, PCI Express x1

Graphics **Intel Graphics Media Accelerator 950 (GMA 950)** / integrated graphics in 945GZ GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector / 945GZ does not support dual independent display

SATA disk **80GB / SATA300 7200 rpm / vibration dampening**
 SATA controller Serial ATA / 300MB/sec SATA300 / integrated in ICH7
 SATA cables One SATA cable (one 1-drop to disk) / two SATA planar connectors
 EIDE CD 48X-20X⁴ CD-ROM
 EIDE controller Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)
 EIDE cables One 2-drop EIDE 80-conductor cable to optical / one planar connector
 Diskette drive None / use optional external USB-based diskette drive

SECURITY

- One lock to secure both cover and entire system to fixed object:
 - Padlock loop (in rear for opt padlock)
 - Security slot (in rear for optional Kensington® Microsaver® cable)
 - No keylock
- Power-on password
- Administrator password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable
- Disk, removable, and network device boot password
- Diskette write protect
- Front USB port disablement

Chipset **Intel 945GZ Express Chipset / 82945GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O**

Front ports Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)
 Rear ports Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)
 Rear audio ports Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (mono, 3.5mm)
 Audio Integrated digital audio / AC '97 interface / AD1888 codec / SoundMAX® software
 Speaker One internal speaker for business audio
 IEEE 1394 None
 Ethernet 10/100 ethernet on planar / Broadcom® 4401 / PCI 2.3 / Wake on LAN®

Keyboard 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black
 Mouse Optical Wheel Mouse (USB only), 400 dpi, black
 Power supply 230 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs

Preload with Windows XP Professional ⁵	Accessories	
Microsoft® Windows® XP Professional	256MB PC2-4200 CL4 NP DDR2 UDIMM	73P4970
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-4200 CL4 NP DDR2 UDIMM	73P4971
Preloaded	1GB PC2-4200 CL4 NP DDR2 UDIMM	73P4972
• Rescue and Recovery™	2GB PC2-4200 CL4 NP DDR2 UDIMM	73P4973
• Client Security Solution™	256MB PC2-5300 CL5 NP DDR2 UDIMM	73P4982
• ThinkVantage Productivity Center with Away Manager	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983
• ThinkVantage System Update	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984
• Symantec® Client Security™	160GB Serial ATA300 Disk (7200 rpm)	09N4254
• Diskkeeper Lite	250GB Serial ATA300 Disk (7200 rpm)	41N3015
• PC-Doctor™ (diagnostics)	Super Multi-Burner DL DVD±RW Drive	41N5581
• Adobe® Reader	USB Portable Diskette Drive	05K9276
• Google Toolbar	USB Fingerprint Reader	41U3167
• Google Desktop	USB 2.0/Analog Headset by Sennheiser	40Y8518
• Picasa from Google	USB 2.0 Memory Key 1GB	40Y7421
License - CD not included	USB 2.0 Super Multi-Burner Drive	40Y8638
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	USB 2.0 Portable 80GB Hard Disk	40Y8726
	Lenovo L192 Wide 19" Monitor (black)	6920AB1
	ThinkVision® L171p 17" Monitor (black)	9417HC2
	ThinkVision L192p 19" Monitor (black)	9419HC2
	ThinkVision L201p 20.1" Monitor (black)	9220HB1
	Kensington® MicroSaver® Desktop Lock	06P3839
	Optical 3-button ScrollPoint Mouse (black)	31P7405
	Enh Perf Wireless Keyboard and Mouse	73P4067
	USB Keyboard with UltraNav™	31P8950
	Other options at lenovo.com/options	

ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage

LIMITED WARRANTY¹

- ⇒ **1-year parts and labor**
- ⇒ **Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)**
- ⇒ **Onsite service upgrade options (in eligible locations):⁷**
 - **1-year LOR 9x5, 4 hour response** (ThinkPlus™ part number 41C9189)
 - **2-year LOR 9x5, 4 hour response** (ThinkPlus part number 41C9190)
 - **2-year LOR 9x5, Next Business Day** (ThinkPlus part number 41C9187)
 - **3-year LOR 9x5, 4 hour response** (ThinkPlus part number 41C9191)
 - **3-year LOR 9x5, Next Business Day** (ThinkPlus part number 41C9188)
- ⇒ **ThinkPlus services at lenovo.com/thinkplus/warranty**
- ⇒ **24x7¹⁴ toll-free support for warranty issues during the warranty period¹**

See footnotes for important warranty information
 US models announced February 21, May 30, or August 1, 2006
 US models withdrawn effective December 2006

ThinkCentre® A52 Tower (8340) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Hyper-Core	Thread	Memory ⁵	Diskette Drive	SATA disk	EIDE optical	Graphics	Mo-dem	Int or ext speaker	Preload	Limited warranty ¹	Avail date
A52	8340-41U	4x4	Pentium® 4 521	2.80	1MB	Single	HT	512MB	None	80GB ²	CD	GMA 950	None	Internal	XP Pro	1-yr	Feb 06
A52	8340-43U	4x4	Pentium 4 524	3.06	1MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Aug 06
A52	8340-65U	4x4	Pentium 4 541	3.20	1MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Aug 06
A52	8340-D1U	4x4	Pentium 4 630	3.00	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Jan 06
A52	8340-D2U	4x4	Pentium 4 630	3.00	2MB	Single	HT	512MB	None	160GB	DVD±RW ⁶	X300 SE	Modem	Ext spks	XP Pro	1-yr	Feb 06
A52	8340-E1U	4x4	Pentium 4 640	3.20	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Jan 06
A52	8340-E3U	4x4	Pentium 4 640	3.20	2MB	Single	HT	512MB	None	250GB	DVD±RW	X300 SE	Modem	Ext spks	XP Pro	1-yr	Feb 06
A52	8340-F1U	4x4	Pentium 4 650	3.40	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Jan 06
A52	8340-G1U	4x4	Pentium D 820	2.80	2x1MB	Dual		512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	May 06
A52	8340-H3U	4x4	Pentium D 945	3.40	2x2MB	Dual		512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	1-yr	Aug 06

Positioning Processor	<i>Mainstream enterprise stability and manageability</i> Intel® Pentium 4 Processor 521, 524, 541, 630, 640, or 650 with single-core, EM64T, Hyper-Threading (HT) technology, EIST (6xx only), Execute Disable Bit, 533MHz (524 only) or 800MHz system bus, and 1MB or 2MB L2 cache or Intel Pentium D Processor 820 or 945 with dual-core , EM64T, EIST (9xx only) Execute Disable Bit, 800MHz system bus, and 2x1MB (8xx) or 2x2MB (9xx) L2 cache	Tower <ul style="list-style-type: none"> Business black color 7.0" W X 17.7"D X 17.0"H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 	
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket		
Memory - std/max ⁵	512MB std / 4GB max		
Memory	Four 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable		
Graphics (one of following)	<ul style="list-style-type: none"> Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G / 400MHz / supports dual independent display ATI® RADEON® X300 SE / PCI Express x16 adapter / 128MB 400MHz DDR1 / 400MHz RAMDAC / two 15-pin analog D-sub connectors / dual head support 	<ul style="list-style-type: none"> Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6" access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", no access, std disk 	
SATA disk	80, 160, or 250GB / SATA300 7200 rpm / vibration dampening		
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in ICH7		
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar		
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM		
EIDE DVD±RW	<i>Some:</i> DVD and CD burner / double-layer / Multi-Burner Plus (part 73P3370)		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)		
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / 1 planar connector		
Diskette drive	None / use optional external USB-based diskette drive		
Chipset	Intel 945G Express Chipset / 82945G Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O		
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	Integrated digital audio / AC '97 interface / AD1888 codec / SoundMAX® software		
External speakers	<i>Some:</i> [Ext spks] 2-piece speakers, 6 watts (3 watts each), black, Infinity logo		
Speaker	<i>Some:</i> [Internal] one internal speaker for business audio		
IEEE 1394	None		
Ethernet	Gigabit ethernet on planar / Broadcom BCM5789 / PCIe x1 / Wake on LAN®		
Modem	<i>Some:</i> 56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter		
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black		
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		
Preload with Windows XP Professional⁵	Microsoft® Windows® XP Professional		
	- Disk-to-Disk Recovery (in hidden protected area)		
Preloaded	<ul style="list-style-type: none"> Rescue and Recovery™ Client Security Solution™ ThinkVantage Productivity Center with Away Manager ThinkVantage System Update Symantec® Client Security™ Diskeeper Lite PC-Doctor™ (diagnostics) Multimedia Center for Think Offerings (DVD±RW) Sonic RecordNow and Drive LetterAccess (DVD±RW) InterVideo WinDVD (DVD±RW) InterVideo WinDVD Creator (DVD±RW) 	<ul style="list-style-type: none"> 256MB PC2-4200 CL4 NP DDR2 UDIMM 73P4970 512MB PC2-4200 CL4 NP DDR2 UDIMM 73P4971 1GB PC2-4200 CL4 NP DDR2 UDIMM 73P4972 2GB PC2-4200 CL4 NP DDR2 UDIMM 73P4973 256MB PC2-5300 CL5 NP DDR2 UDIMM 73P4982 512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 250GB Serial ATA300 Disk (7200 rpm) 41N3015 48X/32X/48X/16X Max¹¹ Combo drive (blk) 73P3300 Super Multi-Burner DL DVD±RW Drive 41N5581 USB Portable Diskette Drive 05K9276 USB Fingerprint Reader 41U3167 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 USB 2.0 Super Multi-Burner Drive 40Y8638 Lenovo L192 Wide 19" Monitor (black) 6920AB1 ThinkVision® L192p 19" Monitor (black) 9419HC2 ThinkVision L201p 20.1" Monitor (black) 9220HB1 DVI-I PCIe Connection Adapter (ADD2) 73P2516 NVIDIA® GeForce 6200 64MB Dual Head 73P2517 ATI® RADEON® X700 128MB Dual Head 73P2518 ATI X1600 Pro 256MB VGA/DVI-I/TV-out 41A4073 	
License - CD not included	- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client		
	Other options at lenovo.com/options		
		SECURITY <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® Microsaver® cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement 	
		ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage	
		LIMITED WARRANTY¹ <ul style="list-style-type: none"> 1 year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) Other ThinkPlus services at lenovo.com/thinkplus/warranty Post-warranty maintenance services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 	

See footnotes for important warranty information
US models announced January 10, February 21, May 30, or August 1, 2006
US models withdrawn effective December 2006

ThinkCentre® A52 Tower (8380) - withdrawn

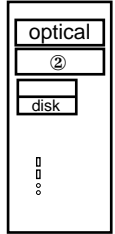
Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Hyper-Thread	Memory ⁸	Diskette Drive	SATA disk	EIDE optical	Graphics	Mo-dem	Int or ext speaker	Pre-load	Limited warranty ¹	Avail date
A52	8380-44U	3x4	Pentium®4 521	2.80	1MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Mar 06
A52	8380-4AU	3x4	Pentium 4 524	3.06	1MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Aug 06
A52	8380-J4U	3x4	Pentium 4 541	3.20	1MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Aug 06
A52	8380-D1U	3x4	Pentium 4 630	3.00	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Mar 06
A52	8380-E4U	3x4	Pentium 4 640	3.20	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Mar 06
A52	8380-F1U	3x4	Pentium 4 650	3.40	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Mar 06
A52	8380-H2U	3x4	Pentium 4 661	3.60	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Mar 06
A52	8380-G5U	3x4	Pentium D 820	2.80	2x1MB	Dual		512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	May 06
A52	8380-85U	3x4	Pentium D 920	2.80	2x2MB	Dual		512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Mar 06
A52	8380-91U	3x4	Pentium D 930	3.00	2x2MB	Dual		512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Mar 06
A52	8380-97U	3x4	Pentium D 945	3.40	2x2MB	Dual		512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Aug 06

Positioning **Mainstream enterprise stability and manageability**
 Processor **Intel® Pentium 4 Processor 521, 524, 541, 630, 640, 650 or 661** with single-core, EM64T, Hyper-Threading (HT) technology, EIST (6xx only), Execute Disable Bit, 533MHz (524 only) or 800MHz system bus, and 1MB (5xx) or 2MB (6xx) L2 cache or **Intel Pentium D Processor 820, 920, 930 or 945** with **dual-core**, EM64T, EIST (9xx only), Execute Disable Bit, 800MHz system bus, and **2x1MB (8xx) or 2x2MB (9xx) L2 cache**
 Implementation Processor and L2 cache in FC-LGA4/LGA6 in LGA775 socket

Tower

- Business black color
- 6.9"W X 17.0" D X 15.7"H
- 175mm W X 432mm D X 400mm H
- 22.0 lb (10.0 kg)
- Handle on top front



Memory - std/max⁹ **512MB std / 2GB max**
 Memory Two 240-pin DIMM sockets / one socket used / **PC2-4200 533MHz DDR2** / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable

Bay ① 5.25", 1.6" high, access, std optical
 Bay ② 5.25", 1.6" high, access, open
 Bay ③ 3.5", 1" high, access, opt diskette
 Bay ④ 3.5", 1" high, no access, std disk

Slot 1: half-length, full-height, 32-bit PCI 2.3
 Slot 2: half-length, full-height, 32-bit PCI 2.3
 Slot 3: half-length, full-height, PCI Express x1

Graphics **Intel Graphics Media Accelerator 950 (GMA 950)** / integrated graphics in 945GZ GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector / 945GZ does not support dual independent display

SATA disk **80GB** / SATA300 7200 rpm / vibration dampening
 SATA controller Serial ATA / 300MB/sec SATA300 / integrated in ICH7
 SATA cables One SATA cable (one 1-drop to disk) / two SATA planar connectors
 EIDE CD 48X-20X⁴ CD-ROM
 EIDE controller Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)
 EIDE cables One 2-drop EIDE 80-conductor cable to optical / one planar connector
 Diskette drive None / use optional external USB-based diskette drive

SECURITY

- One lock to secure both cover and entire system to fixed object:
 - Padlock loop (in rear for opt padlock)
 - Security slot (in rear for optional Kensington® Microsaver® cable)
 - No keylock
- Power-on password
- Administrator password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable
- Disk, removable, and network device boot password
- Diskette write protect
- Front USB port disablement

Chipset **Intel 945GZ Express Chipset** / 82945GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O

Front ports Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)
 Rear ports Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)

Rear audio ports Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (mono, 3.5mm)
 Audio Integrated digital audio / AC '97 interface / AD1888 codec / SoundMAX® software
 Speaker One internal speaker for business audio
 IEEE 1394 None
 Ethernet 10/100 ethernet on planar / Broadcom® 4401 / PCI 2.3 / Wake on LAN®

Keyboard 104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black
 Mouse Optical Wheel Mouse (USB only), 400 dpi, black
 Power supply 230 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs

ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage

Preload with Windows XP Professional ⁵	Accessories	
Microsoft® Windows® XP Professional	256MB PC2-4200 CL4 NP DDR2 UDIMM	73P4970
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-4200 CL4 NP DDR2 UDIMM	73P4971
Preloaded	1GB PC2-4200 CL4 NP DDR2 UDIMM	73P4972
• Rescue and Recovery™	2GB PC2-4200 CL4 NP DDR2 UDIMM	73P4973
• Client Security Solution™	256MB PC2-5300 CL5 NP DDR2 UDIMM	73P4982
• ThinkVantage Productivity Center with Away Manager	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983
• ThinkVantage System Update	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984
• Symantec® Client Security™	160GB Serial ATA300 Disk (7200 rpm)	09N4254
• Diskeeper Lite	250GB Serial ATA300 Disk (7200 rpm)	41N3015
• PC-Doctor™ (diagnostics)	Super Multi-Burner DL DVD±RW Drive	41N5581
• Adobe® Reader	USB Fingerprint Reader	41U3167
• Google Toolbar	USB 2.0/Analog Headset by Sennheiser	40Y8518
• Google Desktop	USB 2.0 Lenovo Webcam	40Y8519
• Picasa from Google	USB 2.0 Memory Key 1GB	40Y7421
License - CD not included	USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	USB 2.0 Portable 80GB Hard Disk	40Y8726
	Lenovo L192 Wide 19" Monitor (black)	6920AB1
	ThinkVision® L192p 19" Monitor (black)	9419HC2
	ThinkVision L201p 20.1" Monitor (black)	9220HB1
	Optical 3-button ScrollPoint Mouse (black)	31P7405
	Enhanced Performance USB Keyboard	73P2620
	USB Keyboard with UltraNav™	31P8950
	Other options at lenovo.com/options	

LIMITED WARRANTY¹

- ↪ **3-year parts and labor**
- ↪ **Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)**
- ↪ **Onsite service upgrade options (in eligible locations):⁷**
 - **3-year LOR 9x5, 4 hour response** (ThinkPlus™ part number 41C9192)
 - **3-year LOR 24x7, 4 hour response** (ThinkPlus part number 41C9193)
 - **4-year LOR 9x5, Next Business Day** (ThinkPlus part number 41C9194)
 - **4-year LOR 9x5, 4 hour response** (ThinkPlus part number 41C9195)
 - **4-year LOR 24x7, 4 hour response** (ThinkPlus part number 41C9196)
- ↪ **ThinkPlus services at lenovo.com/thinkplus/warranty**
- ↪ **24x7¹⁴ toll-free support for warranty issues during the warranty period¹**

See footnotes for important warranty information
 US models announced February 21, May 30, or August 1, 2006
 US models withdrawn effective December 2006

ThinkCentre® A52 Tower (8381) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Hyper-Core	Thread	Memory ⁶	Diskette Drive	SATA disk	EIDE optical	Graphics	FireWire adapter	Ext speakers	Preload	Limited warranty ¹	Avail date
A52	8381-45U	4x4	Pentium® 4 521	2.80	1MB	Single	HT	512MB	None	80GB ²	CD	GMA 950	None	None	XP Pro	3-yr	Feb 06
A52	8381-44U	4x4	Pentium 4 524	3.06	1MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	None	XP Pro	3-yr	Aug 06
A52	8381-57U	4x4	Pentium 4 541	3.20	1MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	None	XP Pro	3-yr	Aug 06
A52	8381-D1U	4x4	Pentium 4 630	3.00	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	None	XP Pro	3-yr	Jan 06
A52	8381-E1U	4x4	Pentium 4 640	3.20	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	None	XP Pro	3-yr	Jan 06
A52	8381-F1U	4x4	Pentium 4 650	3.40	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	None	XP Pro	3-yr	Jan 06
A52	8381-H2U	4x4	Pentium 4 661	3.60	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	None	XP Pro	3-yr	Feb 06
A52	8381-G5U	4x4	Pentium D 820	2.80	2x1MB	Dual		512MB	None	80GB	CD	GMA 950	None	None	XP Pro	3-yr	May 06
A52	8381-85U	4x4	Pentium D 920	2.80	2x2MB	Dual		512MB	None	80GB	CD	GMA 950	None	None	XP Pro	3-yr	Feb 06
A52	8381-91U	4x4	Pentium D 930	3.00	2x2MB	Dual		512MB	None	80GB	CD	GMA 950	None	None	XP Pro	3-yr	Feb 06
A52	8381-34U	4x4	Pentium D 945	3.40	2x2MB	Dual		512MB	None	80GB	CD	GMA 950	None	None	XP Pro	3-yr	Aug 06

Processor	Intel® Pentium 4 Processor 521, 524, 541, 630, 640, 650, or 661 with single-core, EM64T, Hyper-Threading (HT) technology, EIST (6xx only), Execute Disable Bit, 533MHz (524 only) or 800MHz bus, and 1MB or 2MB L2 cache or Intel Pentium D Processor 820, 920, 930, or 945 with dual-core, EM64T, Execute Disable Bit, 800MHz system bus, and 2x1MB L2 cache (8xx) or 2x2MB L2 cache (9xx) Processor in FC-LGA4 or FC-LGA6 in LGA775 socket	Tower	<ul style="list-style-type: none"> Business black color 7.0" W X 17.7"D X 17.0"H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapter cards 	
Implementation				
Memory - std/max ⁸	512MB std / 4GB max			
Memory	Four 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable			
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945G GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector / supports dual independent display	Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", no access, std disk		
SATA disk	80GB / SATA300 7200 rpm / rubber vibration dampening mounts	Slot 1: 3/4-length, full-height, PCI Express x16 (75w max)		
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in ICH7	Slot 2: 3/4-length, full-height, PCI Express x1		
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar	Slot 3: 3/4-length, full-height, 32-bit PCI 2.3 (5v)		
EIDE CD	48X-20X ⁴ CD-ROM	Slot 4: 3/4-length, full-height, 32-bit PCI 2.3 (5v)		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)			
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / 1 planar connector			
Diskette drive	None / use optional external USB-based diskette drive			
Chipset	Intel 945G Express Chipset / 82945G Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O			
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)			
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)			
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)			
Audio	Integrated digital audio / AC '97 interface / AD1888 codec / SoundMAX® software			
External speakers	None			
Speaker	One internal speaker for business audio			
IEEE 1394	None			
Ethernet	Gigabit ethernet on planar / Broadcom BCM5789 / PCIe x1/ Wake on LAN®			
Modem	None			
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black			
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black			
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs			
Preload with Windows XP Professional ⁵	Microsoft® Windows® XP Professional			
	- Disk-to-Disk Recovery (in hidden protected area)			
Preloaded	<ul style="list-style-type: none"> Rescue and Recovery™ Client Security Solution™ ThinkVantage Productivity Center with Away Manager ThinkVantage System Update Symantec® Client Security™ Diskeeper Lite PC-Doctor™ (diagnostics) Adobe® Reader Google Toolbar Google Desktop Picasa from Google 			
License	- CD not included - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client			
Accessories	256MB PC2-4200 CL4 NP DDR2 UDIMM 73P4970 512MB PC2-4200 CL4 NP DDR2 UDIMM 73P4971 1GB PC2-4200 CL4 NP DDR2 UDIMM 73P4972 2GB PC2-4200 CL4 NP DDR2 UDIMM 73P4973 256MB PC2-5300 CL5 NP DDR2 UDIMM 73P4982 512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 250GB Serial ATA300 Disk (7200 rpm) 41N3015 48X/32X/48X/16X Max ¹¹ Combo drive (blk) 73P3300 Super Multi-Burner DL DVD±RW Drive 41N5581 USB Fingerprint Reader 41U3167 USB 2.0/Analog Headset by Sennheiser 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 USB 2.0 Super Multi-Burner Drive 40Y8638 Lenovo L192 Wide 19" Monitor (black) 6920AB1 ThinkVision® L201p 20.1" Monitor (black) 9220HB1 Kensington® MicroSaver® Desktop Lock 06P3839 Enh Perf Wireless Keyboard and Mouse 73P4067 DVI-I PCIe Connection Adapter (ADD2) 73P2516 NVIDIA® GeForce 6200 64MB Dual Head 73P2517 ATI® RADEON® X300 SE 128MB Dual Head 41U4813 ATI X1600 Pro 256MB VGA/DVI-I/TV-out 41A4073 Other options at lenovo.com/options			
			SECURITY <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® MicroSaver® cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement 	
			ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage	
			LIMITED WARRANTY¹ <ul style="list-style-type: none"> 3 year parts and labor Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) Other ThinkPlus services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 	

See footnotes for important warranty information
US models announced January 10, February 21, May 30, or August 1, 2006
US models withdrawn effective December 2006

ThinkCentre® A52 Small (8289) - TopSeller (August 2006) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Bus MHz	Memory ⁶	Diskette Drive	SATA disk	EIDE optical	Graphics	Int or ext speaker	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
A52	8289-57U	2x3	Pentium® 4 524	3.06	1MB	533	512MB	None	80GB	Combo	GMA 950	Internal	XP Pro	1-yr	Educ	Aug 06
A52	8289-58U	2x3	Pentium 4 524	3.06	1MB	533	512MB	None	80GB	CD	GMA 950	Internal	XP Pro	1-yr		Aug 06
A52	8289-59U	2x3	Pentium 4 524	3.06	1MB	533	512MB	None	80GB	Combo	GMA 950	Internal	XP Pro	1-yr		Aug 06
A52	8289-5CU	2x3	Pentium 4 541	3.20	1MB	800	512MB	None	80GB	CD	GMA 950	Internal	XP Pro	1-yr		Aug 06
A52	8289-5EU	2x3	Pentium 4 541	3.20	1MB	800	512MB	None	80GB	Combo	GMA 950	Internal	XP Pro	1-yr		Aug 06

These small and medium business (SMB) models are part of the US TopSeller™ Program

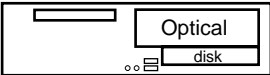
Positioning Processor	<i>Mainstream enterprise stability and manageability</i> Intel® Pentium 4 Processor 524 or 541 with single-core, EM64T, Hyper-Threading technology, Execute Disable Bit, and 533MHz or 800MHz system bus										Small			
L2 cache Implementation	1MB std and max / ECC / full speed Processor and L2 cache in FC-LGA4 in LGA775 socket										Bay ① 3.5", slim .5", access, no std or opt diskette		Bay ② 5.25", HH 1.6", access, std optical	
Memory - std/max ⁶ Memory	512MB std / 2GB max Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable										Bay ③ 3.5", SL 1", no access, std disk		Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3	
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945GZ GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector / 945GZ does not support dual independent display										Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports optional DVI-I PCIe adptr only for digital video out [not dual independent display])		<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1"D X 3.3"H (3.4"H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Steel chassis supports 100 lb (45kg) monitor on top • No std floor stand (but supports vertical orientation) 	
SATA disk	80GB / SATA300 7200 rpm / vibration dampening mounts										SECURITY <ul style="list-style-type: none"> • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement 		ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage	
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in ICH7													
SATA cables	One SATA cable (one 1-drop to disk) / two SATA planar connectors													
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM													
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo													
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)													
EIDE cables	One 1-drop EIDE 80-conductor cable to optical / one connector										LIMITED WARRANTY¹ <ul style="list-style-type: none"> ↔ 1-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) • 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) ↔ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↔ Post-warranty maintenance services at lenovo.com/thinkplus/warranty ↔ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 			
Diskette drive	None / use optional external USB-based diskette drive													
Chipset	Intel 945GZ Express Chipset / 82945GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O													
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)													
Rear ports	Four USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)													
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)													
Audio	Integrated digital audio / AC '97 interface / AD1888 codec / SoundMAX® software													
Speaker	One internal speaker for business audio													
Ethernet	Gigabit ethernet on planar / Broadcom BCM5789 / PCIe x1 / Wake on LAN®													
Modem	None													
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black													
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black													
Power supply	225 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs													
Preload with Windows XP Professional⁵	Accessories										Microsoft® Windows® XP Professional 256MB PC2-4200 CL4 NP DDR2 UDIMM 73P4970 512MB PC2-4200 CL4 NP DDR2 UDIMM 73P4971 1GB PC2-4200 CL4 NP DDR2 UDIMM 73P4972 2GB PC2-4200 CL4 NP DDR2 UDIMM 73P4973 256MB PC2-5300 CL5 NP DDR2 UDIMM 73P4982 512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 160GB Serial ATA300 Disk (7200 rpm) 09N4254 250GB Serial ATA300 Disk (7200 rpm) 41N3015 Super Multi-Burner DL DVD±RW Drive 41N5581 USB Portable Diskette Drive 05K9276 USB Fingerprint Reader 41U3167 USB 2.0/Analog Headset by Sennheiser 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 Super Multi-Burner Drive 40Y8638 USB 2.0 Portable 80GB Hard Disk 40Y8726 Lenovo L192 Wide 19" Monitor (black) 6920AB1 ThinkVision® L151 15" Monitor (black) 9205AB6 ThinkVision L171p 17" Monitor (black) 9417HC2 ThinkVision L192p 19" Monitor (black) 9419HC2 ThinkVision L201p 20.1" Monitor (black) 9220HB1 Kensington® MicroSaver® Desktop Lock 06P3839 ScrollPoint Pro Optical Mouse (black) 31P8700 Optical 3-button ScrollPoint Mouse (black) 31P7405 Enhanced Performance USB Keyboard 73P2620 Preferred Pro USB Fingerprint Keyboard 73P4730 USB Keyboard with UltraNav™ 31P8950 DVI-I PCIe Connection Adapter (ADD2) 73P2516 Other options at lenovo.com/options			
Preloaded (only some listed)														
• Education model: VitalSource Library education software														
• Education model: Adobe® Photoshop® Elements plus Adobe Premiere® Elements														
• Rescue and Recovery™														
• Rescue and Recovery™														
• Client Security Solution™														
• ThinkVantage Productivity Center														
• ThinkVantage System Update														
• ThinkVantage Fingerprint Software (fingerprint models)														
• Symantec® Client Security™														
• Diskeeper Lite														
• PC-Doctor™ (diagnostics)														
• Google Toolbar														
• Google Desktop														
• Picasa from Google														
• Multimedia Center for Think Offerings (CD-RW, combo)														
• Sonic RecordNow and Drive Letter Access (CD-RW, combo)														
• InterVideo WinDVD (combo, DVD)														
CD														
• Education model: Adobe Photoshop Elements plus Adobe Premiere Elements														
License - CD not included (all)														
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client														

See footnotes for important warranty information
US models announced August 1, 2006
US models withdrawn effective December 2006

ThinkCentre® A52 Small (8341) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Memory ^o	Diskette Drive	SATA disk	EIDE optical	Graphics	Modem adapter	Int or ext speaker	Preload	Limited warranty ¹	Avail date
A52	8341-45U	2x3	Pentium® 4 521	2.80	1MB	Single	512MB	None	80GB ²	CD	GMA 950	Internal	XP Pro	1-yr	Mar 06	
A52	8341-46U	2x3	Pentium 4 521	2.80	1MB	Single	512MB	None	80GB	Combo	GMA 950	Modem	Ext spks	XP Home	1-yr	Mar 06
A52	8341-48U	2x3	Pentium 4 524	3.06	1MB	Single	512MB	None	80GB	CD	GMA 950	Internal	XP Pro	1-yr	Aug 06	
A52	8341-49U	2x3	Pentium 4 524	3.06	1MB	Single	512MB	None	80GB	Combo	GMA 950	Modem	Internal	XP Pro	1-yr	Aug 06
A52	8341-54U	2x3	Pentium 4 541	3.20	1MB	Single	512MB	None	80GB	CD	GMA 950	Internal	XP Pro	1-yr	Aug 06	
A52	8341-55U	2x3	Pentium 4 541	3.20	1MB	Single	512MB	None	80GB	Combo	GMA 950	Modem	Internal	XP Pro	1-yr	Aug 06
A52	8341-D3U	2x3	Pentium 4 630	3.00	2MB	Single	512MB	None	80GB	CD	GMA 950	Internal	XP Pro	1-yr	Mar 06	
A52	8341-D4U	2x3	Pentium 4 630	3.00	2MB	Single	512MB	None	80GB	Combo	GMA 950	Modem	Ext spks	XP Home	1-yr	Mar 06
A52	8341-D5U	2x3	Pentium 4 630	3.00	2MB	Single	512MB	None	160GB	DVD±RW ^o	GMA 950	Modem	Internal	XP Pro	1-yr	Mar 06
A52	8341-E4U	2x3	Pentium 4 640	3.20	2MB	Single	512MB	None	80GB	CD	GMA 950	Internal	XP Pro	1-yr	Mar 06	
A52	8341-F3U	2x3	Pentium 4 650	3.40	2MB	Single	512MB	None	80GB	CD	GMA 950	Internal	XP Pro	1-yr	Mar 06	
A52	8341-G1U	2x3	Pentium D 820	2.80	2x1MB	Dual	512MB	None	80GB	CD	GMA 950	Internal	XP Pro	1-yr	May 06	
A52	8341-G2U	2x3	Pentium D 820	2.80	2x1MB	Dual	512MB	None	80GB	Combo	GMA 950	Internal	XP Pro	1-yr	May 06	
A52	8341-H1U	2x3	Pentium D 945	3.40	2x2MB	Dual	512MB	None	80GB	CD	GMA 950	Internal	XP Pro	1-yr	Aug 06	
A52	8341-H2U	2x3	Pentium D 945	3.40	2x2MB	Dual	512MB	None	80GB	Combo	GMA 950	Internal	XP Pro	1-yr	Aug 06	

Positioning	<i>Mainstream enterprise stability and manageability</i>	
Processor	Intel® Pentium 4 Processor 521, 524, 541, 630, 640, or 650 with single-core, EM64T, Hyper-Threading technology, EIST (6xx only), Execute Disable Bit, 533MHz or 800MHz system bus, and 1MB or 2MB L2 cache or Intel Pentium D Processor 820 or 945 with dual-core, EM64T, Execute Disable Bit, EIST (9xx only), 800MHz system bus, and 2x1MB or 2x2MB L2 cache	
Implementation	Processor and L2 cache in FC-LGA4 in LGA775 socket	Small Bay ① 3.5", slim .5", access, no std or opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 * Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports optional DVI-I PCIe adptr only for digital video out [not dual independent display]) * modem in slot in some models
Memory - std/max ⁵	512MB std / 2GB max	<ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1"D X 3.3"H (3.4"H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Steel chassis supports 100 lb (45kg) monitor on top • No std floor stand (but supports vertical orientation)
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945GZ GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector / 945GZ does not support dual independent display	
SATA disk	80 or 160GB / SATA300 7200 rpm / vibration dampening mounts	
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in ICH7	
SATA cables	One SATA cable (one 1-drop to disk) / two SATA planar connectors	
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM	
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo	
EIDE DVD±RW	<i>Some:</i> DVD and CD burner / Multi-Burner Plus (part 73P3370)	
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)	
EIDE cables	One 1-drop EIDE 80-conductor cable to optical / one connector	
Diskette drive	None / use optional external USB-based diskette drive	
Chipset	Intel 945GZ Express Chipset / 82945GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O	
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)	
Audio	Integrated digital audio / AC '97 interface / AD1888 codec / SoundMAX® software	
External speakers	<i>Some:</i> [Ext spks] 2-piece speakers, 6 watts (3 watts each), black, Infinity logo	
Speaker	<i>Some:</i> [Internal] one internal speaker for business audio	
Ethernet	Gigabit ethernet on planar / Broadcom BCM5789 / PCIe x1 / Wake on LAN®	
Modem	<i>Some:</i> 56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter	
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black	
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black	
Power supply	225 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs	
		SECURITY <ul style="list-style-type: none"> • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Disk, removable, and network device boot password • Diskette write protect • Front USB port disablement
		ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage

Preload with Windows XP Home⁵ Microsoft® Windows® XP Home Edition Preload with Windows XP Professional⁵ Microsoft Windows XP Professional Preloaded (only some listed) <ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • Symantec® Client Security™ • Diskeeper Lite • PC-Doctor™ (diagnostics) • Multimedia Center for Think Offerings (combo, DVD±RW) • Sonic RecordNow and Drive LetterAccess (combo, DVD±RW) • InterVideo WinDVD (combo, DVD±RW) • InterVideo WinDVD Creator (DVD±RW) 	Accessories 256MB PC2-4200 CL4 NP DDR2 UDIMM 73P4970 1GB PC2-4200 CL4 NP DDR2 UDIMM 73P4971 2GB PC2-4200 CL4 NP DDR2 UDIMM 73P4972 256MB PC2-5300 CL5 NP DDR2 UDIMM 73P4973 512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4982 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 250GB Serial ATA300 Disk (7200 rpm) 41N3015 Super Multi-Burner DL DVD±RW Drive 41N5581 USB Fingerprint Reader 41U3167 USB 2.0 Memory Key 1GB 40Y7421 USB 2.0 Super Multi-Burner Drive 40Y8638 USB 2.0 Portable 80GB Hard Disk 40Y8726 Lenovo L192 Wide 19" Monitor (black) 6920AB1 ThinkVision® L201p 20.1" Monitor (black) 9220HB1 USB Keyboard with UltraNav™ 31P8950 DVI-I PCIe Connection Adapter (ADD2) 73P2516 Other options at lenovo.com/options	LIMITED WARRANTY¹ <ul style="list-style-type: none"> ⇒ 1-year parts and labor ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) ⇒ Other ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹
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See footnotes for important warranty information
US models announced February 21, May 30, or August 1, 2006
US models withdrawn effective December 2006

ThinkCentre® A52 Small (8382) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Hyper-Core	Thread	Memory ^a	Diskette Drive	SATA disk	EIDE optical	Graphics	Modem adapter	Int or ext speaker	Preload	Limited warranty ¹	Avail date
A52	8382-45U	2x3	Pentium® 4 521	2.80	1MB	Single	HT	512MB	None	80GB ²	CD	GMA 950	None	Internal	XP Pro	3-yr	Mar 06
A52	8382-4AU	2x3	Pentium 4 524	3.06	1MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Aug 06
A52	8382-D3U	2x3	Pentium 4 630	3.00	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Mar 06
A52	8382-E3U	2x3	Pentium 4 640	3.20	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Mar 06
A52	8382-F5U	2x3	Pentium 4 650	3.40	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Mar 06
A52	8382-H2U	2x3	Pentium 4 661	3.60	2MB	Single	HT	512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Mar 06
A52	8382-G5U	2x3	Pentium D 820	2.80	2x1MB	Dual		512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	May 06
A52	8382-85U	2x3	Pentium D 920	2.80	2x2MB	Dual		512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Mar 06
A52	8382-92U	2x3	Pentium D 930	3.00	2x2MB	Dual		512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Mar 06
A52	8382-96U	2x3	Pentium D 945	3.40	2x2MB	Dual		512MB	None	80GB	CD	GMA 950	None	Internal	XP Pro	3-yr	Aug 06

Positioning Processor	<i>Mainstream enterprise stability and manageability</i> Intel® Pentium 4 Processor 521, 524, or 661 with single-core, EM64T, Hyper-Threading (HT) technology, EIST (6xx only), Execute Disable Bit, 533 or 800MHz bus, and 1MB or 2MB L2 cache or Intel Pentium D Processor 820, 920, 930, or 945 with dual-core, EM64T, EIST (9xx only), Execute Disable Bit, 800MHz system bus, and 2x1MB L2 cache (8xx) or 2x2MB L2 cache (9xx)										Small			
Implementation	Processor and L2 cache in FC-LGA4/LGA6 in LGA775 socket										Bay ① 3.5", slim .5", access, no std or opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk		Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports optional DVI-I PCIe adptr only for digital video out [not dual independent display])	
Memory - std/max ^a	512MB std / 2GB max										• Business black color; metal case		• 12.2" W X 14.1" D X 3.3"H (3.4"H with feet)	
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable										• 310mm W X 358mm D X 85mm H (87.5mm H with feet)		• 18.7 to 20.0 lb (8.5 to 9.1 kg)	
Graphics	Intel Graphics Media Accelerator 950 (GMA 950) / integrated graphics in 945GZ GMCH / uses main memory (up to 128MB with 256MB+) / 400MHz / one 15-pin analog D-sub connector / 945GZ does not support dual independent display										• Bays 1 and 2/3 flip up (latched and pivoting)		• Toolless cover flips up and tilts backward on rear hinges	
SATA disk	80GB / SATA300 7200 rpm / vibration dampening mounts										• Toolless disk, diskette drive, optical drive removal		• Two slots on riser card (PCI and PCI Express x1)	
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in ICH7										• Toolless PCI slots and riser card retention		• Steel chassis supports 100 lb (45kg) monitor on top	
SATA cables	One SATA cable (one 1-drop to disk) / two SATA planar connectors										• No std floor stand (but supports vertical orientation)			
EIDE CD	48X-20X ⁴ CD-ROM													
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)													
EIDE cables	One 1-drop EIDE 80-conductor cable to optical / one connector													
Diskette drive	None / use optional external USB-based diskette drive													
Chipset	Intel 945GZ Express Chipset / 82945GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA300, ATA-100 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O										SECURITY			
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)										• Security slot (in rear for attachment of optional Kensington Microsaver cable)			
Rear ports	Four USB (Version 2.0), two 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)										- optional cable also locks the cover by deactivating the cover release buttons			
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)										• Power-on password			
Audio	Integrated digital audio / AC '97 interface / AD1888 codec / SoundMAX® software										• Administrator password			
Speaker	One internal speaker for business audio										• Boot sequence control			
Ethernet	Gigabit ethernet on planar / Broadcom BCM5789 / PCIe x1 / Wake on LAN®										• Boot without keyboard, mouse, diskette			
Modem	None										• USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable			
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black										• Disk, removable, and network device boot password			
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black										• Diskette write protect			
Power supply	225 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs										• Front USB port disablement			
Preload with Windows XP Professional⁵	Accessories										ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage			
- Microsoft® Windows® XP Professional	256MB PC2-4200 CL4 NP DDR2 UDIMM										73P4970			
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-4200 CL4 NP DDR2 UDIMM										73P4971			
Preloaded	1GB PC2-4200 CL4 NP DDR2 UDIMM										73P4972			
• Rescue and Recovery™	2GB PC2-4200 CL4 NP DDR2 UDIMM										73P4973			
• Client Security Solution™	256MB PC2-5300 CL5 NP DDR2 UDIMM										73P4982			
• ThinkVantage Productivity Center with Away Manager	512MB PC2-5300 CL5 NP DDR2 UDIMM										73P4983			
• ThinkVantage System Update	1GB PC2-5300 CL5 NP DDR2 UDIMM										73P4984			
• Symantec® Client Security™	160GB Serial ATA300 Disk (7200 rpm)										09N4254			
• Diskeeper Lite	250GB Serial ATA300 Disk (7200 rpm)										41N3015			
• PC-Doctor™ (diagnostics)	Super Multi-Burner DL DVD±RW Drive										41N5581			
• Adobe® Reader	USB Portable Diskette Drive										05K9276			
• Google Toolbar	USB Fingerprint Reader										41U3167			
• Google Desktop	USB 2.0/Analog Headset by Sennheiser										40Y8518			
• Picasa from Google	USB 2.0 Lenovo Webcam										40Y8519			
License - CD not included	USB 2.0 Memory Key 1GB										40Y7421			
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	USB 2.0 Super Multi-Burner Drive										40Y8638			
	USB 2.0 Portable 80GB Hard Disk										40Y8726			
	Lenovo L192 Wide 19" Monitor (black)										6920AB1			
	ThinkVision® L192p 19" Monitor (black)										9419HC2			
	ThinkVision L201p 20.1" Monitor (black)										9220HB1			
	Optical 3-button ScrollPoint Mouse (black)										31P7405			
	Enhanced Performance USB Keyboard										73P2620			
	Preferred Pro USB Fingerprint Keyboard										73P4730			
	USB Keyboard with UltraNav™										31P8950			
	DVI-I PCIe Connection Adapter (ADD2)										73P2516			
	Other options at lenovo.com/options													
											LIMITED WARRANTY¹			
											⇒ 3-year parts and labor			
											⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)			
											⇒ Onsite service upgrade options (in eligible locations):⁷			
											• 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192)			
											• 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193)			
											• 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194)			
											• 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195)			
											• 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196)			
											⇒ ThinkPlus services at lenovo.com/thinkplus/warranty			
											⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹			

See footnotes for important warranty information
US models announced February 21, May 30, or August 1, 2006
US models withdrawn effective December 2006

ThinkCentre® A52 Tower (8782) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Hyper-Core	Thread	Memory ⁵	SATA disk	EIDE optical	FireWire	Modem	Int or ext	Limited warranty ¹	Avail date	
A52	8782-3AU	4x4	Pentium® 4 521	2.8	1MB	single	HT	512MB	80GB ²	CD	Integrated	Mod	Ext spks XP Home	1-yr	Apr 06	
A52	8782-3BU	4x4	Pentium 4 521	2.8	1MB	single	HT	512MB	80GB	Combo	Integrated		Internal XP Pro	1-yr	Apr 06	
A52	8782-3CU	4x4	Pentium 4 521	2.8	1MB	single	HT	512MB	80GB	DVD±RW ³	Integrated	Mod	Ext spks XP Home	1-yr	Apr 06	
A52	8782-D9U	4x4	Pentium 4 630	3.00	2MB	single	HT	512MB	80GB	CD	Integrated		Internal XP Pro	1-yr	Apr 06	
A52	8782-DAU	4x4	Pentium 4 630	3.00	2MB	single	HT	512MB	80GB	Combo	Integrated		Internal XP Pro	1-yr	Apr 06	
A52	8782-DBU	4x4	Pentium 4 630	3.00	2MB	single	HT	512MB	80GB	DVD±RW	Integrated	Mod	Ext spks XP Home	1-yr	Apr 06	
A52	8782-E7U	4x4	Pentium 4 640	3.20	2MB	single	HT	512MB	80GB	Combo	Integrated		Ext spks XP Pro	1-yr	Apr 06	
A52	8782-E8U	4x4	Pentium 4 640	3.20	2MB	single	HT	512MB	160GB	DVD±RW	X700	1394	Mod	Ext spks XP Home	1-yr	Apr 06
A52	8782-F2U	4x4	Pentium 4 650	3.40	2MB	single	HT	512MB	80GB	Combo	Integrated		Ext spks XP Pro	1-yr	Apr 06	
A52	8782-F3U	4x4	Pentium 4 650	3.40	2MB	single	HT	512MB	250GB	DVD±RW	X700	1394		Ext spks XP Pro	1-yr	Apr 06
A52	8782-H1U	4x4	Pentium 4 661	3.60	2MB	single	HT	512MB	250GB	DVD±RW	X700	1394		Ext spks XP Pro	1-yr	Apr 06
A52	8782-HCU	4x4	Pentium 4 661	3.60	2MB	single	HT	512MB	80GB	Combo	Integrated		Ext spks XP Pro	1-yr	Apr 06	
A52	8782-G2U	4x4	Pentium D 820	2.80	2x1MB dual			512MB	250GB	DVD±RW	X700	1394		Ext spks XP Pro	1-yr	Apr 06
A52	8782-82U	4x4	Pentium D 920	2.80	2x2MB dual			512MB	250GB	DVD±RW	X300 SE	1394		Ext spks XP Pro	1-yr	Apr 06
A52	8782-83U	4x4	Pentium D 920	2.80	2x2MB dual			512MB	40GB	CD	Integrated		Buzzer	XP Pro	1-yr	Apr 06
A52	8782-96U	4x4	Pentium D 930	3.00	2x2MB dual			512MB	250GB	DVD±RW	X700	1394		Ext spks XP Pro	1-yr	Apr 06

These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning	<i>Quality, reliability, and manageability</i>	Tower	
Processor	Intel® Pentium 4 Processor 521, 630, 640, 650, 661 with single-core, EM64T, Hyper-Threading (HT) technology, EIST (6xx only), Execute Disable Bit, 800MHz bus, and 1 or 2MB L2 cache or Intel Pentium D Processor 820, 920, 930 with dual-core , EM64T, Execute Disable Bit, 800MHz system bus, and 2x1MB L2 cache (8xx) or 2x2MB L2 cache (9xx)	<ul style="list-style-type: none"> Business black color 7.0" W X 17.7" D X 17.0" H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapters No standard system floor stand 	
Implementation	Processor in FC-LGA4 or FC-LGA6 in LGA775 socket	<ul style="list-style-type: none"> Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, diskette (some mods) Bay ④ 3.5", SL 1", no access, std disk 	
Memory - std/max ⁵	512MB std / 4GB max	<ul style="list-style-type: none"> Slot 1: half-length, full-height, PCI Express x16 (75w max) Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v) 	
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	SECURITY	
Graphics	<ul style="list-style-type: none"> ATI® X300-based integrated graphics in Xpress 200 chipset (one of following) ATI RADEON® X300 SE / PCI Express x16 adapter / 128MB 400MHz DDR1 / 400MHz RAMDAC / two 15-pin analog D-sub connectors / dual head support ATI RADEON X700 / PCI Express x16 adapter / 128MB 600MHz DDR1 / 400MHz RAMDAC / three connectors: analog DB-15, digital DVI-I, S-Video out for TV-out / dual head support 	<ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® Microsaver® cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement 	
SATA disk	40, 80, 160, or 250GB / SATA150 7200 rpm / vibration dampening	ThinkCentre desktops implement ThinkVantage™ technologies and design; visit thinkcentre.com/thinkvantage	
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in south bridge	LIMITED WARRANTY¹	
SATA cables	One SATA cable (one 1-drop to disk) / two SATA connectors on planar	<ul style="list-style-type: none"> 1-year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) Other ThinkPlus services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 	
EIDE CD	Some: 48X-20X ⁴ CD-ROM		
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
EIDE DVD±RW	Some: DVD and CD burner / double-layer / Multi-Burner Plus (part 73P3370)		
EIDE controller	Enhanced IDE / ATA-133 / integrated in south bridge		
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one planar connector		
Diskette drive	Model 83U only: 3.5" 1.44MB diskette drive		
Chipset	ATI Xpress 200 (RC410) chipset / RC410 graphics memory controller in north bridge with PCI Express x16 support / ATI SB450 south bridge for SATA150, ATA-133 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O		
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)		
Audio	Integrated digital audio / AC '97 interface / Realtek ALC655 codec		
External speakers	Some: [Ext spks] external active speakers / Jazz Infinity / 2-piece / 3 watts / black		
Speaker	Some: [Internal] one internal speaker for business audio		
IEEE 1394	Some: FireWire PCI adapter / 1394A, 400Mbps, dual 6-pin ports on rear, 4-pin port on front of system, no external cables included		
Ethernet	10/100 ethernet on systemboard / Realtek RTL8100C / PCI 2.3 / Wake on LAN®		
Modem	Some: 56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter		
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black		
Mouse	Model 83U only: Wheel Mouse, 3-button, ball (6-pin PS/2 connector), black Some: Optical Wheel Mouse (USB only), 400 dpi, black		
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs		
Preload with Windows XP Home⁵	Accessories		
Microsoft® Windows® XP Home Edition	256MB PC2-4200 CL4 NP DDR2 UDIMM	73P4970	
Preload with Windows XP Professional⁵	512MB PC2-4200 CL4 NP DDR2 UDIMM	73P4971	
Microsoft Windows XP Professional	1GB PC2-4200 CL4 NP DDR2 UDIMM	73P4972	
Preloaded (all; only some listed)	2GB PC2-4200 CL4 NP DDR2 UDIMM	73P4973	
• Rescue and Recovery™	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983	
• Client Security Solution™	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	
• Symantec® Client Security™	DVI-I PCIe Connection Adapter (ADD2)	73P2516	
• Multimedia Center for Think Offerings	NVIDIA® GeForce 6200 64MB Dual Head	73P2517	
• InterVideo WinDVD (combo, DVD±RW)	ATI® RADEON® X300 SE 128MB Dual Head	40Y8405	
• InterVideo WinDVD Creator (DVD±RW)	ATI RADEON X700 128MB Dual Head	73P2518	
	Other options at lenovo.com/options		

See footnotes for important warranty information
US models announced February 21, 2006
US models withdrawn effective June 2006

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(PK11-1) September 2006

ThinkCentre® A52 Tower (8785) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	GHz	Core	Hyper-Thread	Memory ³	SATA disk	EIDE optical	FireWire Graphics	Modem adapter	Int or ext speaker	Pre-load	Limited warranty ¹	Avail date		
A52	8785-31U	4x4	Pentium 4 521	2.8	1MB	single	HT	512MB	80GB	Combo	Integrated	None	Modem	Ext	spks	XP Home	1-yr	Apr 06

Positioning Processor	<i>Quality, reliability, and manageability</i> Intel® Pentium 4 Processor 521 with single-core, EM64T, Hyper-Threading (HT) technology, Execute Disable Bit, 800MHz bus, and 1MB L2 cache										Tower		
Implementation	Processor in FC-LGA4 in LGA775 socket										<ul style="list-style-type: none"> Business black color 7.0" W X 17.7"D X 17.0"H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapters No standard system floor stand 		
Memory - std/max ⁵	512MB std / 4GB max										Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, open Bay ④ 3.5", SL 1", no access, std disk		
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable										Slot 1: half-length, full-height, PCI Express x16 (75w max) Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)		
Graphics	ATI® X300-based integrated graphics in Xpress 200 chipset												
SATA disk	80GB / SATA300 7200 rpm / vibration dampening												
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in south bridge												
SATA cables	One SATA cable (one 1-drop to disk) / two SATA connectors												
EIDE combo	48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo												
EIDE controller	Enhanced IDE / ATA-133 / integrated in south bridge												
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one planar connect												
Diskette drive	None / use optional external USB-based diskette drive												
Chipset	ATI Xpress 200 (RC410) chipset / RC410 graphics memory controller in north bridge with PCI Express x16 support / ATI SB450 south bridge for SATA150, ATA-133 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O												
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)												SECURITY <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® Microsaver® cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)												
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)												
Audio	Integrated digital audio / AC '97 interface / Realtek ALC655 codec												
External speakers	External active speakers / Jazz Infinity / 2-piece / 3 watts / black												
IEEE 1394	None												
Ethernet	10/100 ethernet on systemboard / Realtek RTL8100C / PCI 2.3 / Wake on LAN®												
Modem	56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter												
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black												
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black												
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs												
Preload with Windows XP Home⁵	Accessories												
Microsoft® Windows® XP Home Edition	256MB PC2-4200 CL4 NP DDR2 UDIMM										73P4970		
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-4200 CL4 NP DDR2 UDIMM										73P4971		
Preloaded	1GB PC2-4200 CL4 NP DDR2 UDIMM										73P4972		
• Rescue and Recovery™	2GB PC2-4200 CL4 NP DDR2 UDIMM										73P4973		
• Access Connections™	256MB PC2-5300 CL5 NP DDR2 UDIMM										73P4982		
• Client Security Solution™	512MB PC2-5300 CL5 NP DDR2 UDIMM										73P4983		
• ThinkVantage Productivity Center with Away Manager	1GB PC2-5300 CL5 NP DDR2 UDIMM										73P4984		
• ThinkVantage System Update	160GB Serial ATA300 Disk (7200 rpm)										09N4254		
• Symantec® Client Security™	250GB Serial ATA300 Disk (7200 rpm)										41N3015		
• Diskkeeper Lite	Super Multi-Burner DL DVD±RW										41N5581		
• PC-Doctor™ (diagnostics)	USB Portable Diskette Drive										05K9276		
• Adobe® Reader	USB Fingerprint Reader										73P4774		
• Google Toolbar	USB Gemplus GemPC Smart Card Reader										41N3040		
• Google Desktop	USB 2.0/Analog Headset by Sennheiser										40Y8518		
• Picasa from Google	USB 2.0 Lenovo Webcam										40Y8519		
License - CD not included	USB 2.0 Memory Key 1GB										40Y7421		
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	USB 2.0 CD-RW/DVD-ROM Combo II Drive										40Y8637		
	USB 2.0 Super Multi-Burner Drive										40Y8638		
	ThinkVision® C170 17" (16.0" vis) (black)										6737P6N		
	ThinkVision C190 19" (18.0" vis) (black)										6739PON		
	ThinkVision L151p 15" Monitor (black)										9205HB2		
	ThinkVision L171p 17" Monitor (black)										9417HB2		
	ThinkVision L192p 19" Monitor (black)										9419HB2		
	ThinkVision L201p 20.1" Monitor (black)										9320HB1		
	Optical 3-button ScrollPoint Mouse (black)										31P7405		
	Enhanced Performance USB Keyboard										73P2620		
	Enh Perf Wireless Keyboard and Mouse										73P4067		
	Preferred Pro USB Fingerprint Keyboard										73P4730		
	DVI-I PCIe Connection Adapter (ADD2)										73P2516		
	NVIDIA® GeForce 6200 64MB Dual Head										73P2517		
	ATI® RADEON® X300 SE 128MB Dual Head										40Y8405		
	ATI RADEON X700 128MB Dual Head										73P2518		
	Other options at lenovo.com/options												
ThinkCentre desktops implement ThinkVantage™ technologies and design; visit thinkcentre.com/thinkvantage													
LIMITED WARRANTY¹													
<ul style="list-style-type: none"> 1-year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) Post-warranty maintenance services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378) 													

See footnotes for important warranty information
US model announced February 21, 2006
US model withdrawn integrated June 2006

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ThinkCentre® A52 Tower (8788) - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)


Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Hyper-Thread	Memory*	SATA disk	EIDE optical	Graphics	Fire-Wire	Mo-dem	Int or ext speaker	Pre-load	Limited warranty ¹	Avail date
A52	8788-A1U	4x4	Celeron® D 331	2.66	256KB	single		512MB	80GB ²	CD	Integrated	None	None	Internal	XP Pro	3-yr	Apr 06
A52	8788-A2U	4x4	Celeron D 336	2.80	256KB	single		512MB	80GB	CD	Integrated	None	None	Internal	XP Pro	3-yr	Apr 06
A52	8788-31U	4x4	Pentium® 4 521	2.80	1MB	single	HT	512MB	80GB	CD	Integrated	None	None	Internal	XP Pro	3-yr	Apr 06
A52	8788-D1U	4x4	Pentium 4 630	3.00	2MB	single	HT	512MB	80GB	CD	Integrated	None	None	Internal	XP Pro	3-yr	Apr 06
A52	8788-E1U	4x4	Pentium 4 640	3.20	2MB	single	HT	512MB	80GB	CD	Integrated	None	None	Internal	XP Pro	3-yr	Apr 06
A52	8788-F1U	4x4	Pentium 4 650	3.40	2MB	single	HT	512MB	80GB	CD	Integrated	None	None	Internal	XP Pro	3-yr	Apr 06
A52	8788-H3U	4x4	Pentium 4 661	3.60	2MB	single	HT	512MB	80GB	CD	Integrated	None	None	Internal	XP Pro	3-yr	Apr 06
A52	8788-G1U	4x4	Pentium D 820	2.80	2x1MB	dual		512MB	80GB	CD	Integrated	None	None	Internal	XP Pro	3-yr	Apr 06
A52	8788-81U	4x4	Pentium D 920	2.80	2x2MB	dual		512MB	80GB	CD	Integrated	None	None	Internal	XP Pro	3-yr	Apr 06
A52	8788-91U	4x4	Pentium D 930	3.00	2x2MB	dual		512MB	80GB	CD	Integrated	None	None	Internal	XP Pro	3-yr	Apr 06

Positioning Processor	<i>Quality, reliability, and manageability</i> Intel® Celeron D Processor 331 or 336 with single-core, EM64T, Execute Disable Bit, and 533MHz bus or Intel Pentium 4 Processor 521, 630, 640, 650, 661 with single-core, EM64T, Hyper-Threading (HT) technology, EIST (6xx only), Execute Disable Bit, 800MHz bus, and 1 or 2MB L2 cache or Intel Pentium D Processor 820, 920, 930 with dual-core, EM64T, Execute Disable Bit, 800MHz system bus, and 2x1MB L2 cache (8xx) or 2x2MB L2 cache (9xx)										Tower	
Implementation	Processor in FC-LGA4 or FC-LGA6 in LGA775 socket										<ul style="list-style-type: none"> Business black color 7.0" W X 17.7" D X 17.0" H 178mm W X 450mm D X 432mm H 25.0 to 27.5 lb (11.3 to 12.5 kg) Handle on top front Thumbscrew to remove bay 3 and 4 Toolless install and removal of disk, optical, diskette Toolless install and removal of side cover Toolless install and removal of adapters No standard system floor stand 	
Memory - std/max ⁵	512MB std / 4GB max										Bay ① 5.25", HH 1.6", access, std optical Bay ② 5.25", HH 1.6", access, open Bay ③ 3.5", SL 1", access, diskette (some mods) Bay ④ 3.5", SL 1", no access, std disk	
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4000 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable										Slot 1: half-length, full-height, PCI Express x16 (75w max) Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)	
Graphics	ATI® X300-based integrated graphics in Xpress 200 chipset											
SATA disk	80GB / SATA300 7200 rpm / vibration dampening											
SATA controller	Serial ATA / 150 MB/sec SATA150 / integrated in south bridge											
SATA cables	One SATA cable (one 1-drop to disk) / two SATA connectors											
EIDE CD	48X-20X ⁴ CD-ROM											
EIDE controller	Enhanced IDE / ATA-133 / integrated in south bridge											
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / one planar connector											
Diskette drive	None / use optional external USB-based diskette drive											
Chipset	ATI Xpress 200 (RC410) chipset / RC410 graphics memory controller in north bridge with PCI Express x16 support / ATI SB450 south bridge for SATA150, ATA-133 EIDE, PCI Express x1, PCI 2.3 bus, USB, Low Pin Count interface / ITE Tech® IT8712F Super I/O											
Front ports	Two USB (Version 2.0), microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)											SECURITY <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® Microsaver® cable) No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Disk, removable, and network device boot password Diskette write protect Front USB port disablement
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)											
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)											
Audio	Integrated digital audio / AC '97 interface / Realtek ALC655 codec											
Speaker	One internal speaker for business audio											
IEEE 1394	None											
Ethernet	10/100 ethernet on systemboard / Realtek RTL8100C / PCI 2.3 / Wake on LAN											
Modem	None											
Keyboard	104-key Preferred Pro Full-size keyboard (6-pin PS/2 connector), black											
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black											
Power supply	310 watts with variable speed fan / universal / manual switch / 2 diagnostic LEDs											
Preload with Windows XP Professional⁵	Accessories											
- Microsoft Windows XP Professional	256MB PC2-4200 CL4 NP DDR2 UDIMM										73P4970	
- Disk-to-Disk Recovery (in hidden protected area)	512MB PC2-4200 CL4 NP DDR2 UDIMM										73P4971	
Preloaded	1GB PC2-4200 CL4 NP DDR2 UDIMM										73P4972	
• Rescue and Recovery™	2GB PC2-4200 CL4 NP DDR2 UDIMM										73P4973	
• Access Connections™	256MB PC2-5300 CL5 NP DDR2 UDIMM										73P4982	
• Client Security Solution™	512MB PC2-5300 CL5 NP DDR2 UDIMM										73P4983	
• ThinkVantage Productivity Center with Away Manager	1GB PC2-5300 CL5 NP DDR2 UDIMM										73P4984	
• ThinkVantage System Update	250GB Serial ATA300 Disk (7200 rpm)										41N3015	
• Symantec® Client Security™	Super Multi-Burner DL DVD±RW Drive										41N5581	
• Diskeeper Lite	USB Portable Diskette Drive										05K9276	
• PC-Doctor™ (diagnostics)	USB Fingerprint Reader										73P4774	
• Adobe® Reader	USB Gemplus GemPC Smart Card Reader										41N3040	
• Google Toolbar	USB 2.0 Memory Key 1GB										40Y7421	
• Google Desktop	USB 2.0 CD-RW/DVD-ROM Combo II Drive										40Y8637	
• Picasa from Google	USB 2.0 Portable 80GB Hard Disk										40Y8726	
License - CD not included	ThinkVision® C190 19" (18.0" vis) (black)										6739P0N	
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	ThinkVision L171p 17" Monitor (black)										9417HB2	
	ThinkVision L192p 19" Monitor (black)										9419HB2	
	ThinkVision L201p 20.1" Monitor (black)										9320HB1	
	Optical 3-button ScrollPoint Mouse (black)										31P7405	
	Enhanced Performance USB Keyboard										73P2620	
	DVI-I PCIe Connection Adapter (ADD2)										73P2516	
	NVIDIA® GeForce 6200 64MB Dual Head										73P2517	
	ATI® RADEON® X300 SE 128MB Dual Head										40Y8405	
	ATI RADEON X700 128MB Dual Head										73P2518	
	Other options at lenovo.com/options											
	ThinkCentre desktops implement ThinkVantage™ technologies and design; visit thinkcentre.com/thinkvantage											
	LIMITED WARRANTY¹											
	↪ 3-year parts and labor											
	↪ International Warranty Service⁹											
	↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³; 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)											
	↪ Onsite service upgrade options (in eligible locations):⁷											
	• 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192)											
	• 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193)											
	• 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194)											
	• 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195)											
	• 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196)											
	↪ Other ThinkPlus services at lenovo.com/thinkplus/warranty											
	↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-IBM-SERV (426-7378)											

See footnotes for important warranty information
US models announced February 21, 2006
US models withdrawn effective June 2006

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Memory ⁸	Media reader	SATA disk	SATA optical	Graphics	Vista preload	Vista logo	Limited warranty ¹	Avail date
A55	9636-E1U	2x3	Celeron D 336	2.80	256KB	Single	1GB	None	80GB ²	Combo	GMA	Business	Premium	1-yr	Feb 07
A55	9636-F1U	2x3	Pentium 4 631	3.00	2MB	Single	1GB	None	80GB	Combo	GMA	Business	Premium	1-yr	Feb 07
A55	9636-G1U	2x3	Pentium 4 641	3.20	2MB	Single	1GB	None	80GB	Combo	GMA	Business	Premium	1-yr	Feb 07
A55	9636-H1U	2x3	Pentium D 925	3.00	2x2MB	Dual	1GB	None	80GB	Combo	GMA	Business	Premium	1-yr	Feb 07
A55	9636-J1U	2x3	Pentium D 945	3.40	2x2MB	Dual	1GB	None	80GB	Combo	GMA	Business	Premium	1-yr	Feb 07
A55	9636-Q9U	2x3	Pentium D 925	3.00	2x2MB	Dual	1GB	None	80GB	Combo	GMA	Business	Basic	1-yr	May07
A55	9636-Q7U	2x3	Core 2 Duo E4300	1.80	2MB	Dual	1GB	None	80GB	DVD	GMA	Business	Basic	1-yr	May07
A55	9636-Q8U	2x3	Core 2 Duo E4300	1.80	2MB	Dual	1GB	None	160GB	Combo	GMA	Business	Basic	1-yr	May07
A55	9636-QVU	2x3	Celeron 420	1.60	512KB	Single	1GB	None	80GB	Combo	GMA	Business	Basic	1-yr	Jun 07
A55	9636-QJU	2x3	Pentium E2140	1.60	1MB	Dual	1GB	None	80GB	Combo	GMA	Business	Basic	1-yr	Jun 07
A55	9636-QMU	2x3	Pentium E2160	1.80	1MB	Dual	1GB	None	80GB	Combo	GMA	Business	Basic	1-yr	Jun 07
A55	9636-2AU	2x3	Core 2 Duo E4400	2.00	2MB	Dual	1GB	None	80GB	DVD	GMA	Business	Basic	1-yr	Jul 07

• These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning Processor	<p><i>Mainstream enterprise stability and manageability</i></p> <p>Intel® Celeron® D Processor 336 with single-core, Intel 64 Tech, Execute Disable Bit, 533MHz system bus, and 256KB L2 cache or Intel Celeron Processor 420 with single-core, Intel 64 Technology, Execute Disable Bit, 800MHz bus, and 512KB L2 cache or Intel Pentium® 4 Processor 631 or 641 with single-core, Intel 64 Technology, Hyper-Threading (HT) technology, Execute Disable Bit, 800MHz system bus, and 2MB L2 cache or Intel Pentium Dual-Core Processor E2140 or E2160 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Pentium D Processor 925 or 945 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2x2MB L2 cache or Intel Core™ 2 Duo Processor E4300 or E4400 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB shared L2 cache Processor and L2 cache in FC-LGA4/LGA6 in LGA775 socket</p>		<p>Small</p>  <p>Bay ① 3.5", slim .5", access, opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk</p> <p>Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports opt DVI-I PCIe ADD2 adptr only)</p> <ul style="list-style-type: none"> • Business black color; metal case • 12.2" W X 14.1" D X 3.3" H (3.4" H with feet) • 310mm W X 358mm D X 85mm H (87.5mm H with feet) • 18.7 to 20.0 lb (8.5 to 9.1 kg) • Bays 1 and 2/3 flip up (latched and pivoting) • Toolless cover flips up and tilts backward on rear hinges • Toolless disk, diskette drive, optical drive removal • Two slots on riser card (PCI and PCI Express x1) • Toolless PCI slots and riser card retention • Toolless systemboard retention • Steel chassis supports 100 lb (45kg) monitor on top • System floor stand for vertical orientation 																				
Implementation																							
Memory	<p>1GB std / 4GB max⁹ / two 240-pin DIMM sockets, non-parity, dual-channel capable; <i>Feb/May 07 models: PC2-4200 533MHz DDR2;</i> <i>June/July 07 models: PC2-5300 667MHz DDR2;</i> <i>Italics: standard memory in both sockets; no sockets available;</i> <i>Non-italics: standard memory in one socket; one socket available</i></p>																						
Graphics	<p>Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display</p>		<p>Security</p> <ul style="list-style-type: none"> • Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect 																				
SATA disk	<p>80GB or 160GB / SATA 3.0Gb/s 7200 rpm / vibration dampening mounts</p>																						
SATA controller	<p>Serial ATA / SATA 3.0Gb/s / integrated in ICH7</p>																						
SATA DVD	<p><i>Some: 16X-48X Max⁴ DVD-ROM / single-layer</i></p>																						
SATA Combo	<p><i>Some: 48X/32X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo</i></p>																						
SATA cables	<p>Two SATA cables (each 1-drop to device) / 2 SATA connectors on planar</p>																						
Diskette drive	<p>None</p>																						
Media reader	<p>None</p>																						
Chipset	<p>Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / SMSC® SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)</p>		<p>Supports ThinkVantage® technologies</p>																				
Front ports	<p>Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)</p>																						
Rear ports	<p>Six USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)</p>																						
Rear audio ports	<p>Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)</p>																						
Audio	<p>High Definition (HD) Audio / AD1986A codec / SoundMAX® software</p>																						
Speaker	<p>One internal speaker for business audio</p>																						
Ethernet	<p>Gigabit ethernet on planar / Broadcom® BCM5786 / PCIe x1 / Wake on LAN®</p>																						
Modem	<p>None</p>																						
Keyboard	<p>Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo</p>																						
Mouse	<p>Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo</p>																						
Power supply	<p>220 watts with variable speed fan / manual switch / 2 diagnostic LEDs</p>																						
Preloaded operating system²⁰	<p>- Microsoft® Windows® Vista Business Edition (32-bit)</p>																						
Preloaded applications⁵ (only some listed)	<ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • Norton Internet Security™ (90 days of virus definitions) 		<p>Accessories</p> <table border="0"> <tr> <td>1GB PC2-5300 DDR2 UDIMM (TopSeller)</td> <td>43R2001</td> </tr> <tr> <td>2GB PC2-5300 DDR2 UDIMM (TopSeller)</td> <td>43R2002</td> </tr> <tr> <td>500GB SATA 3.0Gb/s Disk (7200 rpm)</td> <td>43R1990</td> </tr> <tr> <td>Super Multi-Burner DL DVD±RW SATA Drive</td> <td>41N5620</td> </tr> <tr> <td>USB 2.0 Super Multi-Burner Drive</td> <td>41N5565</td> </tr> <tr> <td>USB 2.0 Security Memory Key 4GB</td> <td>41U5120</td> </tr> <tr> <td>ThinkVision® L197 Wide 19" LCD Monitor</td> <td>4434HE1</td> </tr> <tr> <td>ThinkVision L200p Wide 20.1" LCD Monitor</td> <td>4438HB6</td> </tr> <tr> <td>ThinkVision L220x Wide 22" LCD Monitor</td> <td>4433HB2</td> </tr> <tr> <td>ADD2 DVI-I PCIe Connection Adapter</td> <td>73P2516</td> </tr> </table> <p>Other accessories at lenovo.com/accessories</p>	1GB PC2-5300 DDR2 UDIMM (TopSeller)	43R2001	2GB PC2-5300 DDR2 UDIMM (TopSeller)	43R2002	500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990	Super Multi-Burner DL DVD±RW SATA Drive	41N5620	USB 2.0 Super Multi-Burner Drive	41N5565	USB 2.0 Security Memory Key 4GB	41U5120	ThinkVision® L197 Wide 19" LCD Monitor	4434HE1	ThinkVision L200p Wide 20.1" LCD Monitor	4438HB6	ThinkVision L220x Wide 22" LCD Monitor	4433HB2	ADD2 DVI-I PCIe Connection Adapter	73P2516
1GB PC2-5300 DDR2 UDIMM (TopSeller)	43R2001																						
2GB PC2-5300 DDR2 UDIMM (TopSeller)	43R2002																						
500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990																						
Super Multi-Burner DL DVD±RW SATA Drive	41N5620																						
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ThinkVision L220x Wide 22" LCD Monitor	4433HB2																						
ADD2 DVI-I PCIe Connection Adapter	73P2516																						
			<p>Limited Warranty¹</p> <ul style="list-style-type: none"> ↪ 1-year parts and labor ↪ International Warranty Service⁹ ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) • 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) • 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) ↪ ThinkPlus services at lenovo.com/thinkplus/warranty ↪ Post warranty maintenance services available ↪ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 																				

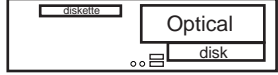
See footnotes for important warranty information
 US models announced January 30, May 1, June 5, or July 3, 2007
 US models withdrawn effective August 2007 or June 2008

ThinkCentre® A55 Small (9636) - TopSeller (XP Pro) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Memory ⁸	Media reader	SATA disk	SATA optical	Graphics	Preload	Limited warranty ¹	Avail date
A55	9636-QHU	2x3	Celeron 420	1.60	512KB	Single	512MB	None	80GB ²	DVD	GMA	XP Pro	1-yr	Jun 07
A55	9636-QKU	2x3	Pentium E2140	1.60	1MB	Dual	512MB	None	80GB	DVD	GMA	XP Pro	1-yr	Jun 07
A55	9636-QLU	2x3	Pentium E2160	1.80	1MB	Dual	512MB	None	80GB	DVD	GMA	XP Pro	1-yr	Jun 07
A55	9636-01U	2x3	Pentium E2140	1.60	1MB	Dual	1GB	None	80GB	Combo	GMA	XP Pro	1-yr	Jun 07
A55	9636-02U	2x3	Pentium E2160	1.80	1MB	Dual	1GB	None	80GB	Combo	GMA	XP Pro	1-yr	Jun 07
A55	9636-QAU	2x3	Pentium D 925	3.00	2x2MB	Dual	512MB	None	80GB	DVD	GMA	XP Pro	1-yr	May 07
A55	9636-2NU	2x3	Core 2 Duo E4500	2.20	2MB	Dual	512MB	None	80GB	DVD	GMA	XP Pro	1-yr	Nov 07
A55	9636-2PU	2x3	Core 2 Duo E4500	2.20	2MB	Dual	1GB	None	160GB	DVD±RW	GMA	XP Pro	1-yr	Nov 07

• **These These small and medium business (SMB) models are part of the US TopSeller™ Program**

Positioning	<i>Mainstream enterprise stability and manageability</i>		
Processor	Intel® Celeron® Processor 420 with single-core, Intel 64 Tech, Execute Disable Bit, 800MHz bus, and 512KB L2 cache or Intel Pentium® Dual-Core Processor E2140 or E2160 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Pentium D Processor 925 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2x2MB L2 cache or Intel Core™ 2 Duo Processor E4500 with dual-core , Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB shared L2 cache		
Implementation	Processor and L2 cache in FC-LGA4/LGA6 in LGA775 socket		Small Bay ① 3.5", slim .5", access, opt diskette Bay ② 5.25", HH 1.6", access, std optical Bay ③ 3.5", SL 1", no access, std disk Slot 1: half-length (175mm), full-height, 32-bit PCI 2.3 (5v) Slot 2: half-length (175mm), full-height, PCI Express x1 (x16 slot; supports opt DVI-I PCIe ADD2 adptr only)
Memory	512MB or 1GB std / 4GB max ⁹ / two 240-pin DIMM sockets, one socket used, non-parity, dual-channel capable; <i>May 07 models:</i> PC2-4200 533MHz DDR2; <i>Other models:</i> PC2-5300 667MHz DDR2		Security <ul style="list-style-type: none"> Security slot (in rear for attachment of optional Kensington Microsaver cable) - optional cable also locks the cover by deactivating the cover release buttons Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Diskette write protect
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display		
SATA disk	80GB or 160GB / SATA 3.0Gb/s 7200 rpm / vibration dampening SATA controller Serial ATA / SATA 3.0Gb/s / integrated in ICH7 SATA DVD <i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer SATA Combo <i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo SATA DVD±RW <i>Some:</i> DVD and CD burner, Super Multi-Burner DL SATA cables Two SATA cables (each 1-drop to device) / 2 SATA connectors on planar Diskette drive None Media reader None		Supports ThinkVantage® technologies Limited Warranty¹ <ul style="list-style-type: none"> ↪ 1-year parts and labor ↪ International Warranty Service⁹ ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) • 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) • 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) ↪ ThinkPlus services at lenovo.com/thinkplus/warranty ↪ Post warranty maintenance services available ↪ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378
Chipset	Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / SMCSC® SHC5407 Super I/O for serial, parallel, diskette, hardware monitoring (temperature, voltage, fan speed)		
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Six USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on planar / Broadcom® BCM5786 / PCIe x1 / Wake on LAN®		
Modem	None		
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo		
Power supply	220 watts with variable speed fan / manual switch / 2 diagnostic LEDs		
Preloaded operating system²⁰	<ul style="list-style-type: none"> - Microsoft® Windows® XP Professional ↪ Disk-to-Disk Recovery (in hidden protected area) 		
Preloaded applications⁵ (only some listed)	<ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Symantec® Client Security™ • Multimedia Center for Think Offerings (combo, DVD, DVD±RW) 		
Accessories	<ul style="list-style-type: none"> 1GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2001 2GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2002 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 DVD-ROM DL SATA 1.5Gb/s 16X-48X Max⁴ 41N5618 CD-RW/DVD-ROM Combo SATA 1.5Gb/s 41N5619 Super Multi-Burner DL DVD±RW SATA Drive 41N5620 USB Portable Diskette Drive 05K9276 ThinkVision® L193p 19" LCD Monitor 4431HB2 ThinkVision L197 Wide 19" LCD Monitor 4434HE1 ThinkVision L200p Wide 20.1" LCD Monitor 4438HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 Preferred Pro USB Fingerprint Keyboard 73P4730 ADD2 DVI-I PCIe Connection Adapter 73P2516 Other accessories at lenovo.com/accessories 		

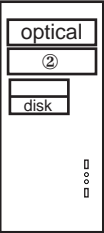
See footnotes for important warranty information
 US models announced May 1, June 5, or October 23, 2007
 US models withdrawn effective June 2008

ThinkCentre® A55 Tower (8705) - TopSeller - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Memory ^a	Media reader	SATA disk	EIDE optical	Graphics	Modem adapter	Int or ext speaker	Preload	Limited warranty ¹	Avail date
A55	8705-A4U	4x4	Celeron D 336	2.80	256KB	Single	256MB		80GB ²	CD	GMA		Internal	XP Home	1-yr	Sep 06
A55	8705-A5U	4x4	Celeron D 336	2.80	256KB	Single	512MB		80GB	CD	GMA		Internal	XP Pro	1-yr	Sep 06
A55	8705-21U	4x4	Pentium 4 524	3.06	1MB	Single	512MB		80GB	CD	GMA		Internal	XP Pro	1-yr	Sep 06
A55	8705-22U	4x4	Pentium 4 524	3.06	1MB	Single	512MB	9-in-1	160GB	Combo	GMA	Modem	Ext spks	XP Home	1-yr	Sep 06
A55	8705-23U	4x4	Pentium 4 524	3.06	1MB	Single	512MB		80GB	Combo	GMA		Internal	XP Pro	1-yr	Sep 06
A55	8705-24U	4x4	Pentium 4 524	3.06	1MB	Single	1GB		160GB	DVD±RW	GMA		Internal	XP Pro	1-yr	Sep 06
A55	8705-31U	4x4	Pentium 4 541	3.20	1MB	Single	512MB		80GB	CD	GMA		Internal	XP Pro	1-yr	Sep 06
A55	8705-33U	4x4	Pentium 4 541	3.20	1MB	Single	512MB		80GB	Combo	GMA		Internal	XP Pro	1-yr	Sep 06
A55	8705-D4U	4x4	Pentium D 820	2.80	2x1MB	Dual	512MB		80GB	CD	GMA		Internal	XP Pro	1-yr	Sep 06
A55	8705-D5U	4x4	Pentium D 820	2.80	2x1MB	Dual	512MB	9-in-1	160GB	Combo	GMA	Modem	Internal	XP Home	1-yr	Sep 06
A55	8705-D6U	4x4	Pentium D 820	2.80	2x1MB	Dual	512MB		160GB	Combo	GMA		Internal	XP Pro	1-yr	Sep 06
A55	8705-D7U	4x4	Pentium D 820	2.80	2x1MB	Dual	1GB		160GB	DVD±RW	GMA		Internal	XP Pro	1-yr	Sep 06
A55	8705-DCU	4x4	Pentium D 820	2.80	2x1MB	Dual	512MB		80GB	Combo	GMA		Internal	XP Pro	1-yr	Sep 06
A55	8705-P6U	4x4	Pentium D 925	3.00	2x2MB	Dual	512MB		80GB	DVD, DVD	GMA		Internal	XP Pro	1-yr	May 07
A55	8705-FAU	4x4	Pentium D 925	3.00	2x2MB	Dual	512MB	9-in-1	160GB	Combo	GMA	Modem	Ext spks	XP Home	1-yr	Oct 06
A55	8705-FBU	4x4	Pentium D 925	3.00	2x2MB	Dual	512MB		160GB	Combo	GMA		Internal	XP Pro	1-yr	Oct 06
A55	8705-FCU	4x4	Pentium D 925	3.00	2x2MB	Dual	1GB		250GB	DVD±RW	GMA		Internal	XP Pro	1-yr	Oct 06
A55	8705-G4U	4x4	Pentium D 945	3.40	2x2MB	Dual	512MB	9-in-1	160GB	Combo	GMA	Modem	Ext spks	XP Home	1-yr	Sep 06
A55	8705-G5U	4x4	Pentium D 945	3.40	2x2MB	Dual	512MB		160GB	Combo	GMA		Internal	XP Pro	1-yr	Sep 06
A55	8705-G6U	4x4	Pentium D 945	3.40	2x2MB	Dual	1GB		250GB	DVD±RW	GMA		Internal	XP Pro	1-yr	Sep 06

• These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning	Mainstream enterprise stability and manageability	
Processor	Intel® Celeron® D Processor 336 with single-core, Intel 64 Technology, Exec Dis Bit, 533MHz bus, and 256KB L2 cache or Intel Pentium® 4 Processor 524 or 541 with single-core, Intel 64 Technology, Hyper-Threading technology, Execute Disable Bit, 533MHz (524) or 800MHz (541) system bus, and 1MB L2 cache or Intel Pentium D Processor 820, 925, or 945 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST (9xx only), 800MHz system bus, and 2x1MB or 2x2MB L2 cache	Tower <ul style="list-style-type: none"> Business black color 6.9" W X 16.7" D X 16.14" H 175mm W X 424mm D X 410mm H 22.0 lb (10.0 kg) Handle on top front Toolless cover removal Toolless disk, diskette drive, optical drive removal Toolless adapter retention 
Implementation	Processor and L2 cache in FC-LGA4/LGA6 in LGA775 socket	
Memory - std/max ^a	256MB, 512MB, or 1GB std / 4GB max	
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	Bay ① 5.25", 1.6" high, access, standard optical Bay ② 5.25", 1.6" high, access, open (P6U = DVD) Bay ③ 3.5", 1" high, access, optional diskette Bay ④ 3.5", 1" high, no access, standard disk
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display	Slot 1: half-length, full-height, PCI Express x16 (75w max) Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)*
SATA disk	80, 160, or 250GB , SATA 3.0Gb/s 7200 rpm, vibration dampening	
SATA controller	Serial ATA / SATA 3.0Gb/s / integrated in ICH7	
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar	
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM	
EIDE DVD	<i>Model P6U:</i> Two DVDs / 16X-48X Max ⁴ DVD-ROM, single-layer	
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo	
EIDE DVD±RW	<i>Some:</i> DVD and CD burner / Super Multi-Burner DL (part 41N5581)	
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)	
EIDE cables	One 1-drop EIDE cable to optical / 1 planar connector	
Diskette drive	None	
Media reader	<i>Some:</i> 9-in-1 media reader / occupies diskette drive bay / internal USB 2.0	
Chipset	Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / ITE Tech® IT8718 Super I/O	
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)	
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software	
External speakers	<i>Some:</i> [Ext spks] 2-piece speakers, 6 watts (3 watts each), black, Infinity logo	
Speaker	<i>Some:</i> [Internal] one internal speaker for business audio	
Ethernet	Gigabit ethernet on planar / Broadcom® BCM5786 / PCIe x1 / Wake on LAN®	
Modem	<i>Some:</i> 56K ¹⁰ V.90 data/fax soft modem / PCI adapter	
Keyboard	<i>Some:</i> 104-key Preferred Pro Full-size keyboard (PS/2 connector), Lenovo logo	
Mouse	<i>Model P6U:</i> Preferred Pro USB Keyboard (USB connector), 104-key, Lenovo logo	
Power supply	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo	
	280 watts with variable speed fan / manual switch	
Preloaded operating system²⁰	Accessories	
- <i>Some:</i> Microsoft® Windows® XP Home Edition	1GB PC2-5300 DDR2 UDIMM (TopSeller)	43R2001
- <i>Some:</i> Microsoft Windows XP Professional	2GB PC2-5300 DDR2 UDIMM (TopSeller)	43R2002
	500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990
	USB Portable Diskette Drive	05K9276
	USB 2.0 Security Memory Key 4GB	41U5120
	ADD2 DVI-I PCIe Connection Adapter	73P2516
Preloaded applications⁵ (all OSes; only some listed)	Other accessories at lenovo.com/accessories	
• InterVideo WinDVD (combo, DVD, DVD±RW)		
		Security <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® Microsaver® cable) Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Diskette write protect
		Supports ThinkVantage® technologies
		Limited Warranty¹ <ul style="list-style-type: none"> 1-year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) Other ThinkPlus services at lenovo.com/thinkplus/warranty 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378

See footnotes for important warranty information
 US models announced September 26, 2006, October 17, 2006, or May 1, 2007
 US models withdrawn effective June 2007, August 2007, or June 2008

ThinkCentre® A55 Tower (8705) - TopSeller (Nov 2006) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Memory ⁸	Media reader	SATA disk	EIDE optical	Graphics	Preload	Limited warranty ¹	Avail date
A55	8705-J3U	4x4	Core 2 Duo E6300	1.86	2MB	1GB	None	80GB ²	Combo	GMA	XP Pro	1-yr	Nov 06
A55	8705-J4U	4x4	Core 2 Duo E6300	1.86	2MB	1GB	None	160GB	Combo	GMA	XP Home	1-yr	Nov 06
A55	8705-J5U	4x4	Core 2 Duo E6300	1.86	2MB	1GB	None	160GB	DVD±RW	GMA	XP Pro	1-yr	Nov 06
A55	8705-K1U	4x4	Core 2 Duo E6400	2.13	2MB	1GB	None	80GB	Combo	GMA	XP Pro	1-yr	Nov 06
A55	8705-K2U	4x4	Core 2 Duo E6400	2.13	2MB	1GB	None	160GB	DVD±RW	GMA	XP Pro	1-yr	Nov 06

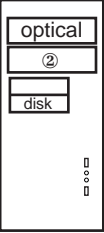
• These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning	Mainstream enterprise stability and manageability		Tower <ul style="list-style-type: none"> Business black color 6.9" W X 16.7" D X 16.14" H 175mm W X 424mm D X 410mm H 22.0 lb (10.0 kg) Handle on top front Toolless cover removal Toolless disk, diskette drive, optical drive removal Toolless adapter retention 	
Processor	Intel® Core™ 2 Duo Processor E6300 or E6400 with dual-core, Intel 64 Technology, Virtualization Technology, Execute Disable Bit, EIST, and 1066MHz system bus with 2MB L2 cache (shared)			
Implementation	Processor in FC-LGA6 package in LGA775 socket			
Memory - std/max ⁸	1GB std / 4GB max			
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable			
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display		Bay ① 5.25", 1.6" high, access, standard optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, optional diskette Bay ④ 3.5", 1" high, no access, standard disk	
SATA disk	80GB or 160GB / SATA 3.0Gb/s 7200 rpm / vibration dampening		Slot 1: half-length, full-height, PCI Express x16 (75w max)	
SATA controller	Serial ATA / SATA 3.0Gb/s / integrated in ICH7		Slot 2: half-length, full-height, PCI Express x1	
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar		Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)	
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)	
EIDE DVD±RW	Some: DVD and CD burner / Super Multi-Burner DL (part 41N5581)			
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)			
EIDE cables	One 1-drop EIDE cable to optical / 1 planar connector			
Diskette drive	None			
Media reader	None			
Chipset	Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / ITE Tech® IT8718 Super I/O			
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)			
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)			
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)			
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software			
Speaker	one internal speaker for business audio			
Ethernet	Gigabit ethernet on planar / Broadcom® BCM5786 / PCIe x1 / Wake on LAN®			
Modem	None			
Keyboard	104-key Preferred Pro Full-size keyboard (PS/2 connector), black, Lenovo logo			
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo			
Power supply	280 watts with variable speed fan / manual switch / 2 diagnostic LEDs			
Preloaded operating system²⁰	- Some: Microsoft® Windows® XP Home Edition - Some: Microsoft Windows XP Professional ♦ Disk-to-Disk Recovery (in hidden protected area)			
Preloaded applications⁵ (all OSEs; only some listed)	<ul style="list-style-type: none"> Rescue and Recovery™ Client Security Solution™ ThinkVantage Productivity Center ThinkVantage System Update System Migration Assistant Symantec® Client Security™ Diskeeper® Lite PC-Doctor™ (diagnostics) Google Desktop Picasa from Google Earthlink Trial (Windows XP Home) Multimedia Center for Think Offerings (combo, DVD±RW) Sonic RecordNow and Drive Letter Access (combo, DVD±RW) InterVideo WinDVD (combo, DVD±RW) 			
Accessories	1GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2001 2GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2002 250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 Super Multi-Burner DL DVD±RW EIDE Drive 41N5581 USB Portable Diskette Drive 05K9276 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Essential Memory Key 4GB 45J7904 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 USB 2.0 Portable 120GB Hard Disk 41N8379 USB 2.0 Super Multi-Burner Drive 41N5565 ThinkVision® L151 15" LCD Monitor 9165AC6 ThinkVision L171p 17" LCD Monitor 9417HC2 ThinkVision L174 17" LCD Monitor 9227AE1 ThinkVision L190x 19" LCD Monitor 4439HB2 ThinkVision L193p 19" LCD Monitor 4431HB2 ThinkVision L197 Wide 19" LCD Monitor 4434HE1 ThinkVision L200p Wide 20.1" LCD Monitor 4438HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 Preferred Pro USB Fingerprint Keyboard 73P4730 ADD2 DVI-I PCIe Connection Adapter 73P2516 Other accessories at lenovo.com/accessories			
			Supports ThinkVantage® technologies	
			Limited Warranty¹ ⇨ 1-year parts and labor ⇨ International Warranty Service ⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts ³ , 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations): ⁷ <ul style="list-style-type: none"> 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) ⇨ ThinkPlus services at lenovo.com/thinkplus/warranty ⇨ Post warranty maintenance services available ⇨ 24 hour x 7 day ¹⁴ toll-free support during the warranty period ¹ via 800-426-7378	

See footnotes for important warranty information
 US models announced November 21, 2006
 US models withdrawn effective June 2008

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Memory ⁸	Media reader	SATA disk	EIDE optical	Graphics	Modem adapter	Int or ext speaker	Preload	Limited warranty ¹	Avail date
A55	8705-01U	4x4	Pentium E2140	1.60	1MB	Dual	512MB	None	160GB ²	Combo	GMA	None	Internal	XP Pro	1-yr	Aug 07
A55	8705-02U	4x4	Pentium E2140	1.60	1MB	Dual	1GB	None	160GB	DVD±RW	GMA	None	Internal	XP Pro	1-yr	Aug 07
A55	8705-03U	4x4	Pentium E2140	1.60	1MB	Dual	2GB	None	80GB	Combo	GMA	None	Internal	XP Pro	1-yr	Feb 08

• **These small and medium business (SMB) models are part of the US TopSeller™ Program**

Positioning Processor	<i>Mainstream enterprise stability and manageability</i> Intel® Pentium® Dual-Core Processor E2140 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache Processor in FC-LGA6 package in LGA775 socket		Tower • Business black color • 6.9" W X 16.7" D X 16.14" H • 175mm W X 424mm D X 410mm H • 22.0 lb (10.0 kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention	
Implementation				
Memory	512MB, 1GB or 2GB std, 4GB max ⁸ , PC2-5300 667MHz DDR2, non-parity, dual-channel capable, two 240-pin DIMM sockets; <i>Italics:</i> standard memory in two sockets; no sockets available; <i>Non-italics:</i> standard memory in one socket; one socket available		Bay ① 5.25", 1.6" high, access, standard optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, optional diskette Bay ④ 3.5", 1" high, no access, standard disk Slot 1: half-length, full-height, PCI Express x16 (75w max) Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)	Security • One lock to secure both cover and entire system to fixed object: - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000), integrated graphics in 946GZ, uses main memory (up to 256MB), 400MHz, one 15-pin analog D-sub connector, supports optional ADD2 adapter but not dual independent display			
SATA disk	80GB or 160GB, SATA 3.0Gb/s 7200 rpm, vibration dampening		Supports ThinkVantage® technologies	Limited Warranty¹ ↔ 1-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) • 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) • 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) ↔ ThinkPlus services at lenovo.com/thinkplus/warranty ↔ Post warranty maintenance services available ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in ICH7			
SATA cables	One SATA cable (one 1-drop to disk), 2 SATA connectors on planar			
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo			
EIDE DVD±RW	<i>Some:</i> DVD and CD burner, Super Multi-Burner DL (41N5581)			
EIDE controller	Enhanced IDE, ATA-100, integrated in I/O Controller Hub (ICH7)			
EIDE cables	One 1-drop EIDE cable to optical, 1 planar connector			
Diskette drive	None			
Media reader	None			
Chipset	Intel 946GZ Express Chipset, 82946GZ Graphics Memory Controller Hub (GMCH), 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / ITE Tech® IT8718 Super I/O			
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)			
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)			
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)			
Audio	High Definition (HD) Audio, AD1986A codec, SoundMAX® software			
Speaker	one internal speaker for business audio			
Ethernet	Gigabit ethernet on planar, Broadcom® BCM5786, PCIe x1, Wake on LAN®			
Modem	None			
Keyboard	104-key Preferred Pro Full-size keyboard (PS/2 connector), black, Lenovo logo			
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo			
Power supply	280 watts with variable speed fan, manual switch, 2 diagnostic LEDs			
Preloaded operating system²⁰	Accessories			
- Microsoft® Windows® XP Professional	1GB PC2-5300 DDR2 UDIMM (TopSeller)	43R2001		
↔ Disk-to-Disk Recovery (in hidden protected area)	2GB PC2-5300 DDR2 UDIMM (TopSeller)	43R2002		
Preloaded applications⁵	250GB SATA 3.0Gb/s Disk (7200 rpm)	41N3015		
• Rescue and Recovery™	500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990		
• Client Security Solution™	Super Multi-Burner DL DVD±RW EIDE Drive	41N5581		
• ThinkVantage Productivity Center	USB Portable Diskette Drive	05K9276		
• ThinkVantage System Update	USB 2.0 Lenovo Multimedia Headset	40Y8518		
• System Migration Assistant	USB 2.0 Essential Memory Key 4GB	45J7904		
• Symantec® Client Security™	USB 2.0 Security Memory Key 4GB	41U5120		
• Diskeeper® Lite	USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637		
• PC-Doctor™ (diagnostics)	USB 2.0 Portable 120GB Hard Disk	41N8379		
• Adobe® Reader	USB 2.0 Super Multi-Burner Drive	41N5565		
• Windows Live™ Toolbar	ThinkVision® L151 15" LCD Monitor	9165AC6		
• Windows Live Search	ThinkVision L171p 17" LCD Monitor	9417HC2		
• Picasa from Google	ThinkVision L174 17" LCD Monitor	9227AE1		
• Multimedia Center for Think Offerings (combo, DVD±RW)	ThinkVision L190x 19" LCD Monitor	4439HB2		
• Sonic RecordNow and Drive Letter Access (combo, DVD±RW)	ThinkVision L193p 19" LCD Monitor	4431HB2		
• InterVideo WinDVD (combo, DVD±RW)	ThinkVision L197 Wide 19" LCD Monitor	4434HE1		
• InterVideo WinDVD Creator (DVD±RW)	ThinkVision L200p Wide 20.1" LCD Monitor	4438HB6		
	ThinkVision L220x Wide 22" LCD Monitor	4433HB2		
	Wireless Kbd & Opt Wheel Mouse (via USB)	73P4067		
	ADD2 DVI-I PCIe Connection Adapter	73P2516		
	Acc Guide in pdf lenovo.com/accessoriesguide			
	Other accessories at lenovo.com/accessories			

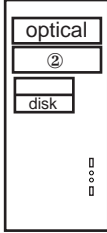
See footnotes for important warranty information
US models announced August 14, 2007 or February 18, 2008
US models withdrawn effective June 2008

ThinkCentre® A55 Tower (8705) - TopSeller (Vista®) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Memory ³	Media reader	SATA disk	EIDE optical	Graphics	Vista preload	Vista logo	Limited warranty ¹	Avail date
A55	8705-AKU	4x4	Celeron D 336	2.80	256KB	Single	1GB	None	80GB ²	DVD	GMA	Business	Basic	1-yr	Feb 07
A55	8705-35U	4x4	Pentium 4 541	3.20	1MB	Single	1GB	None	80GB	Combo	GMA	Business	Basic	1-yr	Feb 07
A55	8705-36U	4x4	Pentium 4 541	3.20	1MB	Single	1GB	None	80GB	DVD	GMA	Business	Basic	1-yr	Feb 07
A55	8705-DHU	4x4	Pentium 4 631	3.00	2MB	Single	1GB	None	80GB	DVD	GMA	Business	Premium	1-yr	Feb 07
A55	8705-DJU	4x4	Pentium 4 631	3.00	2MB	Single	1GB	None	160GB	Combo	GMA	Business	Premium	1-yr	Feb 07
A55	8705-DKU	4x4	Pentium 4 641	3.20	2MB	Single	1GB	None	80GB	Combo	GMA	Business	Premium	1-yr	Feb 07
A55	8705-DLU	4x4	Pentium 4 641	3.20	2MB	Single	1GB	None	160GB	DVD±RW	GMA	Business	Premium	1-yr	Feb 07
A55	8705-FGU	4x4	Pentium D 925	3.00	2x2MB	Dual	1GB	None	160GB	Combo	GMA	Business	Basic	1-yr	Feb 07
A55	8705-FHU	4x4	Pentium D 925	3.00	2x2MB	Dual	1GB	None	250GB	DVD±RW	GMA	Business	Basic	1-yr	Feb 07
A55	8705-M1U	4x4	Pentium D 915	2.80	2x2MB	Dual	1GB	None	80GB	DVD	GMA	Business	Premium	1-yr	Feb 07
A55	8705-M2U	4x4	Pentium D 915	2.80	2x2MB	Dual	1GB	None	160GB	Combo	GMA	Business	Premium	1-yr	Feb 07
A55	8705-M3U	4x4	Pentium D 915	2.80	2x2MB	Dual	1GB	None	160GB	DVD±RW	GMA	Business	Premium	1-yr	Feb 07
A55	8705-M4U	4x4	Pentium D 935	3.20	2x2MB	Dual	1GB	None	80GB	DVD	GMA	Business	Premium	1-yr	Feb 07
A55	8705-M5U	4x4	Pentium D 935	3.20	2x2MB	Dual	1GB	None	160GB	DVD±RW	GMA	Business	Premium	1-yr	Feb 07
A55	8705-M7U	4x4	Core 2 Duo E4300	1.80	2MB	Dual	1GB	None	80GB	DVD	GMA	Business	Premium	1-yr	Feb 07
A55	8705-M8U	4x4	Core 2 Duo E4300	1.80	2MB	Dual	1GB	None	160GB	Combo	GMA	Business	Premium	1-yr	Feb 07
A55	8705-M9U	4x4	Core 2 Duo E4300	1.80	2MB	Dual	1GB	None	160GB	DVD±RW	GMA	Business	Premium	1-yr	Feb 07
A55	8705-G8U	4x4	Pentium D 945	3.40	2x2MB	Dual	1GB	None	160GB	Combo	GMA	Business	Basic	1-yr	Feb 07
A55	8705-G9U	4x4	Pentium D 945	3.40	2x2MB	Dual	1GB	None	250GB	DVD±RW	GMA	Business	Basic	1-yr	Feb 07

• **These small and medium business (SMB) models are part of the US TopSeller™ Program**

Positioning Processor	<p>Mainstream enterprise stability and manageability</p> <p>Intel® Celeron® D Processor 336 with single-core, Intel 64 Technology, Execute Disable Bit, 533MHz system bus, and 256KB L2 cache or</p> <p>Intel Pentium® 4 Processor 541 with single-core, Intel 64 Technology, Hyper-Threading (HT) technology, Execute Disable Bit, 800MHz system bus, and 1MB L2 cache or</p> <p>Intel Pentium 4 Processor 631 or 641 with single-core, Intel 64 Technology, Hyper-Threading (HT) technology, Execute Disable Bit, 800MHz system bus, and 2MB L2 cache or</p> <p>Intel Pentium D Processor 915, 925, 935, or 945 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, and 800MHz system bus with 2x2MB L2 cache or</p> <p>Intel Core™ 2 Duo Processor E4300 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB L2 cache (shared)</p>	<p>Tower</p> <ul style="list-style-type: none"> • Business black color • 6.9" W X 16.7" D X 16.14" H • 175mm W X 424mm D X 410mm H • 22.0 lb (10.0 kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 	
Implementation	Processor in FC-LGA4/LGA6 package in LGA775 socket	<p>Bay ① 5.25", 1.6" high, access, standard optical</p> <p>Bay ② 5.25", 1.6" high, access, open</p> <p>Bay ③ 3.5", 1" high, access, optional diskette</p> <p>Bay ④ 3.5", 1" high, no access, standard disk</p> <p>Slot 1: half-length, full-height, PCI Express x16 (75w max)</p> <p>Slot 2: half-length, full-height, PCI Express x1</p> <p>Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)</p> <p>Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)</p>	
Memory - std/max ⁵	1GB std / 4GB max		
Memory	Two 240-pin DIMM sockets / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable / <i>Some: (italics) standard memory in both sockets; no sockets available; Some: standard memory in 1 socket; 1 socket available</i>		
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display	<p>Security</p> <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect 	
SATA disk	80GB, 160GB, or 250GB / SATA 3.0Gb/s 7200 rpm / vibration dampening		
SATA controller	Serial ATA / SATA 3.0Gb/s / integrated in ICH7		
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar		
EIDE DVD	<i>Some: 16X-48X Max⁴ DVD-ROM / single-layer / EIDE</i>		
EIDE Combo	<i>Some: 48X/32X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo</i>		
EIDE DVD±RW	<i>Some: DVD and CD burner / Super Multi-Burner DL (part 41N5581)</i>		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)		
EIDE cables	One 1-drop EIDE cable to optical / 1 planar connector		
Diskette drive	None		
Media reader	None		
Chipset	Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / ITE Tech® IT8718 Super I/O	Supports ThinkVantage® technologies	
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)	<p>Limited Warranty¹</p> <ul style="list-style-type: none"> ↪ 1-year parts and labor ↪ International Warranty Service⁹ ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) • 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) ↪ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↪ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 	
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software		
Speaker	one internal speaker for business audio		
Ethernet	Gigabit ethernet on planar / Broadcom® BCM5786 / PCIe x1 / Wake on LAN®		
Modem	None		
Keyboard	104-key Preferred Pro Full-size keyboard (PS/2 connector), black, Lenovo logo		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo		
Power supply	280 watts with variable speed fan / manual switch / 2 diagnostic LEDs		
Preloaded operating system²⁰	Accessories		
- Microsoft® Windows® Vista Business Edition (32-bit)	Acc Guide in pdf lenovo.com/accessoriesguide Accessories at lenovo.com/accessories		

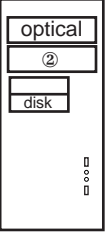
See footnotes for important warranty information
 US models announced January 30, 2007
 US models withdrawn effective March 2007, August 2007, or June 2008

ThinkCentre® A55 Tower (8705) - TopSeller (Home Basic) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	GHz	L2 cache	Core	Memory	Media reader	SATA disk	EIDE optical	Mod- Graphics	External speakers	Vista preload	Vista logo	Limited warranty	Avail date
A55	8705-DMU	4x4	Pentium 4 641	3.20	2MB	Single	1GB	9-in-1	250GB ²	DVD±RW	GMA Yes	Spkrs	Home Basic	Basic	1-yr	Feb 07
A55	8705-FEU	4x4	Pentium D 925	3.00	2x2MB	Dual	512MB	9-in-1	160GB	Combo	GMA Yes	Internal	Home Basic	Basic	1-yr	Feb 07
A55	8705-FFU	4x4	Pentium D 925	3.00	2x2MB	Dual	512MB	9-in-1	160GB	Combo	GMA Yes	Spkrs	Home Basic	Basic	1-yr	Feb 07
A55	8705-M6U	4x4	Pentium D 935	3.20	2x2MB	Dual	1GB	9-in-1	250GB	DVD±RW	GMA Yes	Spkrs	Home Basic	Basic	1-yr	Feb 07
A55	8705-G7U	4x4	Pentium D 945	3.40	2x2MB	Dual	512MB	9-in-1	160GB	Combo	GMA Yes	Spkrs	Home Basic	Basic	1-yr	Feb 07

• **These small and medium business (SMB) models are part of the US TopSeller™ Program**

Positioning Processor	<i>Mainstream enterprise stability and manageability</i> Intel® Pentium® 4 Processor 641 with single-core, Intel 64 Technology, Hyper-Threading (HT) technology, Execute Disable Bit, 800MHz system bus, and 2MB L2 cache or Intel Pentium D Processor 925, 935, or 945 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, and 800MHz system bus with 2x2MB L2 cache		Tower <ul style="list-style-type: none"> • Business black color • 6.9" W X 16.7" D X 16.14" H • 175mm W X 424mm D X 410mm H • 22.0 lb (10.0 kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 
Implementation	Processor and L2 cache in FC-LGA6 in LGA775 socket		
Memory - std/max ⁹	512MB or 1GB std / 4GB max		Bay ① 5.25", 1.6" high, access, standard optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, optional diskette Bay ④ 3.5", 1" high, no access, standard disk Slot 1: half-length, full-height, PCI Express x16 (75w max) Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)* * modem in slot in some models
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable		
Graphics	Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display		
SATA disk	160GB or 250GB / SATA 3.0Gb/s 7200 rpm / vibration dampening		
SATA controller	Serial ATA / SATA 3.0Gb/s / integrated in ICH7		
SATA cables	One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar		
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
EIDE DVD±RW	<i>Some:</i> DVD and CD burner / Super Multi-Burner DL (41N5581)		
EIDE controller	Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)		
EIDE cables	One 1-drop EIDE cable to optical / 1 planar connector		
Diskette drive	None		
Media reader	9-in-1 media reader / occupies diskette drive bay / internal USB 2.0		
Chipset	Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / ITE Tech® IT8718 Super I/O		
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)		
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software		
External speakers	<i>Some:</i> [Spkrs] 2-piece speakers, 6 watts (3 watts each), black, Infinity logo		
Speaker	<i>Some:</i> [Internal] one internal speaker for business audio		
Ethernet	Gigabit ethernet on planar / Broadcom® BCM5786 / PCIe x1 / Wake on LAN®		
Modem	56K ¹⁰ V.90 data/fax soft modem / PCI adapter		
Keyboard	104-key Preferred Pro Full-size keyboard (PS/2 connector), black, Lenovo logo		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo		
Power supply	280 watts with variable speed fan / manual switch / 2 diagnostic LEDs		
Preloaded operating system²⁰			Security <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect Supports ThinkVantage® technologies
- Microsoft® Windows® Vista® Home Basic Edition (32-bit)			
Preloaded applications⁵			
• Rescue and Recovery™			
• Client Security Solution™			
• ThinkVantage Productivity Center			
• ThinkVantage System Update			
• System Migration Assistant			
• Norton Internet Security™ (90 days of virus definitions)			
• Diskeeper® Home			
• PC-Doctor™ (diagnostics)			
• Adobe® Reader			
• Picasa from Google			
Accessories			Limited Warranty¹ <ul style="list-style-type: none"> ↔ 1-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) • 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) • 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) ↔ ThinkPlus services at lenovo.com/thinkplus/warranty ↔ Post warranty maintenance services available ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378
1GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2001			
2GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2002			
250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015			
500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990			
Super Multi-Burner DL DVD±RW EIDE Drive 41N5581			
USB Portable Diskette Drive 05K9276			
USB 2.0 Lenovo Multimedia Headset 40Y8518			
USB 2.0 Lenovo Webcam 40Y8519			
USB 2.0 Essential Memory Key 4GB 45J7904			
USB 2.0 Security Memory Key 4GB 41U5120			
USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637			
USB 2.0 Portable 120GB Hard Disk 41N8379			
USB 2.0 Super Multi-Burner Drive 41N5565			
ThinkVision® L171p 17" LCD Monitor 9417HC2			
ThinkVision L174 17" LCD Monitor 9227AE1			
ThinkVision L190x 19" LCD Monitor 4439HB2			
ThinkVision L193p 19" LCD Monitor 4431HB2			
ThinkVision L197 Wide 19" LCD Monitor 4434HE1			
ThinkVision L200p Wide 20.1" LCD Monitor 4438HB6			
ThinkVision L220x Wide 22" LCD Monitor 4433HB2			
Laser Tilt Wheel Mouse (USB, PS/2) 41U3074			
Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067			
ADD2 DVI-I PCIe Connection Adapter 73P2516			
Acc Guide in pdf lenovo.com/accessoriesguide			
Other accessories at lenovo.com/accessories			

See footnotes for important warranty information
 US models announced January 30, 2007
 US models withdrawn effective March 2007 or June 2008

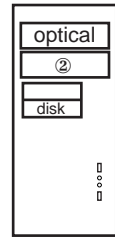
ThinkCentre® A55 Tower (9265) - TopSeller - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Core	Memory ^a	Media reader	SATA disk	EIDE optical	Graphics	Mod-em	Speaker	Preload	Limited warranty ¹	Avail date
A55	9265-KNU	4x4	Celeron 420	1.60 512KB	Single	512M	None	80GB ²	DVD	GMA	No	Internal	XP Pro	3-yr	Jun 07
A55	9265-KRU	4x4	Pentium E2140	1.60 1MB	Dual	512M	None	80GB	DVD	GMA	No	Internal	XP Pro	3-yr	Jun 07
A55	9265-04U	4x4	Pentium E2140	1.60 1MB	Dual	512M	None	160GB	Combo	GMA	No	Internal	XP Pro	3-yr	Aug 07
A55	9265-01U	4x4	Pentium E2140	1.60 1MB	Dual	1GB	None	80GB	Combo	GMA	No	Internal	XP Pro	3-yr	Jun 07
A55	9265-02U	4x4	Pentium E2160	1.80 1MB	Dual	1GB	None	80GB	Combo	GMA	No	Internal	XP Pro	3-yr	Jun 07
A55	9265-03U	4x4	Pentium E2160	1.80 1MB	Dual	1GB	None	160GB	DVD±RW	GMA	No	Internal	XP Pro	3-yr	Jun 07
A55	9265-KSU	4x4	Pentium E2160	1.80 1MB	Dual	512M	None	80GB	DVD	GMA	No	Internal	XP Pro	3-yr	Jun 07
A55	9265-05U	4x4	Pentium E2160	1.80 1MB	Dual	2GB	None	160GB	DVD±RW	GMA	No	Internal	XP Pro	3-yr	Feb 08
A55	9265-K3U	4x4	Pentium D 925	3.00 2x2MB	Dual	512M	None	80GB	DVD	GMA	No	Internal	XP Pro	3-yr	May 07
A55	9265-K4U	4x4	Pentium D 925	3.00 2x2MB	Dual	512M	None	160GB	Combo	GMA	No	Internal	XP Pro	3-yr	May 07
A55	9265-JUU	4x4	Core 2 Duo E4300	1.80 2MB	Dual	512M	None	80GB	DVD	GMA	No	Internal	XP Pro	3-yr	May 07
A55	9265-LKU	4x4	Core 2 Duo E4400	2.00 2MB	Dual	512M	None	80GB	DVD	GMA	No	Internal	XP Pro	3-yr	Jul 07
A55	9265-LSU	4x4	Core 2 Duo E4500	2.20 2MB	Dual	512M	None	80GB	DVD	GMA	No	Internal	XP Pro	3-yr	Nov 07
A55	9265-LTU	4x4	Core 2 Duo E4500	2.20 2MB	Dual	1GB	None	160GB	DVD±RW	GMA	No	Internal	XP Pro	3-yr	Nov 07

• These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning	Mainstream enterprise stability and manageability	
Processor	<p>Intel® Celeron® Processor 420 with single-core, Intel 64 Tech, Execute Disable Bit, and 800MHz bus with 512KB L2 cache or Intel Pentium® Dual-Core Processor E2140 or E2160 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Pentium D Processor 925 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, and 800MHz system bus with 2x2MB L2 cache or Intel Core™ 2 Duo Processor E4300, E4400, or E4500 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB shared L2 cache</p>	
Implementation	Processor and L2 cache in FC-LGA6 in LGA775 socket	
Memory	<p>512MB, 1GB, or 2GB std, 4GB max⁸, PC2-5300 667MHz DDR2, non-parity, dual-channel capable, two 240-pin DIMM sockets; <i>Italics:</i> standard memory in two sockets; no sockets available; <i>Non-italics:</i> standard memory in one socket; one socket available <i>May 07 models:</i> PC2-4200 533MHz DDR2;</p>	
Graphics	<p>Intel Graphics Media Accelerator 3000 (GMA 3000), integrated graphics in 946GZ, uses main memory (up to 256MB), 400MHz, one 15-pin analog D-sub connector, supports optional ADD2 adapter but not dual independent display</p>	
SATA disk	80GB or 160GB , SATA 3.0Gb/s 7200 rpm, vibration dampening	
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in ICH7	
SATA cables	One SATA cable (one 1-drop to disk), 2 SATA connectors on planar	
EIDE DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM, single-layer	
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo	
EIDE DVD±RW	<i>Some:</i> DVD and CD burner, Super Multi-Burner DL (41N5581)	
EIDE controller	Enhanced IDE, ATA-100, integrated in I/O Controller Hub (ICH7)	
EIDE cables	One 1-drop EIDE cable to optical, 1 planar connector	
Diskette drive	None	
Media reader	None	
Chipset	<p>Intel 946GZ Express Chipset, 82946GZ Graphics Memory Controller Hub (GMCH), 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / ITE Tech® IT8718 Super I/O</p>	
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four SATA 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)	
Audio	High Definition (HD) Audio, AD1986A codec, SoundMAX® software	
External speakers	None	
Speaker	One internal speaker for business audio	
Ethernet	Gigabit ethernet on planar, Broadcom® BCM5786, PCIe x1, Wake on LAN®	
Modem	None	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo	
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo	
Power supply	280 watts with variable speed fan, manual switch, 2 diagnostic LEDs	
Preloaded operating system²⁰	<p>- Microsoft® Windows® XP Professional ⇨ Disk-to-Disk Recovery (in hidden protected area)</p>	
Preloaded applications⁵ (only some listed)	<p>• Multimedia Center for Think Offerings (combo, DVD, DVD±RW) • Sonic RecordNow and Drive Letter Access (combo, DVD±RW) • InterVideo WinDVD (combo, DVD, DVD±RW)</p>	
Accessories	<p>1GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2001 2GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2002 250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 Super Multi-Burner DL DVD±RW EIDE Drive 41N5581 ThinkVision® L197 Wide 19" LCD Monitor 4434HE1 ThinkVision L200p Wide 20.1" LCD Monitor 4438HB6 ThinkVision L220x Wide 22" LCD Monitor 4433HB2 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 ADD2 DVI-I PCIe Connection Adapter 73P2516 Other accessories at lenovo.com/accessories</p>	
Tower	<p>• Business black color • 6.9" W X 16.7" D X 16.14" H • 175mm W X 424mm D X 410mm H • 22.0 lb (10.0 kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention</p>	
	<p>Bay ① 5.25", 1.6" high, access, standard optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, optional diskette Bay ④ 3.5", 1" high, no access, standard diskette</p>	
	<p>Slot 1: half-length, full-height, PCI Express x16 (75w max) Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)</p>	
	<p>Security</p> <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect 	
	Supports ThinkVantage® technologies	
	<p>Limited Warranty¹</p> <ul style="list-style-type: none"> ⇨ 3-year parts and labor ⇨ International Warranty Service⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇨ Other ThinkPlus services at lenovo.com/thinkplus/warranty ⇨ Post warranty maintenance services available ⇨ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 	



See footnotes for important warranty information

US models announced May 1, 2007, June 5, 2007, July 3, 2007, August 14, 2007, October 23, 2007, or February 18, 2008

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ThinkCentre® A55 Tower (9265) - TopSeller (Vista®) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Processor	L2 cache	Core	Memory*	Media reader	SATA disk	EIDE optical	Mod- Graphics em	Speaker	Vista preload	Vista logo	Limited warranty ¹	Avail date
A55	9265-KPU	4x4	Celeron 420	1.60 512KB	Sing	1GB	None	80GB ²	Combo	GMA	No	Internal	Business 32	Basic 3-yr	Jun 07
A55	9265-KQU	4x4	Pentium E2140	1.60 1MB	Dual	1GB	None	80GB	Combo	GMA	No	Internal	Business 32	Basic 3-yr	Jun 07
A55	9265-KTU	4x4	Pentium E2160	1.80 1MB	Dual	1GB	None	80GB	Combo	GMA	No	Internal	Business 32	Basic 3-yr	Jun 07
A55	9265-KUU	4x4	Pentium E2160	1.80 1MB	Dual	1GB	None	160GB	DVD±RW	GMA	No	Internal	Business 32	Basic 3-yr	Jun 07
A55	9265-K2U	4x4	Pentium D 925	3.00 2x2MB	Dual	1GB	None	80GB	Combo	GMA	No	Internal	Business 32	Basic 3-yr	May 07
A55	9265-JVU	4x4	Core 2 Duo E4300	1.80 2MB	Dual	1GB	None	160GB	Combo	GMA	No	Internal	Business 32	Basic 3-yr	May 07
A55	9265-JWU	4x4	Core 2 Duo E4300	1.80 2MB	Dual	1GB	None	250GB	DVD±RW	GMA	No	Internal	Business 32	Basic 3-yr	May 07
A55	9265-LLU	4x4	Core 2 Duo E4400	2.00 2MB	Dual	1GB	None	160GB	Combo	GMA	No	Internal	Business 32	Basic 3-yr	Jul 07
A55	9265-LCU	4x4	Core 2 Duo E6420	2.13 4MB	Dual	1GB	None	160GB	DVD±RW	GMA	No	Internal	Business 32	Basic 3-yr	Jul 07

• These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning Processor	<p><i>Mainstream enterprise stability and manageability</i></p> <p>Intel® Celeron® Processor 420 with single-core, Intel 64 Tech, Execute Disable Bit, 800MHz bus, and 512KB L2 cache or Intel Pentium® Dual-Core Processor E2140 or E2160 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 1MB shared L2 cache or Intel Pentium D Processor 925 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2x2MB L2 cache or Intel Core™ 2 Duo Processor E4300 or E4400 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, 800MHz system bus, and 2MB shared L2 cache or Intel Core 2 Duo Processor E6420 with dual-core, Intel 64 Technology, Execute Disable Bit, EIST, Virtualization Tech, 1067MHz system bus, and 4MB shared L2 cache Processor and L2 cache in FC-LGA6 in LGA775 socket</p>		<p>Tower</p> <ul style="list-style-type: none"> • Business black color • 6.9" W X 16.7" D X 16.14" H • 175mm W X 424mm D X 410mm H • 22.0 lb (10.0 kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention <p>Bay ① 5.25", 1.6" high, access, standard optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, optional diskette Bay ④ 3.5", 1" high, no access, standard disk</p> <p>Slot 1: half-length, full-height, PCI Express x16 (75w max) Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)</p>																										
Implementation																													
Memory	<p>1GB std / 4GB max⁸ / two 240-pin DIMM sockets, one socket used, non-parity, dual-channel capable; May 07 models: PC2-4200 533MHz DDR2; June and July 07 models: PC2-5300 667MHz DDR2</p>																												
Graphics	<p>Intel Graphics Media Accelerator 3000 (GMA 3000) / integrated graphics in 946GZ / uses main memory (up to 256MB) / 400MHz / one 15-pin analog D-sub connector / supports optional ADD2 adapter but not dual independent display</p>		<p>Security</p> <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect 																										
SATA disk	<p>80GB, 160GB, or 250GB / SATA 3.0Gb/s 7200 rpm / vibration dampening</p>																												
SATA controller	<p>Serial ATA / SATA 3.0Gb/s / integrated in ICH7</p>																												
EIDE Combo	<p>One SATA cable (one 1-drop to disk) / 2 SATA connectors on planar Some: 48X/32X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo</p>																												
EIDE DVD±RW	<p>Some: DVD and CD burner / Super Multi-Burner DL (41N5581)</p>																												
EIDE controller	<p>Enhanced IDE / ATA-100 / integrated in I/O Controller Hub (ICH7)</p>																												
EIDE cables	<p>One 1-drop EIDE cable to optical / 1 planar connector</p>																												
Diskette drive	<p>None</p>																												
Media reader	<p>None</p>																												
Chipset	<p>Intel 946GZ Express Chipset / 82946GZ Graphics Memory Controller Hub (GMCH) / 82801GB I/O Controller Hub (ICH7) for SATA 3.0Gb/s, ATA-100 EIDE, PCI Express x1, PCI 2.3, USB, LPC bus / ITE Tech® IT8718 Super I/O</p>																												
Front ports	<p>Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)</p>																												
Rear ports	<p>Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)</p>		<p>Supports ThinkVantage® technologies</p>																										
Rear audio ports	<p>Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm)</p>																												
Audio	<p>High Definition (HD) Audio / AD1986A codec / SoundMAX® software</p>																												
External speakers	<p>None</p>																												
Speaker	<p>One internal speaker for business audio</p>																												
Ethernet	<p>Gigabit ethernet on planar / Broadcom® BCM5786 / PCIe x1 / Wake on LAN®</p>																												
Modem	<p>None</p>																												
Keyboard	<p>Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo</p>																												
Mouse	<p>Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo</p>																												
Power supply	<p>280 watts with variable speed fan / manual switch / 2 diagnostic LEDs</p>																												
Preloaded operating system ²⁰	<p>- Microsoft® Windows® Vista Business Edition (32-bit)</p>																												
Preloaded applications ⁵ (only some listed)	<ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Lenovo Multimedia Center • Norton Internet Security™ (90 days of virus definitions) • Diskeeper® Home 		<p>Accessories</p> <table border="0"> <tr> <td>1GB PC2-5300 DDR2 UDIMM (TopSeller)</td> <td>43R2001</td> </tr> <tr> <td>2GB PC2-5300 DDR2 UDIMM (TopSeller)</td> <td>43R2002</td> </tr> <tr> <td>250GB SATA 3.0Gb/s Disk (7200 rpm)</td> <td>41N3015</td> </tr> <tr> <td>500GB SATA 3.0Gb/s Disk (7200 rpm)</td> <td>43R1990</td> </tr> <tr> <td>Super Multi-Burner DL DVD±RW EIDE Drive</td> <td>41N5581</td> </tr> <tr> <td>USB 2.0 Lenovo Multimedia Headset</td> <td>40Y8518</td> </tr> <tr> <td>USB 2.0 Security Memory Key 4GB</td> <td>41U5120</td> </tr> <tr> <td>USB 2.0 Super Multi-Burner Drive</td> <td>41N5565</td> </tr> <tr> <td>ThinkVision® L193p 19" LCD Monitor</td> <td>4431HB2</td> </tr> <tr> <td>ThinkVision L197 Wide 19" LCD Monitor</td> <td>4434HE1</td> </tr> <tr> <td>ThinkVision L200p Wide 20.1" LCD Monitor</td> <td>4438HB6</td> </tr> <tr> <td>ThinkVision L220x Wide 22" LCD Monitor</td> <td>4433HB2</td> </tr> <tr> <td>ADD2 DVI-I PCIe Connection Adapter</td> <td>73P2516</td> </tr> </table> <p>Other accessories at lenovo.com/accessories</p>	1GB PC2-5300 DDR2 UDIMM (TopSeller)	43R2001	2GB PC2-5300 DDR2 UDIMM (TopSeller)	43R2002	250GB SATA 3.0Gb/s Disk (7200 rpm)	41N3015	500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990	Super Multi-Burner DL DVD±RW EIDE Drive	41N5581	USB 2.0 Lenovo Multimedia Headset	40Y8518	USB 2.0 Security Memory Key 4GB	41U5120	USB 2.0 Super Multi-Burner Drive	41N5565	ThinkVision® L193p 19" LCD Monitor	4431HB2	ThinkVision L197 Wide 19" LCD Monitor	4434HE1	ThinkVision L200p Wide 20.1" LCD Monitor	4438HB6	ThinkVision L220x Wide 22" LCD Monitor	4433HB2	ADD2 DVI-I PCIe Connection Adapter	73P2516
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ADD2 DVI-I PCIe Connection Adapter	73P2516																												
			<p>Limited Warranty¹</p> <ul style="list-style-type: none"> ⇒ 3-year parts and labor ⇒ International Warranty Service⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇒ ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ Post warranty maintenance services available ⇒ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 																										

See footnotes for important warranty information
 US models announced May 1, June 5, or July 3, 2007
 US models withdrawn effective June 2008

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Partial list of accessories supported on ThinkCentre A55 originally announced on September 26, 2006

Memory

512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983	<i>ann 06/28/05</i>
1GB PC2-5300 DDR2 UDIMM (TopSeller)	43R2001	<i>ann 03/25/08</i>
1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	<i>ann 06/28/05</i>
2GB PC2-5300 DDR2 UDIMM (TopSeller)	43R2002	<i>ann 03/25/08</i>
2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985	<i>ann 09/26/06</i>

Intel 946GZ does not support PC2-6400 DDR2 memory

Optical

16X Max ⁴ DVD-ROM (black)	22P6950	
Super Multi-Burner DL DVD±RW EIDE Drive	41N5581	<i>ann 05/30/06</i>

Storage and removable storage

80GB SATA 3.0Gb/s Disk (7200 rpm)	09N4253	<i>ann 05/19/03</i>
160GB SATA 3.0Gb/s Disk (7200 rpm)	09N4254	<i>ann 05/19/03</i>
250GB SATA 3.0Gb/s Disk (7200 rpm)	41N3015	<i>ann 01/24/06</i>
500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990	<i>ann 11/06/07</i>

USB Portable Diskette Drive	05K9276	<i>ann 06/05/00</i>
USB 2.0 Essential Memory Key 1GB	41U4940	<i>ann 01/23/07</i>
USB 2.0 Essential Memory Key 2GB	41U4944	<i>ann 01/23/07</i>
USB 2.0 Essential Memory Key 4GB	45J7904	<i>ann 06/24/08</i>
USB 2.0 Security Memory Key 1GB	41U5118	<i>ann 07/17/07</i>
USB 2.0 Security Memory Key 2GB	41U5119	<i>ann 07/17/07</i>
USB 2.0 Security Memory Key 4GB	41U5120	<i>ann 07/17/07</i>
USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637	<i>ann 01/05/06</i>
USB 2.0 Portable 80GB Hard Disk	41N8378	<i>ann 04/17/07</i>
USB 2.0 Portable 120GB Hard Disk	41N8379	<i>ann 04/17/07</i>
USB 2.0 Super Multi-Burner Drive	41N5565	<i>ann 01/23/07</i>

Graphics

Small 9636 supports:

ADD2 DVI-I PCIe Connection Adapter ⁴⁰	73P2516	<i>ann 06/28/05</i>
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⁴⁰ No dual independent display with Intel 946GZ

Tower 8705/9265 support 75 watts max:

ADD2 DVI-I PCIe Connection Adapter ⁴⁰	73P2516	<i>ann 06/28/05</i>
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⁴⁰ No dual independent display with Intel 946GZ

Keyboard

Preferred Pro USB Keyboard	73P5220	<i>ann 06/21/05</i>
Preferred Pro Full Size PS/2 Keyboard	31P7415	<i>ann 06/04/02</i>
Enhanced Performance USB Keyboard	73P2620	<i>ann 03/23/04</i>
Wireless Kbd & Opt Wheel Mouse (via USB)	73P4067	<i>ann 12/07/04</i>

Mouse

Optical Wheel Mouse (USB)	06P4069	<i>ann 05/21/03</i>
Optical ScrollPoint® Mouse (USB, PS/2)	31P7405	<i>ann 08/27/02</i>
Laser Tilt Wheel Mouse (USB, PS/2)	41U3074	<i>ann 01/23/07</i>

Multimedia

USB 2.0 Lenovo Multimedia Headset	40Y8518	<i>ann 06/27/06</i>
USB 2.0 Lenovo Webcam	40Y8519	<i>ann 08/29/06</i>

Security

Kensington® Cable Lock from Lenovo	73P2582	<i>ann 12/29/03</i>
USB Gemplus GemPC Smart Card Reader	41N3040	<i>ann 02/21/06</i>

Monitors

Lenovo E75 17" CRT Monitor (16.0" vis) blk	6307BTN	<i>ann 01/16/07</i>
ThinkVision® L151 15" LCD Monitor	9165AC6	<i>ann 10/23/07</i>
ThinkVision L171p 17" LCD Monitor	9417HC2	<i>ann 10/31/06</i>
ThinkVision L174 17" LCD Monitor	9227AE1	<i>ann 04/15/08</i>
ThinkVision L190x 19" LCD Monitor	4439HB2	<i>ann 10/23/07</i>
ThinkVision L193p 19" LCD Monitor	4431HB2	<i>ann 10/23/07</i>
ThinkVision L197 Wide 19" LCD Monitor	4434HE1	<i>ann 04/15/08</i>
ThinkVision L200p Wide 20.1" LCD Monitor	4438HB6	<i>ann 04/15/08</i>
ThinkVision L220x Wide 22" LCD Monitor	4433HB2	<i>ann 10/23/07</i>

Monitor Accessories⁴⁶

ThinkVision USB Soundbar 40Y7616		<i>ann 08/23/05</i>
Kensington Cable Lock from Lenovo	73P2582	<i>ann 12/29/03</i>
Radial Arm	19K4464	<i>ann 05/05/00</i>

⁴⁶ Compatible on selected Lenovo and ThinkVision monitors.

Medialess License Key (MLK)

Microsoft® Office 2007 Basic, English	43R1528	<i>ann 01/31/07</i>
Microsoft Office 2007 Small Business, Engl	43R1534	<i>ann 01/31/07</i>
Microsoft Office 2007 Professional, English	43R1531	<i>ann 01/31/07</i>

Other accessories at lenovo.com/accessories

Accessories Guide pdf at lenovo.com/accessoriesguide

Need to buy accessories no longer marketed by Lenovo? See www.itxchange.com/lenovo for the Options Continuation Program.

ThinkPlus™.7 service upgrade options⁷ for 1-year warranty models:

1-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9189
2-year Lenovo Onsite Repair (LOR) 9x5 Next Business Day	41C9187
2-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9190
3-year Lenovo Onsite Repair (LOR) 9x5 Next Business Day	41C9188
3-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9191

ThinkPlus™.7 service upgrade options⁷ for 3-year warranty models:

3-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9192
3-year Lenovo Onsite Repair (LOR) 24x7 4 hour response	41C9193
4-year Lenovo Onsite Repair (LOR) 9x5 Next Business Day	41C9194
4-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9195
4-year Lenovo Onsite Repair (LOR) 24x7 4 hour response	41C9196

Post-warranty annual maintenance agreements at lenovo.com/thinkplus/warranty

ThinkCentre® A60 Desktop (9266) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ⁸	Media reader	SATA disk	EIDE optical	Integrated graphics	Preload	Limited warranty ¹	Workhorse Global	Avail date
A60	9266-A4U	4x3	Sempron 3000+	1.6	256KB	Single	512MB		80GB ²	CD	NVIDIA	XP Pro	1-yr	None	Aug 06
A60	9266-B6U	4x3	Sempron 3400+	1.8	256KB	Single	512MB	9-in-1	80GB	CD	NVIDIA	XP Pro	1-yr	None	Aug 06
A60	9266-36U	4x3	Athlon 64 X2 3800+	2.0	2x512KB	Dual	512MB		80GB	Combo	NVIDIA	XP Pro	1-yr	None	Aug 06
A60	9266-37U	4x3	Athlon 64 X2 3800+	2.0	2x512KB	Dual	512MB		80GB	CD	NVIDIA	XP Pro	1-yr	None	Aug 06
A60	9266-D1U	4x3	Athlon 64 X2 4200+	2.2	2x512KB	Dual	512MB		80GB	CD	NVIDIA	XP Pro	1-yr	None	Aug 06
A60	9266-D2U	4x3	Athlon 64 X2 4200+	2.2	2x512KB	Dual	512MB		80GB	Combo	NVIDIA	XP Pro	1-yr	None	Aug 06

• **These models have a 1-year limited warranty¹**

Positioning	Mainstream enterprise stability and manageability										Desktop			
Processor	AMD® Sempron™ 3000+ or 3400+ with single-core, integrated L1/L2 cache, AMD64, and integrated DDR2 memory controller or AMD Athlon™ 64 X2 3800+ or 4200+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 controller, and virtualization technology										<ul style="list-style-type: none"> • Business black color • 13.3"W X 15.94"D X 4.13"H • 331mm W X 405mm D X 105mm H • 18.5 to 20.7lb (8.4 to 9.4kg) • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 			
Implementation	Processor in 940-pin PGA package in Socket AM2										<ul style="list-style-type: none"> • Bay ① 5.25", 1.6" high, access, standard optical • Bay ② 3.5", 1" high, access, optional diskette • Bay ③ 3.5", 1" high, no access, standard disk 			
Memory - std/max ⁸	512MB std / 4GB max										<ul style="list-style-type: none"> • Slot 1: Low Profile, PCI Express x16 (25w max) • Slot 2: Low Profile, PCI Express x1 • Slot 3: Low Profile, 32-bit PCI 2.3 (5v) • Slot 4: Low Profile, 32-bit PCI 2.3 (5v) 			
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable													
Graphics	NVIDIA® GF 6100 / integrated graphics controller in C51g chipset / uses main memory / 425MHz / one 15-pin analog D-sub connector / optional PCI Express x16 adapter can support two monitors													
SATA disk	80GB / SATA300 7200 rpm / vibration dampening													
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in south bridge													
SATA cables	One SATA cable (one 1-drop to disk) / two SATA planar connectors													
EIDE CD	Some: 48X-20X ⁴ CD-ROM													
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo													
EIDE controller	Enhanced IDE / ATA-133 / integrated in NVIDIA MCP51 south bridge													
EIDE cables	One 1-drop EIDE 80-conductor cable to optical / two planar connectors													
Diskette drive	None / use optional external USB-based diskette drive													
Media reader	Some: 9-in-1 media reader / occupies diskette drive bay / internal USB 2.0													
Chipset	NVIDIA GeForce® 6100 C51g chipset / C51g includes graphics controller, support for PCI Express x1 slot, PCI Express x16 slot, PCI 2.3 slots / NVIDIA MCP51 south bridge for SATA300, ATA-133 EIDE, USB, Low Pin Count interface / Winbond® W83627EHG Super I/O										<p>SECURITY</p> <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington Microsaver cable) - No keylock • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Unattended start mode • Hard disk I/O control • Serial port I/O control • Parallel port I/O control 			
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)													
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)													
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (mono, 3.5mm)													
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software													
Speaker	One internal speaker for business audio													
IEEE 1394	None													
Ethernet	Gigabit ethernet on planar / Broadcom® 5788 / PCI 2.3 / Wake on LAN®													
Modem	None													
Keyboard	104-key Preferred Pro Full-size keyboard (PS/2 connector), black, Lenovo logo													
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo													
Power supply	220 watts with variable speed fan / universal / manual switch										<p>ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage</p>			
Preload with Windows XP Professional⁵	Accessories										LIMITED WARRANTY¹			
Microsoft® Windows® XP Professional	512MB PC2-5300 CL5 NP DDR2 UDIMM										⇒ 1-year parts and labor			
- Disk-to-Disk Recovery (in hidden protected area)	1GB PC2-5300 CL5 NP DDR2 UDIMM										⇒ International Warranty Service ⁹			
Preloaded	2GB PC2-5300 CL5 NP DDR2 UDIMM										⇒ Customer Replaceable Unit (CRU)			
• Rescue and Recovery™	250GB Serial ATA300 Disk (7200 rpm)										parts only (with limited onsite service for selected parts ³ , 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)			
• Client Security Solution™	500GB Serial ATA300 Disk (7200 rpm)										⇒ Onsite service upgrade options (in eligible locations): ⁷			
• ThinkVantage Productivity Center	48X/32X/48X/16X Max ¹¹ Combo drive (blk)										• 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189)			
• ThinkVantage System Update	Super Multi-Burner DL DVD±RW EIDE Drive										• 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190)			
• System Migration Assistant	USB Portable Diskette Drive										• 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187)			
• Symantec® Client Security™	USB Fingerprint Reader										• 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191)			
• Diskeeper® Lite	USB 2.0 Lenovo Multimedia Headset										• 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188)			
• PC-Doctor™ (diagnostics)	USB 2.0 Lenovo Webcam										⇒ ThinkPlus services at lenovo.com/thinkplus/warranty			
• Adobe® Reader	USB 2.0 Essential Memory Key 2GB										⇒ Post-warranty maintenance services at lenovo.com/thinkplus/warranty			
• Google Toolbar	USB 2.0 Security Memory Key 4GB										⇒ 24x7 ¹⁴ toll-free support for warranty issues during the warranty period ¹ via 800-IBM-SERV (426-7378)			
• Google Desktop	USB 2.0 CD-RW/DVD-ROM Combo II Drive													
• Picasa from Google	USB 2.0 Portable 120GB Hard Disk													
• Multimedia Center for Think Offerings (combo)	USB 2.0 Super Multi-Burner Drive													
• Sonic RecordNow and Drive Letter Access (combo)	ThinkVision® L190x 19" LCD Monitor													
• InterVideo WinDVD (combo)	ThinkVision L193p 19" LCD Monitor													
License - CD not included	ThinkVision L194 Wide 19" LCD Monitor													
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	ThinkVision L220x Wide 22" LCD Monitor													
	Lenovo Laser Mouse (USB, PS/2)													
	Lenovo M500 Projector													
	Enh Perf Wireless Keyboard and Mouse													
	Preferred Pro USB Fingerprint Keyboard													
	Other accessories at lenovo.com/accessories													

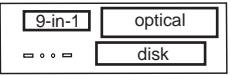
See footnotes for important warranty information
 US models announced August 8 or August 22, 2006
 US models withdrawn effective June or August 2007, or January 2008

ThinkCentre® A60 Desktop (9384) - withdrawn

Personal Systems Reference (PSREF)

Name	Type	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ^a	Media reader	SATA disk	EIDE optical	Integrated graphics	Preload	Limited warranty ¹	Workhorse Gbl, Educ	Avail date
A60	9384-A7U	4x3	Sempron 3000+	1.6	256KB	Single	512MB		80GB ²	CD	NVIDIA	XP Pro	3-yr		Aug 06
A60	9384-B3U	4x3	Sempron 3400+	1.8	256KB	Single	512MB		80GB	CD	NVIDIA	XP Pro	3-yr		Aug 06
A60	9384-20U	4x3	Athlon 64 3500+	2.2	512KB	Single	512MB		80GB	CD	NVIDIA	XP Pro	3-yr	Educ	Nov 06
A60	9384-23U	4x3	Athlon 64 3500+	2.2	512KB	Single	512MB		80GB	CD	NVIDIA	XP Pro	3-yr		Aug 06
A60	9384-28U	4x3	Athlon 64 3500+	2.2	512KB	Single	512MB		160GB	Combo	NVIDIA	XP Pro	3-yr		Aug 06
A60	9384-37U	4x3	Athlon 64 3800+	2.4	512KB	Single	1GB		160GB	DVD±RW	NVIDIA	XP Pro	3-yr	Educ	Nov 06
A60	9384-34U	4x3	Athlon 64 X2 3800+	2.0	2x512KB	Dual	512MB		80GB	DVD	NVIDIA	XP Pro	3-yr	W Gbl	Aug 06
A60	9384-35U	4x3	Athlon 64 X2 3800+	2.0	2x512KB	Dual	512MB		80GB	Combo	NVIDIA	XP Pro	3-yr		Aug 06
A60	9384-D3U	4x3	Athlon 64 X2 4200+	2.2	2x512KB	Dual	512MB		80GB	CD	NVIDIA	XP Pro	3-yr		Aug 06
A60	9384-D5U	4x3	Athlon 64 X2 4200+	2.2	2x512KB	Dual	512MB	9-in-1	160GB	Combo	NVIDIA	XP Pro	3-yr	Global	Aug 06
A60	9384-D7U	4x3	Athlon 64 X2 4200+	2.2	2x512KB	Dual	512MB		80GB	DVD	NVIDIA	XP Pro	3-yr		Aug 06
A60	9384-F9U	4x3	Athlon 64 X2 4400+	2.3	2x512KB	Dual	512MB		80GB	DVD	NVIDIA	XP Pro	3-yr		May 07
A60	9384-FCU	4x3	Athlon 64 X2 4800+	2.5	2x512KB	Dual	1GB		160GB	Combo	NVIDIA	XP Pro	3-yr		May 07

• These models have a 3-year limited warranty¹

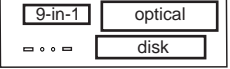
Positioning Processor	<i>Mainstream enterprise stability and manageability</i> AMD® Sempron™ 3000+ or 3400+ with single-core, integrated L1/L2 cache, AMD64, and integrated DDR2 memory controller or AMD Athlon™ 64 3500+ or 3800+ with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology or AMD Athlon™ 64 X2 3800+ , 4200+ , 4400+ , or 4800+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 controller, and virtualization technology	Desktop	
Implementation	Processor in 940-pin PGA package in Socket AM2	<ul style="list-style-type: none"> • Business black color • 13.3"W X 15.94"D X 4.13"H • 331mm W X 405mm D X 105mm H • 18.5 to 20.7lb (8.4 to 9.4kg) • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 	
Memory - std/max ⁵	512MB or 1GB std / 4GB max	<p>Bay ① 5.25", 1.6" high, access, std optical</p> <p>Bay ② 3.5", 1" high, access, std or opt reader</p> <p>Bay ③ 3.5", 1" high, no access, std disk</p> <p>Slot 1: Low Profile, PCI Express x16 (25w max)</p> <p>Slot 2: Low Profile, PCI Express x1</p> <p>Slot 3: Low Profile, 32-bit PCI 2.3 (5v)</p> <p>Slot 4: Low Profile, 32-bit PCI 2.3 (5v)</p>	
Memory	Two 240-pin DIMM sockets / one socket used / <i>Others:</i> PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable <i>Fxx:</i> PC2-5300 667MHz DDR2 / non-parity / CAS latency 5 (CL5) / unbuffered / dual-channel capable		
Graphics	NVIDIA® GF 6100 / integrated graphics controller in C51g chipset / uses main memory / 425MHz / one 15-pin analog D-sub connector / optional PCI Express x16 adapter can support two monitors		SECURITY
SATA disk	80GB or 160GB / SATA300 7200 rpm / vibration dampening		<ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington Microsaver cable) - No keylock • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Unattended start mode • Hard disk I/O control • Serial port I/O control • Parallel port I/O control
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in south bridge		
SATA cables	One SATA cable (one 1-drop to disk) / two SATA planar connectors		
EIDE CD	<i>Some:</i> 48X-20X ⁴ CD-ROM		
EIDE DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer		
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo		
EIDE DVD±RW	<i>Some:</i> DVD and CD burner / Super Multi-Burner DL (part 41N5581)		
EIDE controller	Enhanced IDE / ATA-133 / integrated in NVIDIA MCP51 south bridge		
EIDE cables	One 1-drop EIDE 80-conductor cable to optical / two planar connectors		
Diskette drive	None / use optional external USB-based diskette drive		
Media reader	<i>Some:</i> 9-in-1 media reader / occupies diskette drive bay / internal USB 2.0		
Chipset	NVIDIA GeForce® 6100 C51g chipset / C51g includes graphics controller, support for PCI Express x1 slot, PCI Express x16 slot, PCI 2.3 slots / NVIDIA MCP51 south bridge for SATA300, ATA-133 EIDE, USB, Low Pin Count interface / Winbond® W83627EHG Super I/O		
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (mono, 3.5mm)		
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software		
Speaker	One internal speaker for business audio		
IEEE 1394	None		
Ethernet	Gigabit ethernet on planar / Broadcom® 5788 / PCI 2.3 / Wake on LAN®		
Keyboard	<i>Others:</i> 104-key Preferred Pro Full-size keyboard (PS/2 connector) <i>Fxx:</i> Preferred Pro USB Keyboard (USB connector), 104-key		
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo		
Power supply	220 watts with variable speed fan / universal / manual switch		
Preload with Windows XP Professional⁵	Accessories		
Microsoft® Windows® XP Professional	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983	
Preloaded (only some listed)	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	
• <i>Education models:</i> VitalSource Library education software	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985	
• <i>Education models:</i> Adobe® Photoshop® Elements plus Adobe Premiere® Elements	250GB Serial ATA300 Disk (7200 rpm)	41N3015	
• Multimedia Center for Think Offerings (combo, DVD)	500GB Serial ATA300 Disk (7200 rpm)	43R1990	
• Sonic RecordNow and Drive Letter Access (combo)	48X/32X/48X/16X Max ¹¹ Combo drive (blk)	73P3300	
• InterVideo WinDVD (combo, DVD)	Super Multi-Burner DL DVD±RW EIDE Drive	41N5581	
CD	USB 2.0 Security Memory Key 4GB	41U5120	
• <i>Education models:</i> Adobe Photoshop Elements plus Adobe Premiere Element	USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637	
	USB 2.0 Super Multi-Burner Drive	41N5565	
	ThinkVision® L194 Wide 19" LCD Monitor	4434HB6	
	ThinkVision L220x Wide 22" LCD Monitor	4433HB2	
	Preferred Pro USB FingerPrint Keyboard	73P4730	
	Other accessories at lenovo.com/accessories		

See footnotes for important warranty information
US models announced Aug 8, Aug 22, or Nov 21, 2006, or May 1, 2007
US models withdrawn effective June or August 2007, or January 2008

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Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ⁸	Media reader	SATA disk	EIDE optical	Integrated graphics	Preload	Educ load	Limited warranty ¹	Workhorse Global	Avail date
A60	9384-FEU	4x3	Sempron 3400+	1.8	256KB	Single	512MB	None	80GB ²	DVD	NVIDIA	XP Pro	K12	3-yr	No	Jun 07
A60	9384-FFU	4x3	Sempron 3400+	1.8	256KB	Single	512MB	None	80GB	DVD	NVIDIA	XP Pro	HE	3-yr	No	Jun 07

• **These models have a 3-year limited warranty¹**

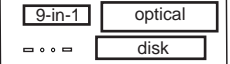
Positioning Processor	<i>Mainstream enterprise stability and manageability</i> AMD® Sempron™ 3400+ with single-core, integrated L1/L2 cache, AMD64, and integrated DDR2 memory controller Processor in 940-pin PGA package in Socket AM2										Desktop						
Implementation											 <ul style="list-style-type: none"> • Business black color • 13.3"W X 15.94"D X 4.13"H • 331mm W X 405mm D X 105mm H • 18.5 to 20.7lb (8.4 to 9.4kg) • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 						
Memory - std/max ⁸	512MB std / 4GB max										<ul style="list-style-type: none"> • Bay ① 5.25", 1.6" high, access, std optical • Bay ② 3.5", 1" high, access, std or opt reader • Bay ③ 3.5", 1" high, no access, std disk 						
Memory	Two 240-pin DIMM sockets / one socket used / PC2-5300 667MHz DDR2 / non-parity / CAS latency 5 (CL5) / unbuffered / dual-channel capable										<ul style="list-style-type: none"> • Slot 1: Low Profile, PCI Express x16 (25w max) • Slot 2: Low Profile, PCI Express x1 • Slot 3: Low Profile, 32-bit PCI 2.3 (5v) • Slot 4: Low Profile, 32-bit PCI 2.3 (5v) 						
Graphics	NVIDIA® GF 6100 / integrated graphics controller in C51g chipset / uses main memory / 425MHz / one 15-pin analog D-sub connector / optional PCI Express x16 adapter can support two monitors																
SATA disk	80GB , SATA300 7200 rpm, vibration dampening																
SATA controller	Serial ATA, 300MB/sec SATA300, integrated in south bridge																
SATA cables	One SATA cable (one 1-drop to disk), two SATA planar connectors																
EIDE DVD	16X-48X Max ⁴ DVD-ROM, single-layer																
EIDE controller	Enhanced IDE, ATA-133, integrated in NVIDIA MCP51 south bridge																
EIDE cables	One 1-drop EIDE 80-conductor cable to optical, 2 planar connectors																
Diskette drive	None (use optional external USB-based diskette drive)																
Media reader	None																
Chipset	NVIDIA GeForce® 6100 C51g chipset / C51g includes graphics controller, support for PCI Express x1 slot, PCI Express x16 slot, PCI 2.3 slots / NVIDIA MCP51 south bridge for SATA300, ATA-133 EIDE, USB, Low Pin Count interface / Winbond® W83627EHG Super I/O										SECURITY <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington Microsaver cable) - No keylock • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Unattended start mode • Hard disk I/O control • Serial port I/O control • Parallel port I/O control 						
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)																
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)																
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (mono, 3.5mm)																
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software																
Speaker	External 2-piece speakers, 6 watts (3 watts each), black, Infinity logo																
IEEE 1394	None																
Ethernet	Gigabit ethernet on planar / Broadcom® 5788 / PCI 2.3 / Wake on LAN®																
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key																
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo																
Power supply	220 watts with variable speed fan / universal / manual switch																
Preload with Windows XP Professional⁵	Accessories																
Microsoft® Windows® XP Professional	512MB PC2-5300 CL5 NP DDR2 UDIMM										73P4983						
Preloaded (only some listed)	1GB PC2-5300 CL5 NP DDR2 UDIMM										73P4984						
• <i>Some (K12):</i> K-12 education software	2GB PC2-5300 CL5 NP DDR2 UDIMM										73P4985						
- VitalSource Library School Edition	160GB Serial ATA300 Disk (7200 rpm)										09N4254						
- Adobe® Instructor Resource Center	250GB Serial ATA300 Disk (7200 rpm)										41N3015						
- Adobe Digital School Collection	500GB Serial ATA300 Disk (7200 rpm)										43R1990						
- Photoshop Elements 5 (and CD)	48X/32X/48X/16X Max ¹¹ Combo drive (blk)										73P3300						
- Premier Elements 3 (and DVD)	Super Multi-Burner DL DVD±RW EIDE Drive										41N5581						
- Acrobat 8 Professional (and CD)	USB Portable Diskette Drive										05K9276						
- Contribute 4 (and CD)	USB 2.0 Lenovo Multimedia Headset										40Y8518						
• <i>Some (HE):</i> Higher education software	USB 2.0 Lenovo Webcam										40Y8519						
- VitalSource Library College Edition	USB 2.0 Essential Memory Key 2GB										41U4944						
- Adobe® Instructor Resource Center	USB 2.0 Security Memory Key 1GB										41U5118						
- Adobe Photoshop Elements 5 (and CD)	USB 2.0 Security Memory Key 2GB										41U5119						
- Adobe Premier Elements 3 (and DVD)	USB 2.0 Security Memory Key 4GB										41U5120						
• Rescue and Recovery™	USB 2.0 CD-RW/DVD-ROM Combo II Drive										40Y8637						
• Client Security Solution™	USB 2.0 Portable 120GB Hard Disk										41N8379						
• ThinkVantage Productivity Center	USB 2.0 Super Multi-Burner Drive										41N5565						
• ThinkVantage System Update	ThinkVision® L151 15" LCD Monitor										9165AC6						
• System Migration Assistant	ThinkVision L171p 17" LCD Monitor										9417HC2						
• Symantec® Client Security™	ThinkVision L190x 19" LCD Monitor										4439HB2						
• Diskeeper® Lite	ThinkVision L193p 19" LCD Monitor										4431HB2						
• PC-Doctor™ (diagnostics)	ThinkVision L194 Wide 19" LCD Monitor										4434HB6						
• Windows Live™ Toolbar	ThinkVision L220x Wide 22" LCD Monitor										4433HB2						
• Windows Live Search	Lenovo Laser Mouse (USB, PS/2)										41U3074						
• Picasa from Google	Lenovo M500 Projector										0037A05						
• Multimedia Center for Think Offerings (DVD)	Kensington® Cable Lock from Lenovo										73P2582						
License - CD not included	Acc Guide in pdf lenovo.com/accessoriesguide																
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	Other accessories at lenovo.com/accessories																
ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage												LIMITED WARRANTY¹ <ul style="list-style-type: none"> ⇒ 3-year parts and labor ⇒ International Warranty Service® ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇒ ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ Post warranty maintenance services available ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 800-IBM-SERV (426-7378) 					

See footnotes for important warranty information
US models announced June 5, 2007
US models withdrawn effective January 2008

ThinkCentre® A60 Desktop (9384) - Vista™ - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ⁶	Media reader	SATA disk	EIDE optical	Integrated graphics	Int or ext speaker	Vista preload	Workhorse Gbl, Educ	Avail date
A60	9384-FGU	4x3	Sempron 3400+	1.8	256KB	Single	512MB		80GB ²	DVD	NVIDIA	Ext Spks	Business	HE	Jun 07
A60	9384-FHU	4x3	Sempron 3400+	1.8	256KB	Single	512MB		80GB	DVD	NVIDIA	Ext Spks	Business	K12	Jun 07
A60	9384-2BU	4x3	Athlon 64 3500+	2.2	512KB	Single	1GB		160GB	Combo	NVIDIA	Internal	Business		Feb 07
A60	9384-3AU	4x3	Athlon 64 X2 3800+	2.0	2x512KB	Dual	1GB		80GB	DVD	NVIDIA	Internal	Business	W Gbl	Feb 07
A60	9384-DAU	4x3	Athlon 64 X2 4200+	2.2	2x512KB	Dual	1GB	9-in-1	160GB	Combo	NVIDIA	Internal	Business	Gbl	Feb 07
A60	9384-FAU	4x3	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB		80GB	DVD	NVIDIA	Internal	Business		May 07
A60	9384-FBU	4x3	Athlon 64 X2 4800+	2.5	2x512KB	Dual	1GB		160GB	Combo	NVIDIA	Internal	Business		May 07

Positioning Processor	<i>Mainstream enterprise stability and manageability</i> AMD® Sempron™ 3400+ with single-core, integrated L1/L2 cache, AMD64, and integrated DDR2 memory controller or AMD Athlon™ 64 3500+ with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology or AMD Athlon 64 X2 3800+, 4200+, 4400+, or 4800+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 controller, and virtualization technology	Desktop
Implementation	Processor in 940-pin PGA package in Socket AM2	 <ul style="list-style-type: none"> • Business black color • 13.3"W X 15.94"D X 4.13"H • 331mm W X 405mm D X 105mm H • 18.5 to 20.7lb (8.4 to 9.4kg) • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention
Memory	512MB or 1GB std / 4GB max / two 240-pin DIMM sockets; <i>Italics:</i> standard memory in both sockets; no sockets available; <i>Non-italics:</i> standard memory in one socket; one socket available; <i>3AU/DAU:</i> PC2-4200 533MHz DDR2 , non-parity, CAS latency 4 (CL4), unbuffered, dual-channel capable; <i>2BU/Fxx:</i> PC2-5300 667MHz DDR2 , non-parity, CAS latency 5 (CL5), unbuffered, dual-channel capable	<ul style="list-style-type: none"> Bay ① 5.25", 1.6" high, access, std optical Bay ② 3.5", 1" high, access, std or opt reader Bay ③ 3.5", 1" high, no access, std disk <p>Slot 1: Low Profile, PCI Express x16 (25w max) Slot 2: Low Profile, PCI Express x1 Slot 3: Low Profile, 32-bit PCI 2.3 (5v) Slot 4: Low Profile, 32-bit PCI 2.3 (5v)</p>
Graphics	NVIDIA® GF 6100 / integrated graphics controller in C51g chipset / uses main memory / 425MHz / one 15-pin analog D-sub connector / optional PCI Express x16 adapter can support two monitors	<p style="text-align: center;">SECURITY</p> <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington Microsaver cable) - No keylock • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Unattended start mode • Hard disk I/O control • Serial port I/O control • Parallel port I/O control <p>ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage</p> <p style="text-align: center;">LIMITED WARRANTY¹</p> <ul style="list-style-type: none"> ⇒ 3-year parts and labor ⇒ International Warranty Service⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇒ ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ Post warranty maintenance services available ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 800-IBM-SERV (426-7378)
SATA disk	80GB or 160GB / SATA300 7200 rpm / vibration dampening	
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in south bridge	
SATA cables	One SATA cable (one 1-drop to disk) / two SATA planar connectors	
EIDE DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer	
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo	
EIDE controller	Enhanced IDE / ATA-133 / integrated in NVIDIA MCP51 south bridge	
EIDE cables	One 1-drop EIDE 80-conductor cable to optical / two planar connectors	
Diskette drive	None / use optional external USB-based diskette drive	
Media reader	<i>Some:</i> 9-in-1 media reader / occupies diskette drive bay / internal USB 2.0	
Chipset	NVIDIA GeForce® 6100 C51g chipset / C51g includes graphics controller, support for PCI Express x1 slot, PCI Express x16 slot, PCI 2.3 slots / NVIDIA MCP51 south bridge for SATA300, ATA-133 EIDE, USB, Low Pin Count interface / Winbond® W83627EHG Super I/O	
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (mono, 3.5mm)	
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software	
Speaker	<i>Some:</i> [Ext spks] 2-piece speakers, 6 watts (3 watts each), black, Infinity logo <i>Some:</i> [Internal] one internal speaker for business audio	
IEEE 1394	None	
Ethernet	Gigabit ethernet on planar / Broadcom® 5788 / PCI 2.3 / Wake on LAN®	
Modem	None	
Keyboard	<i>Feb models:</i> 104-key Preferred Pro Full-size keyboard (PS/2 connector) <i>May/Jun models:</i> Preferred Pro USB Keyboard (USB connector), 104-key Optical Wheel Mouse (USB only), black, Lenovo logo	
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo	
Power supply	220 watts with variable speed fan / universal / manual switch	
Preloaded operating system²⁰	<ul style="list-style-type: none"> - Microsoft® Windows® Vista Business Edition (32-bit) ◇ <i>FGU/FHU:</i> Vista Basic logo ◇ <i>Others:</i> Vista Premium logo 	<ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Lenovo Multimedia Center • Norton Internet Security™ (90 days of virus definitions) • Diskeeper® Home • PC-Doctor™ (diagnostics) • Adobe® Reader • Windows Live™ Toolbar • Windows Live Search • Picasa from Google
Preloaded applications⁵	<ul style="list-style-type: none"> • <i>Some (K12):</i> K-12 education software <ul style="list-style-type: none"> - VitalSource Library School Edition - Adobe® Instructor Resource Center - Adobe Digital School Collection <ul style="list-style-type: none"> - Photoshop Elements 5 (and CD) - Premier Elements 3 (and DVD) - Acrobat 8 Professional (and CD) - Contribute 4 (and CD) • <i>Some (HE):</i> Higher education software <ul style="list-style-type: none"> - VitalSource Library College Edition - Adobe® Instructor Resource Center - Adobe Photoshop Elements 5 (and CD) - Adobe Premier Elements 3 (and DVD) 	<p>License - CD not included</p> <ul style="list-style-type: none"> - Lotus® Notes® Stand-alone Client

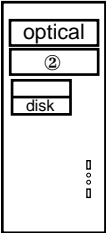
See footnotes for important warranty information
US models announced January 30, May 1, or June 5, 2007
US models withdrawn effective August 2007 or January 2008

ThinkCentre® A60 Tower (8700) - TopSeller - withdrawn

Created by Lenovo Training Solutions
Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ^a	SATA disk	EIDE optical	Integrated graphics	Modem adapter	Preload	Limited warranty ¹	Avail date
A60	8700-A1U	4x4	Sempron® 3000+	1.6	256KB	Single	256MB	80GB ²	CD	NVIDIA	None	XP Home ⁵	1-yr	Aug 06
A60	8700-A2U	4x4	Sempron 3000+	1.6	256KB	Single	512MB	80GB	CD	NVIDIA	None	XP Pro	1-yr	Aug 06
A60	8700-25U	4x4	Athlon® 64 3500+	2.2	512KB	Single	512MB	80GB	CD	NVIDIA	None	XP Pro	1-yr	Aug 06
A60	8700-27U	4x4	Athlon 64 3500+	2.2	512KB	Single	512MB	80GB	Combo	NVIDIA	None	XP Pro	1-yr	Aug 06
A60	8700-28U	4x4	Athlon 64 3500+	2.2	512KB	Single	512MB	160GB	DVD±RW	NVIDIA	None	XP Pro	1-yr	Aug 06
A60	8700-D1U	4x4	Athlon 64 X2 4200+	2.2	2x512KB	Dual	512MB	80GB	CD	NVIDIA	None	XP Pro	1-yr	Aug 06
A60	8700-D2U	4x4	Athlon 64 X2 4200+	2.2	2x512KB	Dual	512MB	80GB	Combo	NVIDIA	None	XP Pro	1-yr	Aug 06
A60	8700-D3U	4x4	Athlon 64 X2 4200+	2.2	2x512KB	Dual	512MB	160GB	DVD±RW	NVIDIA	None	XP Pro	1-yr	Aug 06

- These small and medium business (SMB) models are part of the US TopSeller™ Program
- These models have a 1-year limited warranty¹

Positioning	Mainstream enterprise stability and manageability		
Processor	AMD® Sempron 3000+ with single-core, integrated L1/L2 cache, AMD64, and integrated DDR2 memory controller or AMD Athlon 64 3500+ with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology or AMD Athlon 64 X2 4200+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 controller, and virtualization technology Processor in 940-pin PGA package in Socket AM2		
Implementation			Tower • Business black color • 6.9"W X 16.7" D X 16.14"H • 175mm W X 424mm D X 410mm H • 22.0 lb (10.0 kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention
Memory - std/max ⁶	256MB or 512MB std / 4GB max Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable		Bay ① 5.25", 1.6" high, access, standard optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, optional diskette Bay ④ 3.5", 1" high, no access, standard disk
Memory			Slot 1: half-length, full-height, PCI Express x16 (75w max) Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)
Graphics	NVIDIA® GF 6100 / integrated graphics controller in C51g chipset / uses main memory / 425MHz / one 15-pin analog D-sub connector / optional PCI Express x16 adapter can support two monitors		
SATA disk	80 or 160GB / SATA300 7200 rpm / vibration dampening Serial ATA / 300MB/sec SATA300 / integrated in south bridge		
SATA controller	One SATA cable (one 1-drop to disk) / two SATA planar connectors Some: 48X-20X ⁴ CD-ROM		
SATA cables	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo Some: DVD and CD burner / Super Multi-Burner DL (part 41N5581)		
EIDE CD	Enhanced IDE / ATA-133 / integrated in NVIDIA MCP51 south bridge		
EIDE Combo	One 2-drop EIDE 80-conductor cable to optical / two planar connectors		
EIDE DVD±RW	None / use optional external USB-based diskette drive		
EIDE controller			
EIDE cables			
Diskette drive			
Chipset	NVIDIA GeForce® 6100 C51g chipset / C51g includes graphics controller, support for PCI Express x1 slot, PCI Express x16 slot, PCI 2.3 slots / NVIDIA MCP51 south bridge for SATA300, ATA-133 EIDE, USB, Low Pin Count interface / Winbond® W83627EHG Super I/O		
Front ports	Two USB (Version 2.0), microphone (mono, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Four USB (Version 2.0), one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (mono, 3.5mm)		
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on planar / Broadcom® 5788 / PCI 2.3 / Wake on LAN®		
Modem	None		
Keyboard	104-key Preferred Pro Full-size keyboard (PS/2 connector), black, Lenovo logo		
Mouse	Optical Wheel Mouse (USB only), 400 dpi, black, Lenovo logo		
Power supply	280 watts with variable speed fan / manual switch		
Preload with Windows XP Home ⁵	Accessories Microsoft® Windows® XP Home Edition 512MB PC2-5300 CL5 NP DDR2 UDIMM 73P4983 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 Preload with Windows XP Professional ⁵ 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 Microsoft Windows XP Professional 250GB Serial ATA300 Disk (7200 rpm) 41N3015 Preloaded (all; only some listed) 48X/32X/48X/16X Max ¹¹ Combo drive (blk) 73P3300 • Rescue and Recovery™ Super Multi-Burner DL DVD±RW Drive 41N5581 • Client Security Solution™ USB Fingerprint Reader 41U3167 • ThinkVantage System Update USB 2.0 Lenovo Multimedia Headset 40Y8518 • Symantec® Client Security™ USB 2.0 Lenovo Webcam 40Y8519 • Google Toolbar USB 2.0 Security Memory Key 4GB 41U5120 • Google Desktop USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637 • Picasa from Google USB 2.0 Portable 80GB Hard Disk 41N8378 • Multimedia Center for Think Offerings (combo, DVD±RW) USB 2.0 Portable 120GB Hard Disk 41N8379 • Sonic RecordNow and Drive Letter Access (combo, DVD±RW) USB 2.0 Super Multi-Burner Drive 41N5565 • InterVideo WinDVD (combo, DVD±RW) Lenovo L191 19" Monitor (black) 6135AB1 • InterVideo WinDVD Creator (DVD±RW) Lenovo L192 Wide 19" Monitor (black) 6920AB1 ThinkVision® L201p 20.1" Monitor (black) 9220HB1 Lenovo M500 Projector 0037A05 Enh Perf Wireless Keyboard and Mouse 73P4067 ATI® Radeon™ X300 SE 128MB Dual Head 41U4813 ATI X1300 256MB Dual Head/TV-out 41U5028 ATI X1600 Pro 256MB VGA/DVI-I/TV-out 41A4073 Other accessories at lenovo.com/accessories		
Preload with Windows XP Professional ⁵			
Preloaded (all; only some listed)			
• Rescue and Recovery™			
• Client Security Solution™			
• ThinkVantage System Update			
• Symantec® Client Security™			
• Google Toolbar			
• Google Desktop			
• Picasa from Google			
• Multimedia Center for Think Offerings (combo, DVD±RW)			
• Sonic RecordNow and Drive Letter Access (combo, DVD±RW)			
• InterVideo WinDVD (combo, DVD±RW)			
• InterVideo WinDVD Creator (DVD±RW)			
License - CD not included			
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client (Notes client not supported on XP Home)			
			SECURITY • One lock to secure both cover and entire system to fixed object: - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) - No keylock • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect
			ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage
			LIMITED WARRANTY¹ ⇨ 1-year parts and labor ⇨ International Warranty Service ⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts ³ , 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations): ⁷ • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) • 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) • 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) ⇨ ThinkPlus services at lenovo.com/thinkplus/warranty ⇨ Post warranty maintenance services available ⇨ 24x7 ¹⁴ toll-free support for warranty issues during the warranty period ¹

See footnotes for important warranty information
US models announced August 8, 2006
US models withdrawn effective June or August 2007

ThinkCentre® A60 Tower (8700) - TopSeller (August 2006) - withdrawn

Personal Systems Reference (PSREF)

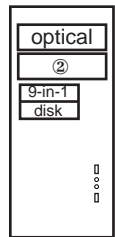
Name	Type-model	Slot x bay	AMD processor	L2 cache	Core	Memory ^a	SATA disk	Media reader	EIDE optical	Integrated graphics	Modem adapter	Int or ext speaker	Preload	Avail date
A60 8700-B2U	4x4	Sempron 3400+	1.8	256KB	Single	512MB	80GB ²	9-in-1	Combo	NVIDIA	Modem	Ext spks	XP Home	Aug 06
A60 8700-41U	4x4	Athlon 64 X2 3800+	2.0	2x512KB	Dual	512MB	80GB		CD	NVIDIA		Internal	XP Pro	Aug 06
A60 8700-42U	4x4	Athlon 64 X2 3800+	2.0	2x512KB	Dual	512MB	80GB		Combo	NVIDIA		Internal	XP Pro	Aug 06
A60 8700-43U	4x4	Athlon 64 X2 3800+	2.0	2x512KB	Dual	512MB	160GB	9-in-1	Combo	NVIDIA	Modem	Ext spks	XP Home	Aug 06
A60 8700-44U	4x4	Athlon 64 X2 3800+	2.0	2x512KB	Dual	1GB	160GB		DVD±RW	NVIDIA		Internal	XP Pro	Aug 06
A60 8700-D5U	4x4	Athlon 64 X2 4200+	2.2	2x512KB	Dual	1GB	250GB	9-in-1	DVD±RW	NVIDIA	Modem	Ext spks	XP Home	Aug 06
A60 8700-D7U	4x4	Athlon 64 X2 4200+	2.2	2x512KB	Dual	1GB	160GB		DVD±RW	NVIDIA		Internal	XP Pro	Aug 06

- These small and medium business (SMB) models are part of the US TopSeller™ Program
- These models have a 1-year limited warranty¹

Positioning	<i>Mainstream enterprise stability and manageability</i>	
Processor	AMD® Sempron™ 3400+ with single-core, integrated L1/L2 cache, AMD64, and integrated DDR2 memory controller or AMD Athlon™ 64 X2 3800+ or 4200+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 controller, and virtualization technology	
Implementation	Processor in 940-pin PGA package in Socket AM2	
Memory - std/max ^a	512MB or 1GB std / 4GB max	
Memory	Two 240-pin DIMM sockets / models 44U, D5U, D7U: two sockets used (512MB per socket); other models: one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	
Graphics	NVIDIA® GF 6100 / integrated graphics controller in C51g chipset / uses main memory / 425MHz / one 15-pin analog D-sub connector / optional PCI Express x16 adapter can support two monitors	
SATA disk	80, 160, or 250GB / SATA300 7200 rpm / vibration damping	
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in south bridge	
SATA cables	One SATA cable (one 1-drop to disk) / two SATA planar connectors	
EIDE CD	Some: 48X-20X ⁴ CD-ROM	
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo	
EIDE DVD±RW	Some: DVD and CD burner / Super Multi-Burner DL (part 41N5581)	
EIDE controller	Enhanced IDE / ATA-133 / integrated in NVIDIA MCP51 south bridge	
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / two planar connectors	
Diskette drive	None / use optional external USB-based diskette drive	
Media Reader	Some: 9-in-1 media reader / occupies diskette drive bay / internal USB 2.0	
Chipset	NVIDIA GeForce® 6100 C51g chipset / C51g includes graphics controller, support for PCI Express x1 slot, PCI Express x16 slot, PCI 2.3 slots / NVIDIA MCP51 south bridge for SATA300, ATA-133 EIDE, USB, Low Pin Count interface / Winbond® W83627EHG Super I/O	
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (mono, 3.5mm)	
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software	
Speaker	Some: [Ext spks] 2-piece speakers, 6 watts (3 watts each), black, Infinity logo Some: [Internal] one internal speaker for business audio	
Ethernet	Gigabit ethernet on planar / Broadcom® 5788 / PCI 2.3 / Wake on LAN®	
Modem	Some: 56K ¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter	
Keyboard	104-key Preferred Pro Full-size keyboard (PS/2 connector), black, Lenovo logo	
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo	
Power supply	280 watts with variable speed fan / manual switch	
Preload with Windows XP Home⁵	Accessories	
Microsoft® Windows® XP Home Edition	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983
Preload with Windows XP Professional⁵	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984
Microsoft Windows XP Professional	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985
Preloaded (all OSes; only some listed)	250GB Serial ATA300 Disk (7200 rpm)	41N3015
• Rescue and Recovery™	500GB Serial ATA300 Disk (7200 rpm)	43R1990
• Client Security Solution™	48X/32X/48X/16X Max ¹¹ Combo drive (blk)	73P3300
• ThinkVantage System Update	Super Multi-Burner DL DVD±RW EIDE Drive	41N5581
• System Migration Assistant	USB Portable Diskette Drive	05K9276
• Symantec® Client Security™	USB 2.0 Lenovo Multimedia Headset	40Y8518
• Google Desktop	USB 2.0 Lenovo Webcam	40Y8519
• Picasa from Google	USB 2.0 Essential Memory Key 2GB	41U4944
• Multimedia Center for Think Offerings (combo, DVD±RW)	USB 2.0 Security Memory Key 4GB	41U5120
• Sonic RecordNow and Drive Letter Access (combo, DVD±RW)	USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637
• InterVideo WinDVD (combo, DVD±RW)	USB 2.0 Super Multi-Burner Drive	41N5565
License - CD not included	ThinkVision® L193p 19" LCD Monitor	4431HB2
- Lotus® SmartSuite® Millennium and	ThinkVision L194 Wide 19" LCD Monitor	4434HB6
Lotus Notes® Stand-alone Client (Notes client not supported on XP Home)	ThinkVision L220x Wide 22" LCD Monitor	4433HB2
	Lenovo M500 Projector	0037A05
	Enh Perf Wireless Keyboard and Mouse	73P4067
	Other accessories at lenovo.com/accessories	

Tower

- Business black color
- 6.9"W X 16.7" D X 16.14"H
- 175mm W X 424mm D X 410mm H
- 22.0 lb (10.0 kg)
- Handle on top front
- Toolless cover removal
- Toolless disk, diskette drive, optical drive removal
- Toolless adapter retention



- Bay ① 5.25", 1.6" high, access, standard optical
- Bay ② 5.25", 1.6" high, access, open
- Bay ③ 3.5", 1" high, access, std or opt reader
- Bay ④ 3.5", 1" high, no access, standard disk
- Slot 1: half-length, full-height, PCI Express x16 (75w max)
- Slot 2: half-length, full-height, PCI Express x1
- Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)
- Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)

SECURITY

- One lock to secure both cover and entire system to fixed object:
 - Padlock loop (in rear for opt padlock)
 - Security slot (in rear for optional Kensington® Microsaver® cable)
 - No keylock
- Power-on password
- Administrator password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable
- Diskette write protect
- Front USB port disablement

ThinkCentre desktops implement ThinkVantage® technologies and design; visit thinkcentre.com/thinkvantage

LIMITED WARRANTY¹

- ↪ 1-year parts and labor
- ↪ International Warranty Service⁹
- ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)
- ↪ Onsite service upgrade options (in eligible locations):⁷
 - 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189)
 - 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190)
 - 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187)
 - 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191)
 - 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188)
- ↪ ThinkPlus services at lenovo.com/thinkplus/warranty
- ↪ Post warranty maintenance services available
- ↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹

See footnotes for important warranty information
 US models announced August 22, 2006
 US models withdrawn effective June or August 2007, or January 2008

ThinkCentre® A60 Tower (8700) - TopSeller (January 2007) - withdrawn

Personal Systems Reference (PSREF)

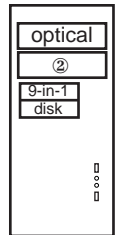
Name	Type-model	Slot x bay	AMD processor	L2 cache	Core	Memory ⁶	SATA disk	Media reader	EIDE optical	Integrated graphics	Mod-em	External speaker	Vista preload	Vista logo	Avail date
A60 8700-B4U	4x4	Sempron 3400+	1.8	256KB	Single	512M	80GB ²	9-in-1	Combo	NVIDIA	Yes	Spkrs	Home Basic	Basic	Feb 07
A60 8700-29U	4x4	Athlon 64 3500+	2.2	512KB	Single	1GB	80GB		DVD	NVIDIA			Business	Premium	Feb 07
A60 8700-2KU	4x4	Athlon 64 3500+	2.2	512KB	Single	512M	80GB		Combo	NVIDIA	Yes		Home Basic	Basic	Feb 07
A60 8700-2AU	4x4	Athlon 64 3500+	2.2	512KB	Single	1GB	80GB		Combo	NVIDIA			Business	Premium	Feb 07
A60 8700-2BU	4x4	Athlon 64 3500+	2.2	512KB	Single	1GB	160GB		DVD±RW	NVIDIA			Business	Premium	Feb 07
A60 8700-47U	4x4	Athlon 64 X2 3800+	2.0	2x512K	Dual	1GB	80GB		DVD	NVIDIA			Business	Premium	Feb 07
A60 8700-48U	4x4	Athlon 64 X2 3800+	2.0	2x512K	Dual	1GB	80GB		Combo	NVIDIA			Business	Premium	Feb 07
A60 8700-49U	4x4	Athlon 64 X2 3800+	2.0	2x512K	Dual	512M	160GB	9-in-1	Combo	NVIDIA	Yes	Spkrs	Home Basic	Basic	Feb 07
A60 8700-4KU	4x4	Athlon 64 X2 3800+	2.0	2x512K	Dual	1GB	160GB		DVD±RW	NVIDIA			Business	Premium	Feb 07
A60 8700-D8U	4x4	Athlon 64 X2 4200+	2.2	2x512K	Dual	1GB	80GB		DVD	NVIDIA			Business	Premium	Feb 07
A60 8700-D9U	4x4	Athlon 64 X2 4200+	2.2	2x512K	Dual	1GB	80GB		Combo	NVIDIA			Business	Premium	Feb 07
A60 8700-DKU	4x4	Athlon 64 X2 4200+	2.2	2x512K	Dual	1GB	160GB		DVD±RW	NVIDIA			Business	Premium	Feb 07
A60 8700-DAU	4x4	Athlon 64 X2 4200+	2.2	2x512K	Dual	1GB	250GB	9-in-1	DVD±RW	NVIDIA	Yes	Spkrs	Home Basic	Basic	Feb 07

- These small and medium business (SMB) models are part of the US TopSeller™ Program
- These models have a 1-year limited warranty¹

Positioning	Mainstream enterprise stability and manageability	
Processor	AMD® Sempron™ 3400+ with single-core, integrated L1/L2 cache, AMD64, and integrated DDR2 memory controller or AMD Athlon™ 64 3500+ with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology or AMD Athlon 64 X2 3800+ or 4200+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 controller, and virtualization technology	
Implementation	Processor in 940-pin PGA package in Socket AM2	
Memory - std/max ⁸	512MB or 1GB std / 4GB max	
Memory	Two 240-pin DIMM sockets / <i>Some: (italics) two sockets used;</i> <i>Some: one socket used /</i> PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable	
Graphics	NVIDIA® GF 6100 / integrated graphics controller in C51g chipset / uses main memory / 425MHz / one 15-pin analog D-sub connector / optional PCI Express x16 adapter can support two monitors	
SATA disk	80, 160, or 250GB / SATA300 7200 rpm / vibration dampening	
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in south bridge	
SATA cables	One SATA cable (one 1-drop to disk) / two SATA planar connectors	
EIDE DVD	<i>Some: 16X-48X Max⁴ DVD-ROM / single-layer / EIDE</i>	
EIDE Combo	<i>Some: 48X/32X/48X/16X Max¹¹ CD-RW/DVD-ROM Combo</i>	
EIDE DVD±RW	<i>Some: DVD and CD burner / Super Multi-Burner DL (part 41N5581)</i>	
EIDE controller	Enhanced IDE / ATA-133 / integrated in NVIDIA MCP51 south bridge	
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / two planar connectors	
Diskette drive	None / use optional external USB-based diskette drive	
Media Reader	<i>Some: 9-in-1 media reader / occupies diskette drive bay / internal USB 2.0</i>	
Chipset	NVIDIA GeForce® 6100 C51g chipset / C51g includes graphics controller, support for PCI Express x1 slot, PCI Express x16 slot, PCI 2.3 slots / NVIDIA MCP51 south bridge for SATA300, ATA-133 EIDE, USB, Low Pin Count interface / Winbond® W83627EHG Super I/O	
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (mono, 3.5mm)	
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software	
Speaker	<i>Some: [Spkrs] 2-piece speakers, 6 watts (3 watts each), black, Infinity logo</i> <i>Some: one internal speaker for business audio</i>	
Ethernet	Gigabit ethernet on planar / Broadcom® 5788 / PCI 2.3 / Wake on LAN®	
Modem	<i>Some: 56K¹⁰ V.90 data/fax soft modem / Conexant® chipset / PCI adapter</i>	
Keyboard	104-key Preferred Pro Full-size keyboard (PS/2 connector), black, Lenovo logo	
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo	
Power supply	280 watts with variable speed fan / manual switch / 2 diagnostic LEDs	
Preloaded operating system	Accessories	
- <i>Some: Microsoft® Windows® Vista™</i>	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983
- <i>Home Premium Edition (32-bit)</i>	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984
- <i>Some: Microsoft Windows Vista</i>	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985
- <i>Business Edition (32-bit)</i>	250GB Serial ATA300 Disk (7200 rpm)	41N3015
Preloaded applications⁵ (all OSes; only some listed)	500GB Serial ATA300 Disk (7200 rpm)	43R1990
• Rescue and Recovery™	USB 2.0 Lenovo Multimedia Headset	40Y8518
• Client Security Solution™	USB 2.0 Lenovo Webcam	40Y8519
• ThinkVantage Productivity Center	USB 2.0 Security Memory Key 4GB	41U5120
• ThinkVantage System Update	USB 2.0 Super Multi-Burner Drive	41N5565
• System Migration Assistant	USB 2.0 Portable 120GB Hard Disk	41N8379
• Norton Internet Security™	ThinkVision® L194 Wide 19" LCD Monitor	4434HB6
License - CD not included (all)	ThinkVision L220x Wide 22" LCD Monitor	4433HB2
- Lotus® Notes® Stand-alone Client	Other accessories at lenovo.com/accessories	

Tower

- Business black color
- 6.9"W X 16.7" D X 16.14"H
- 175mm W X 424mm D X 410mm H
- 22.0 lb (10.0 kg)
- Handle on top front
- Toolless cover removal
- Toolless disk, diskette drive, optical drive removal
- Toolless adapter retention



- Bay ① 5.25", 1.6" high, access, standard optical
 - Bay ② 5.25", 1.6" high, access, open
 - Bay ③ 3.5", 1" high, access, std or opt reader
 - Bay ④ 3.5", 1" high, no access, standard disk
 - Slot 1: half-length, full-height, PCI Express x16 (75w max)
 - Slot 2: half-length, full-height, PCI Express x1
 - Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)
 - Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)
- * modem in slot in some models

SECURITY

- One lock to secure both cover and entire system to fixed object:
 - Padlock loop (in rear for opt padlock)
 - Security slot (in rear for optional Kensington® Microsaver® cable)
 - No keylock
- Power-on password
- Administrator password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable
- Diskette write protect
- Front USB port disablement

ThinkCentre desktops implement ThinkVantage® technologies and design

LIMITED WARRANTY¹

- ↪ 1-year parts and labor
- ↪ International Warranty Service⁹
- ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)
- ↪ Onsite service upgrade options (in eligible locations):⁷
 - 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189)
 - 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190)
 - 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191)
 - 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188)
- ↪ Other ThinkPlus services at lenovo.com/thinkplus/warranty
- ↪ Post warranty maintenance services available
- ↪ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹

See footnotes for important warranty information
 US models announced January 30, 2007
 US models withdrawn effective August 2007 or January 2008

ThinkCentre® A60 Tower (8991) - TopSeller - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ⁶	SATA disk	EIDE optical	Integrated graphics	Preload	Workhorse Gbl, Educ	Limited warranty ¹	Avail date
A60	8991-24U	4x4	Athlon 64 3500+	2.2	512KB	Single	512MB	80GB ²	CD	NVIDIA	XP Pro		3-yr	Aug 06
A60	8991-25U	4x4	Athlon 64 3500+	2.2	512KB	Single	512MB	80GB	Combo	NVIDIA	XP Pro		3-yr	Aug 06
A60	8991-2CU	4x4	Athlon 64 3500+	2.2	512KB	Single	512MB	80GB	Combo	NVIDIA	XP Pro	Educ	3-yr	Nov 06
A60	8991-DJU	4x4	Athlon 64 3500+	2.2	512KB	Single	512MB	80GB	DVD	NVIDIA	XP Pro		3-yr	May 07
A60	8991-DKU	4x4	Athlon 64 3500+	2.2	512KB	Single	512MB	160GB	Combo	NVIDIA	XP Pro		3-yr	May 07
A60	8991-35U	4x4	Athlon 64 X2 3800+	2.0	2x512KB	Dual	512MB	80GB	Combo	NVIDIA	XP Pro		3-yr	Aug 06
A60	8991-38U	4x4	Athlon 64 X2 3800+	2.0	2x512KB	Dual	512MB	80GB	CD	NVIDIA	XP Pro		3-yr	Aug 06
A60	8991-3AU	4x4	Athlon 64 X2 3800+	2.0	2x512KB	Dual	1GB	160GB	DVD±RW	NVIDIA	XP Pro	Educ	3-yr	Nov 06
A60	8991-DHU	4x4	Athlon 64 X2 4000+	2.1	2x512KB	Dual	512MB	80GB	DVD	NVIDIA	XP Pro		3-yr	May 07
A60	8991-D1U	4x4	Athlon 64 X2 4200+	2.2	2x512KB	Dual	512MB	80GB	CD	NVIDIA	XP Pro		3-yr	Aug 06
A60	8991-D2U	4x4	Athlon 64 X2 4200+	2.2	2x512KB	Dual	512MB	80GB	Combo	NVIDIA	XP Pro		3-yr	Aug 06
A60	8991-DEU	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	512MB	80GB	DVD	NVIDIA	XP Pro		3-yr	May 07

- These small and medium business (SMB) models are part of the US TopSeller™ Program
- These models have a 3-year limited warranty¹

Positioning Processor	Mainstream enterprise stability and manageability AMD® Athlon™ 64 3500+ with with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology or AMD Athlon 64 X2 3800+, 4200+, or 4400+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 controller, and virtualization technology		Tower		
Implementation	Processor in 940-pin PGA package in Socket AM2		<ul style="list-style-type: none"> • Business black color • 6.9"W X 16.7" D X 16.14"H • 175mm W X 424mm D X 410mm H • 22.0 lb (10.0 kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 		
Memory - std/max ⁵	512MB or 1GB std / 4GB max		Bay ① 5.25", 1.6" high, access, std optical		<p>SECURITY</p> <ul style="list-style-type: none"> • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) - No keylock • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect <p>ThinkCentre desktops implement ThinkVantage™ technologies and design; visit thinkcentre.com/thinkvantage</p> <p>LIMITED WARRANTY¹</p> <ul style="list-style-type: none"> ⇒ 3-year parts and labor ⇒ International Warranty Service⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇒ ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 800-IBM-SERV (426-7378)
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / dual-channel capable		Bay ② 5.25", 1.6" high, access, open		
Graphics	NVIDIA® GF 6100 / integrated graphics controller in C51g chipset / uses main memory / 425MHz / one 15-pin analog D-sub connector / optional PCI Express x16 adapter can support two monitors		Bay ③ 3.5", 1" high, access, opt diskette		
SATA disk	80GB or 160GB / SATA300 7200 rpm / vibration dampening		Bay ④ 3.5", 1" high, no access, std disk		
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in south bridge		Slot 1: half-length, full-height, PCI Express x16 (75w max)		
SATA cables	One SATA cable (one 1-drop to disk) / two SATA planar connectors		Slot 2: half-length, full-height, PCI Express x1		
EIDE CD	Some: 48X-20X ⁴ CD-ROM		Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)		
EIDE DVD	Some: 16X-48X Max ⁴ DVD-ROM / single-layer		Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)		
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo				
EIDE DVD±RW	Some: DVD and CD burner / Super Multi-Burner DL (part 41N5581)				
EIDE controller	Enhanced IDE / ATA-133 / integrated in NVIDIA MCP51 south bridge				
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / two planar connectors				
Diskette drive	None (use optional external USB-based diskette drive)				
Media reader	None				
Chipset	NVIDIA GeForce® 6100 C51g chipset / C51g includes graphics controller, support for PCI Express x1 slot, PCI Express x16 slot, PCI 2.3 slots / NVIDIA MCP51 south bridge for SATA300, ATA-133 EIDE, USB, Low Pin Count interface / Winbond® W83627EHG Super I/O				
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)				
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)				
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (mono, 3.5mm)				
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software				
Speaker	One internal speaker for business audio				
IEEE 1394	None				
Ethernet	Gigabit ethernet on planar / Broadcom® 5788 / PCI 2.3 / Wake on LAN®				
Keyboard	2006 models: 104-key Preferred Pro Full-size keyboard (PS/2 connector) 2007 models: Preferred Pro USB Keyboard (USB connector), 104-key				
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo				
Power supply	280 watts with variable speed fan / manual switch				
Preload with Windows XP Professional⁵	Accessories				
Microsoft® Windows® XP Professional	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983			
Preloaded (only some listed)	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984			
• Education models: VitalSource Library education software	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985			
• Education models: Adobe® Photoshop® Elements plus Adobe Premiere® Elements	250GB Serial ATA300 Disk (7200 rpm)	41N3015			
• Multimedia Center for Think Offerings (combo, DVD, DVD±RW)	500GB Serial ATA300 Disk (7200 rpm)	43R1990			
• Sonic RecordNow and Drive Letter Access (combo, DVD±RW)	48X/32X/48X/16X Max ¹¹ Combo drive (blk)	73P3300			
• InterVideo WinDVD (combo, DVD, DVD±RW)	Super Multi-Burner DL DVD±RW EIDE Drive	41N5581			
CD	USB Portable Diskette Drive	05K9276			
• Education models: Adobe Photoshop Elements plus Adobe Premiere Elements	USB 2.0 Lenovo Multimedia Headset	40Y8518			
License - CD not included	USB 2.0 Essential Memory Key 2GB	41U4944			
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	USB 2.0 Security Memory Key 4GB	41U5120			
	USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637			
	USB 2.0 Super Multi-Burner Drive	41N5565			
	ThinkVision® L193p 19" LCD Monitor	4431HB2			
	ThinkVision L194 Wide 19" LCD Monitor	4434HB6			
	ThinkVision L220x Wide 22" LCD Monitor	4433HB2			
	Other accessories at lenovo.com/accessories				

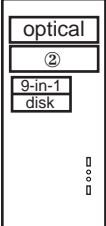
See footnotes for important warranty information
US models announced Aug 8, Aug 22, or Nov 21, 2006 or May 1, 2007
US models withdrawn effective June or August 2007, or January 2008

ThinkCentre® A60 Tower (9631) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ⁸	Media reader	SATA disk	EIDE optical	Integrated graphics	Preload warranty ¹	Limited Gbl, Educ	Workhorse Avail date
A60	9631-A7U	4x4	Sempron 3000+	1.6	256KB	Single	512MB		80GB ²	CD	NVIDIA XP Pro	3-yr		Aug 06
A60	9631-B3U	4x4	Sempron 3400+	1.8	256KB	Single	512MB		80GB	CD	NVIDIA XP Pro	3-yr		Aug 06
A60	9631-28U	4x4	Athlon 64 3500+	2.2	512KB	Single	512MB		160GB	Combo	NVIDIA XP Pro	3-yr		Aug 06
A60	9631-29U	4x4	Athlon 64 3500+	2.2	512KB	Single	512MB		80GB	CD	NVIDIA XP Pro	3-yr		Aug 06
A60	9631-35U	4x4	Athlon 64 X2 3800+	2.0	2x512KB	Dual	512MB		80GB	DVD	NVIDIA XP Pro	3-yr	W Gbl	Aug 06
A60	9631-36U	4x4	Athlon 64 X2 3800+	2.0	2x512KB	Dual	512MB		80GB	Combo	NVIDIA XP Pro	3-yr		Aug 06
A60	9631-39U	4x4	Athlon 64 X2 3800+	2.0	2x512KB	Dual	512MB		80GB	Combo	NVIDIA XP Pro	3-yr	Educ	Nov 06
A60	9631-D1U	4x4	Athlon 64 X2 4200+	2.2	2x512KB	Dual	512MB		80GB	CD	NVIDIA XP Pro	3-yr		Aug 06
A60	9631-D4U	4x4	Athlon 64 X2 4200+	2.2	2x512KB	Dual	512MB	9-in-1	80GB	Combo	NVIDIA XP Pro	3-yr	Global	Aug 06
A60	9631-D7U	4x4	Athlon 64 X2 4200+	2.2	2x512KB	Dual	512MB		80GB	DVD	NVIDIA XP Pro	3-yr		Aug 06
A60	9631-E7U	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	512MB		80GB	DVD	NVIDIA XP Pro	3-yr		May 07
A60	9631-EAU	4x4	Athlon 64 X2 4800+	2.5	2x512KB	Dual	1GB		160GB	Combo	NVIDIA XP Pro	3-yr		May 07

• These models have a 3-year limited warranty¹

Positioning Processor	<i>Mainstream enterprise stability and manageability</i> AMD® Sempron™ 3000+ or 3400+ with single-core, integrated L1/L2 cache, AMD64, and integrated DDR2 memory controller or AMD Athlon™ 64 3500+ with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 controller, and virtualization technology or AMD Athlon 64 X2 3800+, 4200+, 4400+, or 4800+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 controller, and virtualization technology		Tower	
Implementation	Processor in 940-pin PGA package in Socket AM2		<ul style="list-style-type: none"> Business black color 6.9"W X 16.7" D X 16.14"H 175mm W X 424mm D X 410mm H 22.0 lb (10.0 kg) Handle on top front Toolless cover removal Toolless disk, diskette drive, optical drive removal Toolless adapter retention 	
Memory - std/max ⁸	512MB or 1GB std / 4GB max		<ul style="list-style-type: none"> Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, std or opt reader Bay ④ 3.5", 1" high, no access, std disk 	
Memory	Two 240-pin DIMM sockets / one socket used / PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable		<ul style="list-style-type: none"> Slot 1: half-length, full-height, PCI Express x16 (75w max) Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v) 	
Graphics	NVIDIA® GF 6100 / integrated graphics controller in C51g chipset / uses main memory / 425MHz / one 15-pin analog D-sub connector / optional PCI Express x16 adapter can support two monitors		SECURITY	
SATA disk	80GB or 160GB / SATA300 7200 rpm / vibration dampening		<ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) - No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Diskette write protect 	
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in south bridge			
SATA cables	One SATA cable (one 1-drop to disk) / two SATA planar connectors			
EIDE CD	Some: 48X-20X ⁴ CD-ROM			
EIDE DVD	Some: 16X-48X Max ⁴ DVD-ROM / single-layer			
EIDE Combo	Some: 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo			
EIDE controller	Enhanced IDE / ATA-133 / integrated in NVIDIA MCP51 south bridge			
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / two planar connectors			
Diskette drive	None / use optional external USB-based diskette drive			
Media reader	Some: 9-in-1 media reader / occupies diskette drive bay / internal USB 2.0			
Chipset	NVIDIA GeForce® 6100 C51g chipset / C51g includes graphics controller, support for PCI Express x1 slot, PCI Express x16 slot, PCI 2.3 slots / NVIDIA MCP51 south bridge for SATA300, ATA-133 EIDE, USB, Low Pin Count interface / Winbond® W83627EHG Super I/O			
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)			
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)			
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (mono, 3.5mm)			
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software			
Speaker	One internal speaker for business audio			
IEEE 1394	None			
Ethernet	Gigabit ethernet on systemboard / Broadcom® 5788 / PCI 2.3 / Wake on LAN®			
Modem	None			
Keyboard	104-key Preferred Pro Full-size keyboard (PS/2 connector), black, Lenovo logo			
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo			
Power supply	280 watts with variable speed fan / manual switch			
Preload with Windows XP Professional⁵	Accessories			
Microsoft® Windows® XP Professional	512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983		
Preloaded (only some listed)	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984		
• Education models: VitalSource Library education software	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985		
• Education models: Adobe® Photoshop® Elements plus Adobe Premiere® Elements	250GB Serial ATA300 Disk (7200 rpm)	41N3015		
• Rescue and Recovery™	500GB Serial ATA300 Disk (7200 rpm)	43R1990		
• Multimedia Center for Think Offerings (combo, DVD)	48X/32X/48X/16X Max ¹¹ Combo drive (blk)	73P3300		
• Sonic RecordNow and Drive Letter Access (combo)	Super Multi-Burner DL DVD±RW EIDE Drive	41N5581		
• InterVideo WinDVD (combo, DVD)	USB 2.0 Lenovo Multimedia Headset	40Y8518		
CD	USB 2.0 Lenovo Webcam	40Y8519		
• Education models: Adobe Photoshop Elements plus Adobe Premiere Elements	USB 2.0 Essential Memory Key 2GB	41U4944		
License - CD not included	USB 2.0 Security Memory Key 4GB	41U5120		
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637		
	USB 2.0 Portable 120GB Hard Disk	41N8379		
	USB 2.0 Super Multi-Burner Drive	41N5565		
	ThinkVision® L193p 19" LCD Monitor	4431HB2		
	ThinkVision L194 Wide 19" LCD Monitor	4434HB6		
	ThinkVision L220x Wide 22" LCD Monitor	4433HB2		
	Other accessories at lenovo.com/accessories			
			<ul style="list-style-type: none"> ⇒ 3-year parts and labor ⇒ International Warranty Service⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇒ Post-warranty maintenance services at lenovo.com/thinkplus/warranty ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 800-IBM-SERV (426-7378) 	

See footnotes for important warranty information
US models announced Aug 8, Aug 22, or Nov 21, 2006, or May 1, 2007
US models withdrawn effective June or August 2007, or January 2008

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ⁸	Media reader	SATA disk	EIDE optical	Integrated graphics	Preload	Educ load	Limited warranty ¹	Workhorse Global	Avail date
A60	9631-EEU	4x4	Athlon 64 3800+	2.4	512KB	Single	1GB	None	80GB ²	Combo	NVIDIA XP Pro	HE		3-yr	No	Jun 07
A60	9631-EFU	4x4	Athlon 64 3800+	2.4	512KB	Single	1GB	None	80GB	Combo	NVIDIA XP Pro	K12		3-yr	No	Jun 07

• These models have a 3-year limited warranty¹

Positioning Processor	<i>Mainstream enterprise stability and manageability</i> AMD® Athlon™ 64 3800+ with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 controller, and virtualization technology										Tower		
Implementation	Processor in 940-pin PGA package in Socket AM2										<ul style="list-style-type: none"> Business black color 6.9"W X 16.7" D X 16.14"H 175mm W X 424mm D X 410mm H 22.0 lb (10.0 kg) Handle on top front Toolless cover removal Toolless disk, diskette drive, optical drive removal Toolless adapter retention 		
Memory - std/max ⁸	1GB std / 4GB max										Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, std or opt reader Bay ④ 3.5", 1" high, no access, std disk		
Memory	Two 240-pin DIMM sockets / one socket used / PC2-5300 667MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable										Slot 1: half-length, full-height, PCI Express x16 (75w max) Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)		
Graphics	NVIDIA® GF 6100 / integrated graphics controller in C51g chipset / uses main memory / 425MHz / one 15-pin analog D-sub connector / optional PCI Express x16 adapter can support two monitors												
SATA disk	80GB / SATA300 7200 rpm / vibration dampening												
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in south bridge												
SATA cables	One SATA cable (one 1-drop to disk) / two SATA planar connectors												
EIDE Combo	48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo												
EIDE controller	Enhanced IDE / ATA-133 / integrated in NVIDIA MCP51 south bridge												
EIDE cables	One 2-drop EIDE 80-conductor cable to optical, 2 planar connectors												
Diskette drive	None / use optional external USB-based diskette drive												
Media reader	None												
Chipset	NVIDIA GeForce® 6100 C51g chipset / C51g includes graphics controller, support for PCI Express x1 slot, PCI Express x16 slot, PCI 2.3 slots / NVIDIA MCP51 south bridge for SATA300, ATA-133 EIDE, USB, Low Pin Count interface / Winbond® W83627EHG Super I/O												
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)										SECURITY <ul style="list-style-type: none"> One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) - No keylock Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable Diskette write protect 		
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)												
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (mono, 3.5mm)												
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software												
Speaker	External 2-piece speakers, 6 watts (3 watts each), black, Infinity logo												
IEEE 1394	None												
Ethernet	Gigabit ethernet on systemboard / Broadcom® 5788 / PCI 2.3 / Wake on LAN®												
Modem	None												
Keyboard	104-key Preferred Pro Full-size keyboard (PS/2 connector), black, Lenovo logo												
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo												
Power supply	280 watts with variable speed fan / manual switch												

Preload with Windows XP Professional ⁵	Accessories
Microsoft® Windows® XP Professional	1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984
Preloaded (only some listed)	2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985
• <i>Some (K12):</i> K-12 education software	250GB Serial ATA300 Disk (7200 rpm) 41N3015
- VitalSource Library School Edition	500GB Serial ATA300 Disk (7200 rpm) 43R1990
- Adobe® Instructor Resource Center	48X/32X/48X/16X Max ¹¹ Combo drive (blk) 73P3300
- Adobe Digital School Collection	Super Multi-Burner DL DVD±RW EIDE Drive 41N5581
- Photoshop Elements 5 (and CD)	USB 2.0 Lenovo Multimedia Headset 40Y8518
- Premier Elements 3 (and DVD)	USB 2.0 Lenovo Webcam 40Y8519
- Acrobat 8 Professional (and CD)	USB 2.0 Essential Memory Key 2GB 41U4944
- Contribute 4 (and CD)	USB 2.0 Security Memory Key 1GB 41U5118
• <i>Some (HE):</i> Higher education software	USB 2.0 Security Memory Key 2GB 41U5119
- VitalSource Library College Edition	USB 2.0 Security Memory Key 4GB 41U5120
- Adobe® Instructor Resource Center	USB 2.0 CD-RW/DVD-ROM Combo II Drive 40Y8637
- Adobe Photoshop Elements 5 (and CD)	USB 2.0 Portable 120GB Hard Disk 41N8379
- Adobe Premier Elements 3 (and DVD)	USB 2.0 Super Multi-Burner Drive 41N5565
• Rescue and Recovery™	ThinkVision® L151 15" LCD Monitor 9165AC6
• Client Security Solution™	ThinkVision L171p 17" LCD Monitor 9417HC2
• ThinkVantage Productivity Center	ThinkVision L190x 19" LCD Monitor 4439HB2
• ThinkVantage System Update	ThinkVision L193p 19" LCD Monitor 4431HB2
• System Migration Assistant	ThinkVision L194 Wide 19" LCD Monitor 4434HB6
• Symantec® Client Security™	ThinkVision L220x Wide 22" LCD Monitor 4433HB2
• Diskeeper® Lite	Lenovo M500 Projector 0037A05
• PC-Doctor™ (diagnostics)	Acc Guide in pdf lenovo.com/accessoriesguide
• Windows Live™ Toolbar	Other accessories at lenovo.com/accessories
• Windows Live Search	
• Picasa from Google	
• Multimedia Center for Think Offerings (combo)	
License - CD not included	
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	

ThinkCentre desktops implement ThinkVantage® technologies and design
LIMITED WARRANTY¹
<ul style="list-style-type: none"> 3-year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) Post-warranty maintenance services at lenovo.com/thinkplus/warranty 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ 800-IBM-SERV (426-7378)

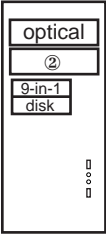
See footnotes for important warranty information
 US models announced June 5, 2007
 US models withdrawn effective January 2008

ThinkCentre® A60 Tower (9631) - Vista™ - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ⁵	Media reader	SATA disk	EIDE optical	Integrated graphics	Int or ext speaker	Vista preload	Workhorse Gbl, Educ	Avail date
A60	9631-2BU	4x4	Athlon 64 3500+	2.2	512KB	Single	1GB		160GB ²	Combo	NVIDIA	Internal	Business		Feb 07
A60	9631-EGU	4x4	Athlon 64 3800+	2.4	512KB	Single	1GB		80GB	Combo	NVIDIA	Ext Spks	Business	K12	Jun 07
A60	9631-EHU	4x4	Athlon 64 3800+	2.4	512KB	Single	1GB		80GB	Combo	NVIDIA	Ext Spks	Business	HE	Jun 07
A60	9631-3AU	4x4	Athlon 64 X2 3800+	2.0	2x512KB	Dual	1GB		80GB	DVD	NVIDIA	Internal	Business	W Gbl	Feb 07
A60	9631-DKU	4x4	Athlon 64 X2 4200+	2.2	2x512KB	Dual	1GB	9-in-1	80GB	Combo	NVIDIA	Internal	Business	Gbl	Feb 07
A60	9631-E8U	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB		80GB	DVD	NVIDIA	Internal	Business		May 07
A60	9631-E9U	4x4	Athlon 64 X2 4800+	2.5	2x512KB	Dual	1GB		160GB	Combo	NVIDIA	Internal	Business		May 07

• These models have a 3-year limited warranty¹

Positioning	<i>Mainstream enterprise stability and manageability</i>	
Processor	AMD® Athlon™ 64 3500+ or 3800+ with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology or AMD Athlon 64 X2 3800+, 4200+, 4400+, or 4800+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 controller, and virtualization technology	
Implementation	Processor in 940-pin PGA package in Socket AM2	
Memory	1GB std / 4GB max / two 240-pin DIMM sockets; <i>Italics:</i> std memory in both sockets; no sockets available; <i>Non-italics:</i> std memory in one socket; one socket available; 3AU/DAU: PC2-4200 533MHz DDR2 / non-parity / CAS latency 4 (CL4) / unbuffered / dual-channel capable 2BU/Exx: PC2-5300 667MHz DDR2 / non-parity / CAS latency 5 (CL5) / unbuffered / dual-channel capable	
Graphics	NVIDIA® GF 6100 / integrated graphics controller in C51g chipset / uses main memory / 425MHz / one 15-pin analog D-sub connector / optional PCI Express x16 adapter can support two monitors	
SATA disk	80GB or 160GB / SATA300 7200 rpm / vibration dampening	
SATA controller	Serial ATA / 300MB/sec SATA300 / integrated in south bridge	
SATA cables	One SATA cable (one 1-drop to disk) / two SATA planar connectors	
EIDE DVD	<i>Some:</i> 16X-48X Max ⁴ DVD-ROM / single-layer	
EIDE Combo	<i>Some:</i> 48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo	
EIDE controller	Enhanced IDE / ATA-133 / integrated in NVIDIA MCP51 south bridge	
EIDE cables	One 2-drop EIDE 80-conductor cable to optical / two planar connectors	
Diskette drive	None / use optional external USB-based diskette drive	
Media reader	<i>Some:</i> 9-in-1 media reader / occupies diskette drive bay / internal USB 2.0	
Chipset	NVIDIA GeForce® 6100 C51g chipset / C51g includes graphics controller, support for PCI Express x1 slot, PCI Express x16 slot, PCI 2.3 slots / NVIDIA MCP51 south bridge for SATA300, ATA-133 EIDE, USB, Low Pin Count interface / Winbond® W83627EHG Super I/O	
Front ports	Two USB 2.0, microphone (mono, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, one 9-pin serial, parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (mono, 3.5mm)	
Audio	High Definition (HD) Audio / AD1986A codec / SoundMAX® software	
Speaker	<i>Some:</i> [Ext spks] 2-piece speakers, 6 watts (3 watts each), black, Infinity logo <i>Some:</i> [Internal] one internal speaker for business audio	
IEEE 1394	None	
Ethernet	Gigabit ethernet on systemboard / Broadcom® 5788 / PCI 2.3 / Wake on LAN®	
Modem	None	
Keyboard	<i>Feb models:</i> 104-key Preferred Pro Full-size keyboard (PS/2 connector) <i>May/June models:</i> Preferred Pro USB Keyboard (USB connector), 104-key	
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo	
Power supply	280 watts with variable speed fan / manual switch / 2 diagnostic LEDs	
Preloaded operating system²⁰ - Microsoft® Windows® Vista Business Edition (32-bit) ♦ <i>EGU/EHU:</i> Vista Basic logo ♦ <i>Others:</i> Vista Premium logo Preloaded applications⁵ • <i>Some (K12):</i> K-12 education software - VitalSource Library School Edition - Adobe® Instructor Resource Center - Adobe Digital School Collection - Photoshop Elements 5 (and CD) - Premier Elements 3 (and DVD) - Acrobat 8 Professional (and CD) - Contribute 4 (and CD) • <i>Some (HE):</i> Higher education software - VitalSource Library College Edition - Adobe® Instructor Resource Center - Adobe Photoshop Elements 5 (and CD) - Adobe Premier Elements 3 (and DVD) • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Lenovo Multimedia Center • Norton Internet Security™ (90 days of virus definitions) • Diskeeper® Home • PC-Doctor™ (diagnostics) • Adobe® Reader • Windows Live™ Toolbar • Windows Live Search • Picasa from Google License - CD not included - Lotus® Notes® Stand-alone Client		
Tower • Business black color • 6.9"W X 16.7" D X 16.14"H • 175mm W X 424mm D X 410mm H • 22.0 lb (10.0 kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, std or opt reader Bay ④ 3.5", 1" high, no access, std disk Slot 1: half-length, full-height, PCI Express x16 (75w max) Slot 2: half-length, full-height, PCI Express x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)		
		
SECURITY • One lock to secure both cover and entire system to fixed object: - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) - No keylock • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • USB, ethernet, SATA, EIDE, serial, parallel, diskette enable or disable • Diskette write protect • Front USB port disablement		
ThinkCentre desktops implement ThinkVantage® technologies and design		
LIMITED WARRANTY¹ ⇨ 3-year parts and labor ⇨ International Warranty Service® ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts ³ , 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations): ⁷ • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇨ ThinkPlus services at lenovo.com/thinkplus/warranty ⇨ Post-warranty maintenance services at lenovo.com/thinkplus/warranty ⇨ 24x7 ¹⁴ toll-free support for warranty issues during the warranty period ¹ 800-IBM-SERV (426-7378)		

See footnotes for important warranty information
 US models announced January 30, May 1, or June 5, 2007
 US models withdrawn effective August 2007 or January 2008

Partial list of accessories supported on ThinkCentre A60 originally announced on August 8, 2006

Memory

512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983	ann 06/28/05
1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	ann 06/28/05
2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985	ann 09/26/06

Optical

16X Max ⁴ DVD-ROM (black)	22P6950	
48X/32X/48X/16X Max ¹¹ CD-RW/DVD-ROM Combo drive (black)	73P3300	ann 04/06/04
Super Multi-Burner DL DVD±RW EIDE Drive	41N5581	ann 05/30/06

Storage and removable storage

40GB Serial ATA150 Disk (7200 rpm)	22P7185	
80GB Serial ATA300 Disk (7200 rpm)	09N4253	ann 05/19/03
160GB Serial ATA300 Disk (7200 rpm)	09N4254	ann 05/19/03
250GB Serial ATA300 Disk (7200 rpm)	41N3015	ann 01/24/06
500GB Serial ATA300 Disk (7200 rpm)	43R1990	ann 11/06/07

USB Portable Diskette Drive	05K9276	ann 06/05/00
USB 2.0 Essential Memory Key 1GB	41U4940	ann 01/23/07
USB 2.0 Essential Memory Key 2GB	41U4944	ann 01/23/07
USB 2.0 Security Memory Key 1GB	41U5118	ann 07/17/07
USB 2.0 Security Memory Key 2GB	41U5119	ann 07/17/07
USB 2.0 Security Memory Key 4GB	41U5120	ann 07/17/07
USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637	ann 01/05/06
USB 2.0 Portable 80GB Hard Disk	41N8378	ann 04/17/07
USB 2.0 Portable 120GB Hard Disk	41N8379	ann 04/17/07
USB 2.0 Super Multi-Burner Drive	41N5565	ann 01/23/07

Graphics

Tower 8700/8991/9269/9631 supports 75 watts max:
None

Desktop 9266/9384 supports Low Profile 25 watts max:
None

Keyboard

Preferred Pro USB Keyboard	73P5220	ann 06/21/05
Preferred Pro Full Size PS/2 Keyboard	31P7415	ann 06/04/02
Enhanced Performance USB Keyboard	73P2620	ann 03/23/04
Enh Perf Wireless Keyboard and Mouse	73P4067	ann 12/07/04

Mouse

USB Optical Wheel Mouse	06P4069	ann 05/21/03
Optical 3-Button ScrollPoint® Mouse	31P7405	ann 08/27/02
Lenovo Laser Mouse (USB, PS/2)	41U3074	ann 01/23/07

Multimedia

USB 2.0 Lenovo Multimedia Headset	40Y8518	ann 06/27/06
USB 2.0 Lenovo Webcam	40Y8519	ann 08/29/06

Data/Video Projectors

Lenovo M500 Projector	0037A05	ann 02/28/06
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Security

Kensington® Cable Lock from Lenovo	73P2582	ann 12/29/03
USB Gemplus GemPC Smart Card Reader	41N3040	ann 02/21/06
USB Fingerprint Reader	41U3167	ann 10/24/06

Monitors

Lenovo E75 17" CRT Monitor (16.0" vis)	6307BTN	ann 01/16/07
ThinkVision® L151 15" LCD Monitor	9165AC6	ann 10/23/07
ThinkVision L171 17" LCD Monitor	9227AD1	ann 10/23/07
ThinkVision L171p 17" LCD Monitor	9417HC2	ann 10/31/06
ThinkVision L190x 19" LCD Monitor	4439HB2	ann 10/23/07
ThinkVision L193p 19" LCD Monitor	4431HB2	ann 10/23/07
ThinkVision L194 Wide 19" LCD Monitor	4434HB6	ann 10/23/07
ThinkVision L220x Wide 22" LCD Monitor	4433HB2	ann 10/23/07

Monitor Accessories⁴⁶

ThinkVision USB Soundbar	40Y7616	ann 08/23/05
Kensington Cable Lock from Lenovo	73P2582	ann 12/29/03
Radial Arm	19K4464	ann 05/05/00

⁴⁶ Compatible on selected Lenovo and ThinkVision monitors.

Other accessories at lenovo.com/accessories

Accessories Guide pdf at lenovo.com/accessoriesguide

Need to buy accessories no longer marketed by Lenovo? See www.itxchange.com/lenovo for the Options Continuation Program.

ThinkPlus™.7 service upgrade options⁷ for 1-year warranty models:

1-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9189
2-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9190
2-year Lenovo Onsite Repair (LOR) 9x5 Next Business Day	41C9187
3-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9191
3-year Lenovo Onsite Repair (LOR) 9x5 Next Business Day	41C9188

ThinkPlus™.7 service upgrade options⁷ for 3-year warranty models:

3-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9192
3-year Lenovo Onsite Repair (LOR) 24x7 4 hour response	41C9193
4-year Lenovo Onsite Repair (LOR) 9x5 Next Business Day	41C9194
4-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9195
4-year Lenovo Onsite Repair (LOR) 24x7 4 hour response	41C9196

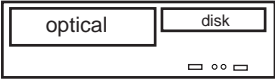
Post-warranty annual maintenance agreements at lenovo.com/thinkplus/warranty

ThinkCentre® A61e Eco Ultra Small (6417) - TopSeller - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ⁸	SATA disk	SATA optical	Integrated graphics	ENERGY STAR 4.0	EPEAT	Preload	Vista logo	Global Educ	Avail date
A61e	6417-12U	0x2	Sempron LE-1150	2.0	256KB	Single	512MB	80GB ²	DVD	X1200	ES40	Gold	XP Pro	None	None	Sep 07
A61e	6417-01U	0x2	Athlon X2 BE-2350	2.1	2x512KB	Dual	512MB	80GB	DVD	X1200	ES40	Gold	XP Pro	None	None	Feb 08
A61e	6417-15U	0x2	Sempron LE-1150	2.0	256KB	Single	512MB	80GB	DVD	X1200	ES40	Gold	Bus32	Basic	None	May 08
A61e	6417-16U	0x2	Athlon X2 BE-2350	2.1	2x512KB	Dual	1GB	80GB	DVD	X1200	ES40	Gold	Bus32	Prem	None	May 08

- These small and medium business (SMB) models are part of the US TopSeller™ Program
- Only 4.5 liter volume (25% less than 6.3 liter Ultra Small version of ThinkCentre M55)
- Standby power draw of 4.1 watts with normal idle of 47 watts

Positioning Processor	Energy efficiency and tiny footprint for mainstream computing AMD® Sempron™ LE-1150 with single-core, AMD64, 128KB L1 cache and 256KB L2 cache, 1600MHz system bus, and integrated DDR2 memory controller or AMD Athlon™ X2 BE-2350 with dual-core, AMD64, 2x128KB L1 cache and 2x512KB L2 cache, 2000MHz system bus, integrated DDR2 memory controller, and virtualization technology Processor in 940-pin PGA package in Socket AM2	Eco Ultra Small	
Implementation		Bay ① 5.25", 1.6" high, access, std optical Bay ② 3.5", 1" high, no access, std disk Slots: None	
Memory	512MB or 1GB std , 4GB max ³ , PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, two 200-pin SODIMM sockets (notebook); <i>Non-italics</i> : standard memory in one socket; one socket available	<ul style="list-style-type: none"> • Up to 25% less space than M55 Ultra Small • Business black color; metal case • 10.8" W X 9.5" D X 3.2" H • 275mm W X 242mm D X 81mm H • 7.2 to 8.2lb (3.3 to 3.7kg) • Toolless disk and optical drive removal • Hinged toolless cover for easy serviceability • Supports Vertical PC and Monitor Stand (41R4359) 	
Graphics	ATI™ Radeon™ X1200 , integrated graphics in 690V, uses main memory (up to 256MB), one analog VGA DB-15 connector		
SATA disk	80GB , SATA 3.0Gb/s 7200 rpm, vibration dampening mounts		
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in SB600		
SATA DVD	DVD-ROM DL SATA 1.5Gb/s 16X-48X Max ⁴ Drive (41N5618)		
SATA cables	Two SATA cables (each 1-drop to device), two SATA connectors		
EIDE controller	Enhanced IDE, ATA-133, integrated in SB600 south bridge, no EIDE connector on planar		
Diskette drive	None		
Media reader	None		
Chipset	AMD 690V Chipset : SB600 I/O Controller Hub for SATA 3.0Gb/s, ATA-133 EIDE, USB, LPC bus / ITE Tech® IT8726F Super I/O		
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Four USB 2.0, ethernet (RJ-45), monitor (VGA DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone (stereo, 3.5mm)		
Audio	High Definition (HD) Audio, AD1982 HD codec, SoundMAX® software		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on planar, Broadcom® BCM5786, PCIe x1, Wake on LAN®		
Modem	None		
Security chip	None		
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo		
Mouse	Optical Wheel Mouse (USB connector), black, Lenovo logo		
Power supply	External AC/DC adapter, 130 watts, autosensing, 85% PSU		
			Security
			<ul style="list-style-type: none"> • Security slot (in rear for attachment of optional Kensington® Microsaver® cable) - optional cable also locks the cover by deactivating the cover release buttons • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse • USB port disablement
			Supports ThinkVantage® technologies
Preloaded operating system ²⁰			EPEAT™ Gold rating ENERGY STAR® 4.0-compliant RoHS-compliant
- Some: Microsoft® Windows® XP Professional with Vista® COA			
- Some: Microsoft Windows Vista Business Edition (32-bit)			
Preloaded applications ⁵ (all OSes)			Limited Warranty ¹
• Rescue and Recovery™			↔ 1-year parts and labor
• Client Security Solution™			↔ International Warranty Service ⁹
• ThinkVantage Productivity Center			↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)
• ThinkVantage System Update			↔ Onsite service upgrade options (in eligible locations):⁷
• System Migration Assistant			• 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189)
• Norton Internet Security™ (90 days of virus definitions)			• 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187)
• Diskeeper® Home			• 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190)
• PC-Doctor™ (diagnostics)			• 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188)
• Adobe® Reader			• 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191)
• Windows Live™ Toolbar			↔ ThinkPlus services at lenovo.com/thinkplus/warranty
• Windows Live Search			↔ Post warranty maintenance services available
• Picasa from Google			↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378
• Microsoft Office 2007 Trial (60-day)			
• Multimedia Center for Think Offerings (DVD) (XP)			
• Corel® WinDVD® (DVD)			
Accessories			
1GB PC2-5300 DDR2 SODIMM (notebook)	43R1763		
2GB PC2-5300 DDR2 SODIMM (notebook)	43R1756		
160GB SATA 3.0Gb/s Disk (7200 rpm)	09N4254		
250GB SATA 3.0Gb/s Disk (7200 rpm)	41N3015		
500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990		
USB Portable Diskette Drive	05K9276		
USB 2.0 Lenovo Multimedia Headset	40Y8518		
USB 2.0 Lenovo Webcam	40Y8519		
USB 2.0 Essential Memory Key 32GB	45K1258		
USB 2.0 Security Memory Key 4GB	41U5120		
USB 2.0 Ultra Secure Memory Key 2GB	45J5916		
USB 2.0 Ultra Secure Memory Key 4GB	45J5917		
USB 2.0 Ultra Secure Memory Key 8GB	45J5918		
USB 2.0 Portable 160GB Hard Disk	43R1784		
USB 2.0 Portable Secure 320GB Hard Disk	43R2019		
USB 2.0 Super Multi-Burner Drive	41N5565		
Super Multi-Burner DL DVD±RW SATA Drive	41N5620		
ThinkVision® L1700p 17" Monitor	9417HE2		
ThinkVision L1940p Wide 19" Monitor	4424HB6		
ThinkVision L2240p Wide 22" Monitor	4422HB6		
ThinkVision L2440p Wide 24" Monitor	4420HB2		
ThinkVision USB Soundbar	40Y7616		
ThinkCentre Ultra Small Under Desk Mount	40Y8625		
Lenovo Vertical PC and Monitor Stand	41R4359		
Wireless Kbd & Opt Wheel Mouse (via USB)	73P4067		
USB Travel Keyboard with UltraNav™	31P9490		
Laser Tilt Wheel Mouse (USB, PS/2)	41U3074		
Kensington Cable Lock from Lenovo	73P2582		
Acc Guide in pdf lenovo.com/accessoriesguide			
Other accessories at lenovo.com/accessories			


See footnotes for important warranty information
US models announced September 12, 2007, February 18, 2008, or April 15, 2008
US models withdrawn effective October or December 2008

ThinkCentre® A61e Eco Ultra Small (6449) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	L2 cache GHz	Core Memory	SATA disk	SATA optical	Integrated graphics	ENERGY STAR 4.0	EPEAT	Vista preload	Limited warranty ¹	Global Educ	Avail date
A61e	6449-11U	0x2	Sempron LE-1150	2.0 256KB	Single 1GB	80GB ²	Combo	X1200	ES40	Gold	Bus32	3-yr	Gbl	Sep 07
A61e	6449-12U	0x2	Athlon X2 BE-2350	2.1 2x512KB	Dual 1GB	160GB	DVD±RW	X1200	ES40	Gold	Bus32	3-yr	Gbl	Sep 07

- Only 4.5 liter volume (25% less than 6.3 liter Ultra Small version of ThinkCentre M55)
- Standby power draw of 4.1 watts with normal idle of 47 watts

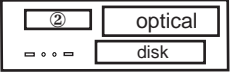
Positioning Processor	<p><i>Energy efficiency and tiny footprint for mainstream computing</i></p> <p>AMD® Sempron™ LE-1150 with single-core, AMD64, 128KB L1 cache and 256KB L2 cache, 1600MHz system bus, and integrated DDR2 memory controller or</p> <p>AMD Athlon™ X2 BE-2350 with dual-core, AMD64, 2x128KB L1 cache and 2x512KB L2 cache, 2000MHz system bus, integrated DDR2 memory controller, and virtualization technology</p> <p>Processor in 940-pin PGA package in Socket AM2</p>		<p>Eco Ultra Small</p>  <p>Bay ① 5.25", 1.6" high, access, std optical Bay ② 3.5", 1" high, no access, std disk Slots: None</p>
Memory	<p>1GB std, 4GB max⁸, PC2-5300 667MHz DDR2, non-parity, dual-channel capable, two 200-pin SODIMM sockets (notebook); <i>Non-italics</i>: standard memory in one socket; one socket available</p>		<ul style="list-style-type: none"> • Up to 25% less space than M55 Ultra Small • Business black color; metal case • 10.8" W X 9.5" D X 3.2" H • 275mm W X 242mm D X 81mm H • 7.2 to 8.2lb (3.3 to 3.7kg) • Toolless disk and optical drive removal • Hinged toolless cover for easy serviceability • Supports Vertical PC and Monitor Stand (41R4359)
Graphics	<p>ATI™ Radeon™ X1200, integrated graphics in 690V, uses main memory (up to 256MB), one 15-pin analog D-sub connector</p>		
SATA disk	<p>80GB or 160GB, SATA 3.0Gb/s 7200 rpm, vibration dampening Serial ATA, SATA 3.0Gb/s, integrated in SB600</p>		
SATA controller	<p>Some: CD-RW/DVD-ROM Combo SATA 1.5Gb/s Drive</p>		
SATA Combo	<p>Some: Super Multi-Burner DL DVD±RW SATA Drive (41N5620)</p>		
SATA DVD±RW	<p>Two SATA cables (each 1-drop to device), two SATA connectors on planar Enhanced IDE, ATA-133, integrated in SB600 south bridge, no EIDE connector on planar</p>		
SATA cables	<p>None</p>		
EIDE controller	<p>None</p>		
Diskette drive	<p>None</p>		
Media reader	<p>None</p>		
Chipset	<p>AMD 690V Chipset; SB600 I/O Controller Hub for SATA 3.0Gb/s, ATA-133 EIDE, USB, LPC bus / ITE Tech® IT8726F Super I/O</p>		
Front ports	<p>Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)</p>		
Rear ports	<p>Four USB 2.0, ethernet (RJ-45), monitor (DB-15)</p>		
Rear audio ports	<p>Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone (stereo, 3.5mm)</p>		
Audio	<p>High Definition (HD) Audio, AD1982 HD codec, SoundMAX® software</p>		
Speaker	<p>One internal speaker for business audio</p>		
Ethernet	<p>Gigabit ethernet on planar, Broadcom® BCM5786, PCIe x1, Wake on LAN®</p>		
Modem	<p>None</p>		
Security chip	<p>None</p>		
Keyboard	<p>Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo logo</p>		
Mouse	<p>Optical Wheel Mouse (USB connector), black, Lenovo logo</p>		
Power supply	<p>External AC/DC adapter, 130 watts, autosensing, 85% PSU</p>		
Preloaded operating system²⁰	<p>- Microsoft® Windows® Vista® Business Edition (32-bit) ↕ Vista Basic logo</p>		
Preloaded applications⁵	<ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Norton Internet Security™ (90 days of virus definitions) • Diskeeper® Home • PC-Doctor™ (diagnostics) • Adobe® Reader • Windows Live™ Toolbar • Windows Live Search • Picasa from Google • Microsoft Office 2007 Trial (60-day) • Sonic RecordNow and Drive Letter Access (combo, DVD±RW) • Corel® WinDVD® (combo, DVD±RW) 		
Accessories	<p>1GB PC2-5300 DDR2 SODIMM (notebook) 43R1763</p> <p>2GB PC2-5300 DDR2 SODIMM (notebook) 43R1756</p> <p>160GB SATA 3.0Gb/s Disk (7200 rpm) 09N4254</p> <p>250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015</p> <p>500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990</p> <p>USB Portable Diskette Drive 05K9276</p> <p>USB 2.0 Lenovo Multimedia Headset 40Y8518</p> <p>USB 2.0 Lenovo Webcam 40Y8519</p> <p>USB 2.0 Essential Memory Key 32GB 45K1258</p> <p>USB 2.0 Security Memory Key 2GB 41U5119</p> <p>USB 2.0 Security Memory Key 4GB 41U5120</p> <p>USB 2.0 Ultra Secure Memory Key 2GB 45J5916</p> <p>USB 2.0 Ultra Secure Memory Key 4GB 45J5917</p> <p>USB 2.0 Ultra Secure Memory Key 8GB 45J5918</p> <p>USB 2.0 Portable 160GB Hard Disk 43R1784</p> <p>USB 2.0 Super Multi-Burner Drive 41N5565</p> <p>ThinkVision® L1700p 17" Monitor 9417HE2</p> <p>ThinkVision L1940p Wide 19" Monitor 4424HB6</p> <p>ThinkVision L2240p Wide 22" Monitor 4422HB6</p> <p>ThinkVision L2440p Wide 24" Monitor 4420HB2</p> <p>ThinkVision USB Soundbar 40Y7616</p> <p>ThinkCentre Ultra Small Under Desk Mount 40Y8625</p> <p>Lenovo Vertical PC and Monitor Stand 41R4359</p> <p>Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067</p> <p>USB Travel Keyboard with UltraNav™ 31P9490</p> <p>Laser Tilt Wheel Mouse (USB, PS/2) 41U3074</p> <p>Kensington Cable Lock from Lenovo 73P2582</p> <p>Acc Guide in pdf lenovo.com/accessoriesguide</p> <p>Other accessories at lenovo.com/accessories</p>	<p>43R1763</p> <p>43R1756</p> <p>09N4254</p> <p>41N3015</p> <p>43R1990</p> <p>05K9276</p> <p>40Y8518</p> <p>40Y8519</p> <p>45K1258</p> <p>41U5119</p> <p>41U5120</p> <p>45J5916</p> <p>45J5917</p> <p>45J5918</p> <p>43R1784</p> <p>41N5565</p> <p>9417HE2</p> <p>4424HB6</p> <p>4422HB6</p> <p>4420HB2</p> <p>40Y7616</p> <p>40Y8625</p> <p>41R4359</p> <p>73P4067</p> <p>31P9490</p> <p>41U3074</p> <p>73P2582</p>	
	<p>Supports ThinkVantage® technologies</p>		
	<p>EPEAT™ Gold rating ENERGY STAR® 4.0-compliant RoHS-compliant</p>		
	<p>Limited Warranty¹</p> <ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ ThinkPlus services at lenovo.com/thinkplus/warranty ↔ Post warranty maintenance services available lenovo.com/thinkplus/warranty ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 		

See footnotes for important warranty information
US models announced September 12, 2007
US models withdrawn effective October 2008

ThinkCentre® A61 Desktop (9144) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ⁸	SATA disk	SATA optical	Integrated graphics	Security chip	Preload	Limited warranty ¹	Global Educ	Avail date
A61	9144-ADU	4x3	Sempron 3600+	2.0	256KB	Single	512MB	80GB ²	DVD	X1250	Yes	XP Pro	3-yr	None	Aug 07
A61	9144-B4U	4x3	Athlon 64 3800+	2.4	512KB	Single	1GB	160GB	DVD	X1250	Yes	XP Pro	3-yr	None	Aug 07
A61	9144-AKU	4x3	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB	80GB	Combo	X1250	Yes	XP Pro	3-yr	None	Aug 07
A61	9144-AJU	4x3	Athlon 64 X2 4800+	2.5	2x512KB	Dual	1GB	160GB	DVD	X1250	Yes	XP Pro	3-yr	None	Aug 07

Positioning Processor	<p><i>Mainstream enterprise stability and manageability</i></p> <p>AMD® Sempron™ 3600+ with single-core, integrated L1/L2 cache, AMD64, and integrated DDR2 memory controller or AMD Athlon™ 64 3800+ with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology or AMD Athlon 64 X2 4400+ or 4800+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology</p> <p>Processor in 940-pin PGA package in Socket AM2</p>		<p>Desktop</p>  <ul style="list-style-type: none"> • Business black color • 13.0" W X 16.2" D X 4.3" H • 331mm W X 412mm D X 108mm H • 18.5 to 20.7lb (8.4 to 9.4kg) • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention
Implementation			<p>Bay ① 5.25", 1.6" high, access, std optical</p> <p>Bay ② 3.5", 1" high, access, open (reader/diskette)</p> <p>Bay ③ 3.5", 1" high, no access, std disk</p>
Memory	<p>512MB or 1GB std, 8GB max⁸, PC2-5300 667MHz DDR2, non-parity, dual-channel capable, four 240-pin DIMM sockets;</p> <p><i>Non-italics:</i> standard memory in one socket; 3 sockets available</p>		
Graphics	<p>ATI™ Radeon™ X1250, integrated graphics in 690G, uses main memory (up to 256MB), one analog VGA DB-15 connector</p>		<p>Slot 1: Low Profile, PCI Express x1</p> <p>Slot 2: Low Profile, PCI Express x16 (25w max)</p> <p>Slot 3: Low Profile, 32-bit PCI 2.3 (5v)</p> <p>Slot 4: Low Profile, 32-bit PCI 2.3 (5v)</p>
DVI-D connector	None		
SATA disk	<p>80GB or 160GB, SATA 3.0Gb/s 7200 rpm, vibration dampening</p>		<p>Security</p> <ul style="list-style-type: none"> • Security chip (see information on left) • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Hard disk password • Boot sequence control • Boot without keyboard, mouse, diskette • Unattended start mode • Hard disk I/O control • Serial port I/O control • Parallel port I/O control • Individual USB port disablement
SATA controller	<p>Serial ATA, SATA 3.0Gb/s, integrated in SB600, RAID 0/1 support</p>		
SATA DVD	<p><i>Some:</i> DVD-ROM DL SATA 1.5Gb/s 16X-48X Max⁴ Drive (41N5618)</p>		
SATA Combo	<p><i>Some:</i> CD-RW/DVD-ROM Combo SATA 1.5Gb/s Drive</p>		
SATA cables	<p>Two SATA cables (each 1-drop to device), four SATA connectors on planar</p>		
EIDE controller	<p>Enhanced IDE, ATA-133, integrated in SB600, one EIDE connector on planar</p>		
Diskette drive	None		
Media reader	None		
Chipset	<p>AMD 690G Chipset with HyperTransport™ 1.0 and PCI Express® 1.1 support; SB600 south bridge for SATA 3.0Gb/s with RAID 0/1 support, ATA-133 EIDE, PCI 2.3, USB, LPC bus / Winbond® W83627DHG Super I/O</p>		
Front ports	<p>Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)</p>		
Rear ports	<p>Four USB 2.0, serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (VGA DB-15)</p>		
Rear audio ports	<p>Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)</p>		
Audio	<p>High Definition (HD) Audio, ALC888 codec</p>		
Speaker	<p>One internal speaker for business audio</p>		
Ethernet	<p>Gigabit ethernet on planar, Marvell® 88E8071, PCIe x1, Wake on LAN®, ASF 2.0</p>		
Modem	None		
Security chip	<p>Winbond WPCT200 SafeKeeper™ Trusted Platform Module, TCG 1.2-compliant</p>		
Keyboard	<p>Preferred Pro USB Keyboard (USB connector), 104-key</p>		
Mouse	<p>Optical Wheel Mouse (USB only), black, Lenovo logo</p>		
Power supply	<p>220 watts with variable speed fan, manual switch</p>		
Preloaded operating system²⁰	<p>- Microsoft® Windows® XP Professional with Vista® COA</p> <p>◆ Disk-to-Disk Recovery (in hidden protected area)</p>		<p>Supports ThinkVantage® technologies</p> <p>RoHS-compliant</p> <p>Limited Warranty¹</p> <ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↔ Post warranty maintenance services available ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378
Preloaded applications⁵	<ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • Norton Internet Security™ (90 days of virus definitions) • Diskeeper® Home • PC-Doctor™ (diagnostics) • Adobe® Reader • Picasa from Google • Microsoft Office 2007 Trial (60-day) • Multimedia Center for Think Offerings (combo, DVD) • Sonic RecordNow and Drive Letter Access (combo) • Corel® WinDVD® (combo, DVD) 		
Accessories	<ul style="list-style-type: none"> 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 1GB PC2-6400 NP DDR2 UDIMM 41U2977 2GB PC2-6400 NP DDR2 UDIMM 41U2978 250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 USB Portable Diskette Drive 05K9276 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 Essential Memory Key 32GB 45K1258 USB 2.0 Security Memory Key 2GB 41U5119 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 Ultra Secure Memory Key 2GB 45J5916 USB 2.0 Ultra Secure Memory Key 4GB 45J5917 USB 2.0 Ultra Secure Memory Key 8GB 45J5918 USB 2.0 Portable 160GB Hard Disk 43R1784 USB 2.0 Portable Secure 320GB Hard Disk 43R2019 USB 2.0 Super Multi-Burner 41N5565 Super Multi-Burner DL DVD±RW SATA Drive 41N5620 ThinkVision® L1700p 17" Monitor 9417HE2 ThinkVision L1940p Wide 19" Monitor 4424HB6 ThinkVision L2240p Wide 22" Monitor 4422HB6 ThinkVision L2440p Wide 24" Monitor 4420HB2 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 Kensington Cable Lock from Lenovo 73P2582 ATI Radeon HD 2400 Pro 128MB 43R1961 ATI Radeon HD 2400 XT 256MB 43R1962 Acc Guide in pdf lenovo.com/accessoriesguide Other accessories at lenovo.com/accessories 		

See footnotes for important warranty information
 US models announced August 14, 2007
 US models withdrawn effective June, September, or December 2008

ThinkCentre® A61 Desktop (9144) - Vista® - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ⁸	SATA disk	SATA optical	Integrated graphics	Security chip	DVI-D connector	Vista preload	Vista logo	Global Educ	Avail date
A61	9144-ACU	4x3	Sempron 3600+	2.0	256KB	Single	512MB	80GB ²	DVD	X1250	Yes		Business32	Basic		Aug 07
A61	9144-AGU	4x3	Athlon 64 3800+	2.4	512KB	Single	1GB	160GB	Combo	X1250	Yes		Business32	Premium		Aug 07
A61	9144-B5U	4x3	Athlon 64 X2 4000+	2.1	2x512KB	Dual	1GB	80GB	DVD	X1250	Yes	DVI-D	Business32	Basic	Gbl	Aug 07
A61	9144-B6U	4x3	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB	80GB	DVD	X1250	Yes	DVI-D	Business32	Basic	Gbl	Aug 07
A61	9144-ALU	4x3	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB	80GB	Combo	X1250	Yes		Business32	Premium		Aug 07
A61	9144-B7U	4x3	Athlon 64 X2 4800+	2.5	2x512KB	Dual	1GB	160GB	Combo	X1250	Yes	DVI-D	Business32	Basic		Aug 07
A61	9144-AMU	4x3	Athlon 64 X2 4800+	2.5	2x512KB	Dual	1GB	160GB	DVD±RW	X1250	Yes		Business32	Premium		Aug 07
A61	9144-ANU	4x3	Athlon 64 X2 4800+	2.5	2x512KB	Dual	1GB	160GB	DVD±RW	X1250	Yes		Business64	Premium		Nov 07
A61	9144-BAU	4x3	Athlon 64 X2 5000+	2.6	2x512KB	Dual	1GB	80GB	DVD	X1250	Yes		Business32	Basic		Oct 07
A61	9144-BBU	4x3	Athlon 64 X2 5000+	2.6	2x512KB	Dual	1GB	160GB	Combo	X1250	Yes	DVI-D	Business32	Basic		Oct 07
A61	9144-BCU	4x3	Athlon 64 X2 5000+	2.6	2x512KB	Dual	1GB	160GB	DVD±RW	X1250	Yes		Business32	Basic		Oct 07

Positioning	<i>Mainstream enterprise stability and manageability</i>	
Processor	AMD® Sempron™ 3600+ with single-core, integrated L1/L2 cache, AMD64, and integrated DDR2 memory controller or AMD Athlon™ 64 3800+ with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology or AMD Athlon 64 X2 4000+, 4400+, 4800+, or 5000+ with dual-core , integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology	
Implementation	Processor in 940-pin PGA package in Socket AM2	
Memory	512MB or 1GB std , 8GB max ⁸ , PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Italics:</i> standard memory in two sockets; two sockets available; <i>Non-italics:</i> standard memory in one socket; 3 sockets available	
Graphics	ATI™ Radeon™ X1250 , integrated graphics in 690G, uses main memory (up to 256MB), one 15-pin analog D-sub connector	
DVI-D connector	<i>Some:</i> DVI-D conn on rear bracket to support two monitors (uses DVI-D Cable attached to DVI header on planar [SurroundView™]); supports up to 4 monitors with opt dual head ATI graphics adapter	
SATA disk	80GB or 160GB , SATA 3.0Gb/s 7200 rpm, vibration dampening	
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in SB600, RAID 0/1 support	
SATA DVD	<i>Some:</i> DVD-ROM DL SATA 1.5Gb/s 16X-48X Max ⁴ Drive (41N5618)	
SATA Combo	<i>Some:</i> CD-RW/DVD-ROM Combo SATA 1.5Gb/s Drive	
SATA DVD±RW	<i>Some:</i> Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive (41N5620)	
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors on planar	
EIDE controller	Enhanced IDE, ATA-133, integrated in SB600, one EIDE connector on planar	
Diskette drive	None	
Media reader	None	
Chipset	AMD 690G Chipset with HyperTransport™ 1.0 and PCI Express® 1.1 support; SB600 south bridge for SATA 3.0Gb/s with RAID 0/1 support, ATA-133 EIDE, PCI 2.3, USB, LPC bus / Winbond® W83627DHG Super I/O	
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15, DVI-D in some models)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)	
Audio	High Definition (HD) Audio, ALC888 codec	
Speaker	One internal speaker for business audio	
Ethernet	Gigabit ethernet on planar, Marvell® 88E8071, PCIe x1, Wake on LAN®, ASF 2.0	
Modem	None	
Security chip	Winbond WPCT200 SafeKeeper™ Trusted Platform Module, TCG 1.2-compliant	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key	
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo	
Power supply	220 watts with variable speed fan, manual switch	
Preloaded operating system²⁰	Accessories	
- <i>Some:</i> Microsoft® Windows® Vista Business Edition (32-bit)	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984
- <i>Some:</i> Microsoft Windows Vista Business Edition (64-bit)	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985
	1GB PC2-6400 NP DDR2 UDIMM	41U2977
	2GB PC2-6400 NP DDR2 UDIMM	41U2978
	500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990
Preloaded applications⁵ (all OSes; only some listed)	USB Portable Diskette Drive	05K9276
• Rescue and Recovery™	USB 2.0 Lenovo Multimedia Headset	40Y8518
• Client Security Solution™	USB 2.0 Lenovo Webcam	40Y8519
• ThinkVantage Productivity Center	USB 2.0 Essential Memory Key 32GB	45K1258
• ThinkVantage System Update	USB 2.0 Ultra Secure Memory Key 8GB	45J5918
• System Migration Assistant	USB 2.0 Portable 160GB Hard Disk	43R1784
• Norton Internet Security™	ThinkVision® L1700p 17" Monitor	9417HE2
• Diskeeper® Home	ThinkVision L1940p Wide 19" Monitor	4424HB6
• PC-Doctor™ (diagnostics)	ThinkVision L2240p Wide 22" Monitor	4422HB6
• Adobe® Reader	ThinkVision L2440p Wide 24" Monitor	4420HB2
• Picasa from Google	Wireless Kbd & Opt Wheel Mouse (via USB)	73P4067
• Microsoft Office 2007 Trial (60-day)	Laser Tilt Wheel Mouse (USB, PS/2)	41U3074
• Sonic RecordNow and Drive Letter Access (combo, DVD±RW)	Kensington Cable Lock from Lenovo	73P2582
• Corel® WinDVD® (combo, DVD, DVD±RW)	ATI Radeon HD 2400 Pro 128MB	43R1961
	ATI Radeon HD 2400 XT 256MB	43R1962
	Other accessories at lenovo.com/accessories	

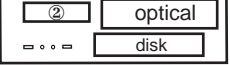
Desktop	<ul style="list-style-type: none"> • Business black color • 13.0" W X 16.2" D X 4.3" H • 331mm W X 412mm D X 108mm H • 18.5 to 20.7lb (8.4 to 9.4kg) • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention
Bay ①	5.25", 1.6" high, access, std optical
Bay ②	3.5", 1" high, access, open (reader/diskette)
Bay ③	3.5", 1" high, no access, std disk
Slot 1:	Low Profile, PCI Express x1*
Slot 2:	Low Profile, PCI Express x16 (25w max)
Slot 3:	Low Profile, 32-bit PCI 2.3 (5v)
Slot 4:	Low Profile, 32-bit PCI 2.3 (5v)
* <i>Some:</i> DVI-D connector on bracket for DVI-D Cable blocks slot	
Security	<ul style="list-style-type: none"> • Security chip (see information on left) • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Hard disk password • Boot sequence control • Boot without keyboard, mouse, diskette • Unattended start mode • Hard disk I/O control • Serial port I/O control • Parallel port I/O control • Individual USB port disablement
Supports ThinkVantage® technologies	
RoHS-compliant	
Limited Warranty¹	
<ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↔ Post warranty maintenance services available ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 	

See footnotes for important warranty information
 US models announced August 14, September 25, or October 16, 2007
 US models withdrawn effective September or October 2008

ThinkCentre® A61 Desktop (9169) - ENERGY STAR® 4.0 - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ²	SATA disk	SATA optical	Integrated graphics	Security chip	ENERGY STAR 4.0	Preload	Limited warranty ¹	Global Educ	Avail date
A61	9169-A1U	4x3	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB	80GB ²	Combo	X1250	Yes	ES40	XP Pro	3-yr	No	Sep07
A61	9169-A2U	4x3	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB	80GB	Combo	X1250	Yes	ES40	Business32	3-yr	No	Sep07

Positioning Processor	<i>Mainstream enterprise stability and manageability</i> AMD® Athlon™ 64 X2 4400+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology		Desktop
Implementation	Processor in 940-pin PGA package in Socket AM2		
Memory	1GB std , 8GB max ² , PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Non-italics:</i> standard memory in one socket; 3 sockets available		 <ul style="list-style-type: none"> • Business black color • 13.0" W X 16.2" D X 4.3" H • 331mm W X 412mm D X 108mm H • 18.5 to 20.7lb (8.4 to 9.4kg) • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention <p>Bay ① 5.25", 1.6" high, access, std optical Bay ② 3.5", 1" high, access, open (reader/diskette) Bay ③ 3.5", 1" high, no access, std disk</p> <p>Slot 1: Low Profile, PCI Express x1 Slot 2: Low Profile, PCI Express x16 (25w max) Slot 3: Low Profile, 32-bit PCI 2.3 (5v) Slot 4: Low Profile, 32-bit PCI 2.3 (5v)</p>
Graphics	ATI™ Radeon™ X1250 , integrated graphics in 690G, uses main memory (up to 256MB), one 15-pin analog D-sub connector		
DVI-D connector	None		
SATA disk	80GB , SATA 3.0Gb/s 7200 rpm, vibration dampening mounts		
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in SB600, RAID 0/1 support		
SATA Combo	CD-RW/DVD-ROM Combo SATA 1.5Gb/s Drive		
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors		
EIDE controller	Enhanced IDE, ATA-133, integrated in SB600, one EIDE connector		
Diskette drive	None		
Media reader	None		
Chipset	AMD 690G Chipset with HyperTransport™ 1.0 and PCI Express® 1.1 support; SB600 south bridge for SATA 3.0Gb/s with RAID 0/1 support, ATA-133 EIDE, PCI 2.3, USB, LPC bus / Winbond® W83627DHG Super I/O		
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Four USB 2.0, serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)		
Audio	High Definition (HD) Audio, ALC888 codec		
Speaker	One internal speaker for business audio		
Ethernet	Gigabit ethernet on planar, Marvell® 88E8071, PCIe x1, Wake on LAN®, ASF 2.0		
Modem	None		
Security chip	Winbond WPCT200 SafeKeeper™ Trusted Platform Module, TCG 1.2-compliant		
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key		
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo		
Power supply	220 watts with variable speed fan, autosensing, 80% PSU		
Preloaded operating system²⁰	Accessories		
- <i>Some:</i> Microsoft® Windows® XP Professional	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	
- <i>Some:</i> Microsoft Windows Vista® Business Edition (32-bit)	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985	
◇ <i>Vista model:</i> Vista Basic logo	1GB PC2-6400 NP DDR2 UDIMM	41U2977	
Preloaded applications⁵ (all OSes)	2GB PC2-6400 NP DDR2 UDIMM	41U2978	
• Rescue and Recovery™	160GB SATA 3.0Gb/s Disk (7200 rpm)	09N4254	
• Client Security Solution™	250GB SATA 3.0Gb/s Disk (7200 rpm)	41N3015	
• ThinkVantage Productivity Center	500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990	
• ThinkVantage System Update	USB Portable Diskette Drive	05K9276	
• System Migration Assistant	USB 2.0 Lenovo Multimedia Headset	40Y8518	
• Norton Internet Security™ (90 days of virus definitions)	USB 2.0 Lenovo Webcam	40Y8519	
• Diskeeper® Home	USB 2.0 Essential Memory Key 32GB	45K1258	
• PC-Doctor™ (diagnostics)	USB 2.0 Security Memory Key 2GB	41U5119	
• Adobe® Reader	USB 2.0 Security Memory Key 4GB	41U5120	
• Windows Live™ Toolbar	USB 2.0 Ultra Secure Memory Key 2GB	45J5916	
• Windows Live Search	USB 2.0 Ultra Secure Memory Key 4GB	45J5917	
• Picasa from Google	USB 2.0 Ultra Secure Memory Key 8GB	45J5918	
• Microsoft Office 2007 Trial (60-day)	USB 2.0 Portable 160GB Hard Disk	43R1784	
• Multimedia Center for Think Offerings (combo) (XP)	USB 2.0 Super Multi-Burner Drive	41N5565	
• Sonic RecordNow and Drive Letter Access (combo)	Super Multi-Burner DL DVD±RW SATA Drive	41N5620	
• Corel® WinDVD® (combo)	ThinkVision® L1700p 17" Monitor	9417HE2	
	ThinkVision L1940p Wide 19" Monitor	4424HB6	
	ThinkVision L2240p Wide 22" Monitor	4422HB6	
	ThinkVision L2440p Wide 24" Monitor	4420HB2	
	ThinkVision USB Soundbar	40Y7616	
	Wireless Kbd & Opt Wheel Mouse (via USB)	73P4067	
	Laser Tilt Wheel Mouse (USB, PS/2)	41U3074	
	Kensington Cable Lock from Lenovo	73P2582	
	ATI Radeon HD 2400 Pro 128MB	43R1961	
	ATI Radeon HD 2400 XT 256MB	43R1962	
	Acc Guide in pdf lenovo.com/accessoriesguide		
	Other accessories at lenovo.com/accessories		
		Supports ThinkVantage® technologies	
		EPEAT™ Silver rating ENERGY STAR 4.0-compliant RoHS-compliant	
		Limited Warranty¹	
		⇨ 3-year parts and labor	
		⇨ International Warranty Service⁹	
		⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)	
		⇨ Onsite service upgrade options (in eligible locations):⁷	
		• 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192)	
		• 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193)	
		• 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194)	
		• 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195)	
		• 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196)	
		⇨ ThinkPlus services at lenovo.com/thinkplus/warranty	
		⇨ Post warranty maintenance services available	
		⇨ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378	

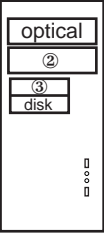
See footnotes for important warranty information
US models announced August 14, 2007
US models withdrawn effective June or October 2008

ThinkCentre® A61 Tower (9120) - TopSeller - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ⁸	SATA disk	SATA optical	Integrated graphics	Security chip	DVI-D connector	Preload	Global Educ	Avail date
A61	9120-A7U	4x4	Athlon 64 3800+	2.4	512KB	Single	512MB	80GB ²	DVD	X1250	Yes	DVI-D	XP Pro	None	Dec 07
A61	9120-A8U	4x4	Athlon 64 3800+	2.4	512KB	Single	1GB	160GB	Combo	X1250	Yes	DVI-D	XP Pro	None	Dec 07
A61	9120-A9U	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	512MB	80GB	DVD	X1250	Yes	DVI-D	XP Pro	None	Dec 07
A61	9120-AAU	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB	160GB	Combo	X1250	Yes	DVI-D	XP Pro	None	Dec 07
A61	9120-01U	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	2GB	80GB	Combo	X1250	Yes	DVI-D	XP Pro	None	Feb 08
A61	9120-ABU	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	2GB	160GB	DVD±RW	X1250	Yes	DVI-D	XP Pro	None	Dec 07
A61	9120-ADU	4x4	Athlon 64 X2 5000+	2.6	2x512KB	Dual	1GB	160GB	Combo	X1250	Yes	DVI-D	XP Pro	None	Dec 07
A61	9120-ACU	4x4	Athlon 64 X2 5000+	2.6	2x512KB	Dual	2GB	160GB	DVD±RW	X1250	Yes	DVI-D	XP Pro	None	Dec 07

- These small and medium business (SMB) models are part of the US TopSeller™ Program
- These models have a 1-year limited warranty¹

Positioning	<i>Quality, reliability and manageability for small/medium businesses</i>		Tower <ul style="list-style-type: none"> • Business black color • 6.9" W X 17.3" D X 15.8" H • 175mm W X 440mm D X 402mm H • 20.3 to 24.9lb (9.2 to 11.3kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 	
Processor	AMD® Athlon™ 64 3800+ with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology or AMD Athlon 64 X2 4400+ or 5000+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology			
Implementation	Processor in 940-pin PGA package in Socket AM2			
Memory	512MB, 1GB, or 2GB std , 8GB max ⁸ , PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Italics:</i> standard memory in two sockets; two sockets available; <i>Non-italics:</i> standard memory in one socket; 3 sockets available			
Graphics	ATI™ Radeon™ X1250 , integrated graphics in 690G, uses main memory (up to 256MB), one analog VGA DB-15 connector			
DVI-D connector	DVI-D connector on rear bracket to support two monitors (uses DVI-D Cable attached to DVI header on planar [SurroundView™]); supports up to 4 monitors with opt dual head ATI graphics adapter			
SATA disk	80GB or 160GB , SATA 3.0Gb/s 7200 rpm, vibration dampening Serial ATA, SATA 3.0Gb/s, integrated in SB600, RAID 0/1 support <i>Some:</i> DVD-ROM DL SATA 1.5Gb/s 16X-48X Max ⁴ Drive (41N5618) <i>Some:</i> CD-RW/DVD-ROM Combo SATA 1.5Gb/s Drive <i>Some:</i> Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive (41N5620)			
SATA controller	Some: CD-RW/DVD-ROM Combo SATA 1.5Gb/s Drive			
SATA DVD	Some: Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive (41N5620)			
SATA Combo	Two SATA cables (each 1-drop to device), four SATA connectors on planar			
SATA DVD±RW	Enhanced IDE, ATA-133, integrated in SB600, one EIDE connector on planar			
SATA cables	None			
EIDE controller	None			
Diskette drive	None			
Media reader	None			
Chipset	AMD 690G Chipset with HyperTransport™ 1.0 and PCI Express® 1.1 support; SB600 south bridge for SATA 3.0Gb/s with RAID 0/1 support, ATA-133 EIDE, PCI 2.3, USB, LPC bus / Winbond® W83627DHG Super I/O			
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)			
Rear ports	Four USB 2.0, serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (VGA DB-15, DVI-D)			
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)			
Audio	High Definition (HD) Audio, ALC888 codec			
Speaker	One internal speaker for business audio			
Ethernet	Gigabit ethernet on planar, Marvell® 88E8071, PCIe x1, Wake on LAN®, ASF 2.0			
Modem	None			
Security chip	Winbond WPCT200 SafeKeeper™ Trusted Platform Module, TCG 1.2-compliant			
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key			
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo			
Power supply	280 watts with variable speed fan, manual switch			
Preloaded operating system²⁰	<ul style="list-style-type: none"> - Microsoft® Windows® XP Professional with Vista® COA ◆ Disk-to-Disk Recovery (in hidden protected area) 			
Preloaded applications⁵ (only some listed)	<ul style="list-style-type: none"> • Rescue and Recovery™ • Client Security Solution™ • ThinkVantage Productivity Center • ThinkVantage System Update • System Migration Assistant • Norton Internet Security™ • Diskeeper® Home • PC-Doctor™ (diagnostics) • Windows Live™ Toolbar • Windows Live Search • Picasa from Google • Microsoft Office 2007 Trial (60-day) • Multimedia Center for Think Offerings (combo, DVD, DVD±RW) • Sonic RecordNow and Drive Letter Access (combo, DVD±RW) • Corel® WinDVD® (combo, DVD, DVD±RW) • Corel WinDVD Creator (DVD±RW) 			
Accessories	<ul style="list-style-type: none"> 1GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2001 2GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2002 250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 USB Portable Diskette Drive 05K9276 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 Essential Memory Key 32GB 45K1258 USB 2.0 Ultra Secure Memory Key 4GB 45J5917 USB 2.0 Ultra Secure Memory Key 8GB 45J5918 USB 2.0 Portable 160GB Hard Disk 43R1784 USB 2.0 Portable Secure 320GB Hard Disk 43R2019 ThinkVision® L1940p Wide 19" Monitor 4424HB6 ThinkVision L2240p Wide 22" Monitor 4422HB6 ThinkVision L2440p Wide 24" Monitor 4420HB2 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 Kensington Cable Lock from Lenovo 73P2582 ATI Radeon HD 2400 Pro 128MB 43R1961 ATI Radeon HD 2400 XT 256MB 43R1962 ATI Radeon HD 2600 XT 512MB 43R1963 Acc Guide in pdf lenovo.com/accessoriesguide Other accessories at lenovo.com/accessories 			
				Security <ul style="list-style-type: none"> • Security chip (see information on left) • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Hard disk password • Boot sequence control • Boot without keyboard, mouse, diskette • Unattended start mode • Hard disk I/O control • Serial port I/O control • Parallel port I/O control • Individual USB port disablement
				Supports ThinkVantage® technologies
				RoHS-compliant
				Limited Warranty¹ <ul style="list-style-type: none"> ↔ 1-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189) • 2-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187) • 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190) • 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188) • 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191) ↔ ThinkPlus services at lenovo.com/thinkplus/warranty ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378

See footnotes for important warranty information
 US models announced November 27, 2007 or February 18, 2008
 US models withdrawn effective September or December 2008

ThinkCentre® A61 Tower (9120) - TopSeller (Vista®) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ⁸	SATA disk	SATA optical	Integrated graphics	Security chip	DVI-D connector	Vista preload	Vista logo	Global Educ	Avail date
A61	9120-A4U	4x4	Sempron 3600+	2.0	256KB	Single	512MB	80GB ²	DVD	X1250	Yes		Home Basic	Basic	No	Aug 07
A61	9120-AGU	4x4	Athlon 64 3800+	2.4	512KB	Single	1GB	80GB	Combo	X1250	Yes	DVI-D	Business32	Basic	No	May 08
A61	9120-AHU	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB	160GB	Combo	X1250	Yes	DVI-D	Business32	Basic	No	May 08
A61	9120-AJU	4x4	Athlon 64 X2 5000+	2.6	2x512KB	Dual	2GB	160GB	DVD±RW	X1250	Yes	DVI-D	Business32	Prem	No	May 08

- These small and medium business (SMB) models are part of the US TopSeller™ Program
- These models have a 1-year limited warranty¹

Positioning Processor	Quality, reliability and manageability for small/medium businesses AMD® Sempron™ 3600+ with single-core, integrated L1/L2 cache, AMD64, and integrated DDR2 memory controller or AMD Athlon™ 64 3800+ with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology or AMD Athlon 64 X2 4400+ or 5000+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology Processor in 940-pin PGA package in Socket AM2	Tower <ul style="list-style-type: none"> • Business black color • 6.9" W X 17.3" D X 15.8" H • 175mm W X 440mm D X 402mm H • 20.3 to 24.9lb (9.2 to 11.3kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 
Implementation		
Memory	512MB, 1GB, or 2GB std , 8GB max ⁸ , PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Italics:</i> standard memory in two sockets; two sockets available; <i>Non-italics:</i> standard memory in one socket; 3 sockets available	Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, open (reader/diskette) Bay ④ 3.5", 1" high, no access, std disk
Graphics	ATI™ Radeon™ X1250 , integrated graphics in 690G, uses main memory (up to 256MB), one 15-pin analog D-sub connector <i>Some:</i> DVI-D conn on rear bracket to support two monitors (uses DVI-D Cable attached to DVI header on planar [SurroundView™]); supports up to 4 monitors with opt dual head ATI graphics adapter	Slot 1: half-length, full-height, PCI Express x1* Slot 2: half-length, full-height, PCI Express x16 (75w max) Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)
DVI-D connector		* <i>Some:</i> DVI-D connector on bracket for DVI-D Cable blocks slot
SATA disk	80GB or 160GB , SATA 3.0Gb/s 7200 rpm, vibration dampening	
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in SB600, RAID 0/1 support	
SATA DVD	<i>Some:</i> DVD-ROM DL SATA 1.5Gb/s 16X-48X Max ⁴ Drive (41N5618)	
SATA Combo	<i>Some:</i> CD-RW/DVD-ROM Combo SATA 1.5Gb/s Drive	
SATA DVD±RW	<i>Some:</i> Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive (41N5620)	
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors on planar	
EIDE controller	Enhanced IDE, ATA-133, integrated in SB600, one EIDE connector on planar	
Diskette drive	None	
Media reader	None	
Chipset	AMD 690G Chipset with HyperTransport™ 1.0 and PCI Express® 1.1 support; SB600 south bridge for SATA 3.0Gb/s with RAID 0/1 support, ATA-133 EIDE, PCI 2.3, USB, LPC bus / Winbond® W83627DHG Super I/O	Security <ul style="list-style-type: none"> • Security chip (see information on left) • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Hard disk password • Boot sequence control • Boot without keyboard, mouse, diskette • Unattended start mode • Hard disk I/O control • Serial port I/O control • Parallel port I/O control • Individual USB port disablement
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15, DVI-D in some models)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)	
Audio	High Definition (HD) Audio, ALC888 codec	
Speaker	One internal speaker for business audio	
Ethernet	Gigabit ethernet on planar, Marvell® 88E8071, PCIe x1, Wake on LAN®, ASF 2.0	
Modem	None	
Security chip	Winbond WPCT200 SafeKeeper™ Trusted Platform Module, TCG 1.2-compliant	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key	Supports ThinkVantage® technologies
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo	RoHS-compliant
Power supply	280 watts with variable speed fan, manual switch	
Preloaded operating system²⁰	Accessories	Limited Warranty¹
- <i>Some:</i> Microsoft® Windows® Vista Home Basic Edition (32-bit)	1GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2001	↔ 1-year parts and labor
- <i>Some:</i> Microsoft Windows Vista Business Edition (32-bit)	2GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2002	↔ International Warranty Service⁹
	250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015	↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)
	500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990	↔ Onsite service upgrade options (in eligible locations):⁷
Preloaded applications⁵ (all OSes)	USB 2.0 Lenovo Multimedia Headset 40Y8518	• 1-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9189)
• Rescue and Recovery™	USB 2.0 Lenovo Webcam 40Y8519	• 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190)
• Client Security Solution™	USB 2.0 Essential Memory Key 32GB 45K1258	• 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9187)
• ThinkVantage Productivity Center	USB 2.0 Security Memory Key 2GB 41U5119	• 2-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9190)
• ThinkVantage System Update	USB 2.0 Security Memory Key 4GB 41U5120	• 3-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9188)
• System Migration Assistant	USB 2.0 Ultra Secure Memory Key 2GB 45J5916	• 3-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9191)
• Norton Internet Security™ (90 days of virus definitions)	USB 2.0 Ultra Secure Memory Key 4GB 45J5917	
• Diskeeper® Home	USB 2.0 Ultra Secure Memory Key 8GB 45J5918	
• PC-Doctor™ (diagnostics)	USB 2.0 Portable 160GB Hard Disk 43R1784	
• Adobe® Reader	ThinkVision® L1700p 17" Monitor 9417HE2	
• Windows Live™ Toolbar	ThinkVision L1940p Wide 19" Monitor 4424HB6	
• Windows Live Search	ThinkVision L2240p Wide 22" Monitor 4422HB6	
• Picasa from Google	ThinkVision L2440p Wide 24" Monitor 4420HB2	
• Microsoft Office 2007 Trial (60-day)	Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067	
• EarthLink Trial (Vista Home Basic)	Laser Tilt Wheel Mouse (USB, PS/2) 41U3074	
• Sonic RecordNow and Drive Letter Access (combo, DVD±RW)	Kensington Cable Lock from Lenovo 73P2582	
• Corel® WinDVD® (combo, DVD, DVD±RW)	ATI Radeon HD 2400 Pro 128MB 43R1961	
	ATI Radeon HD 2400 XT 256MB 43R1962	
	ATI Radeon HD 2600 XT 512MB 43R1963	
	Acc Guide in pdf lenovo.com/accessoriesguide	
	Other accessories at lenovo.com/accessories	

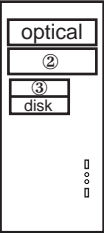
See footnotes for important warranty information
 US models announced August 14, 2007 or April 15, 2008
 US models withdrawn effective September or October 2008

ThinkCentre® A61 Tower (9134) - TopSeller - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ⁸	SATA disk	SATA optical	Integrated graphics	DVI-D connector	Preload	Limited warranty ¹	Avail date
A61	9134-AFU	4x4	Athlon 64 3800+	2.4	512KB	Single	512MB	80GB ²	DVD	X1250	DVI-D	XP Pro	3-yr	Aug 07
A61	9134-AHU	4x4	Athlon 64 3800+	2.4	512KB	Single	1GB	80GB	Combo	X1250	DVI-D	XP Pro	3-yr	Aug 07
A61	9134-A5U	4x4	Athlon 64 X2 4000+	2.1	2x512KB	Dual	512MB	80GB	DVD	X1250	DVI-D	XP Pro	3-yr	Aug 07
A61	9134-AJU	4x4	Athlon 64 X2 4000+	2.1	2x512KB	Dual	1GB	80GB	Combo	X1250	DVI-D	XP Pro	3-yr	Aug 07
A61	9134-A6U	4x4	Athlon 64 X2 4000+	2.1	2x512KB	Dual	512MB	160GB	Combo	X1250	DVI-D	XP Pro	3-yr	Aug 07
A61	9134-A8U	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	512MB	80GB	DVD	X1250	DVI-D	XP Pro	3-yr	Aug 07
A61	9134-AKU	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB	80GB	Combo	X1250	DVI-D	XP Pro	3-yr	Aug 07
A61	9134-A9U	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	512MB	160GB	Combo	X1250	DVI-D	XP Pro	3-yr	Aug 07
A61	9134-01U	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	2GB	160GB	DVD±RW	X1250	DVI-D	XP Pro	3-yr	Feb 08
A61	9134-ABU	4x4	Athlon 64 X2 4800+	2.5	2x512KB	Dual	512MB	80GB	DVD	X1250	DVI-D	XP Pro	3-yr	Aug 07
A61	9134-ACU	4x4	Athlon 64 X2 4800+	2.5	2x512KB	Dual	512MB	160GB	Combo	X1250	DVI-D	XP Pro	3-yr	Aug 07
A61	9134-ALU	4x4	Athlon 64 X2 4800+	2.5	2x512KB	Dual	1GB	160GB	Combo	X1250	DVI-D	XP Pro	3-yr	Aug 07
A61	9134-AMU	4x4	Athlon 64 X2 4800+	2.5	2x512KB	Dual	1GB	250GB	DVD±RW	X1250	DVI-D	XP Pro	3-yr	Aug 07
A61	9134-ANU	4x4	Athlon 64 X2 5000+	2.6	2x512KB	Dual	1GB	160GB	Combo	X1250	DVI-D	XP Pro	3-yr	Oct 07
A61	9134-APU	4x4	Athlon 64 X2 5000+	2.6	2x512KB	Dual	2GB	160GB	DVD±RW	X1250	DVI-D	XP Pro	3-yr	Oct 07

• These small and medium business (SMB) models are part of the US TopSeller™ Program

Positioning	Quality, reliability and manageability for small/medium businesses	
Processor	AMD® Athlon™ 64 3800+ with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology or AMD Athlon 64 X2 4000+, 4400+, 4800+, or 5000+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology	Tower
Implementation	Processor in 940-pin PGA package in Socket AM2	<ul style="list-style-type: none"> Business black color 6.9" W X 17.3" D X 15.8" H 175mm W X 440mm D X 402mm H 20.3 to 24.9lb (9.2 to 11.3kg) Handle on top front Toolless cover removal Toolless disk, diskette drive, optical drive removal Toolless adapter retention
Memory	512MB, 1GB, or 2GB std, 8GB max ⁸ , PC2-5300 667MHz DDR2, non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Italics:</i> standard memory in two sockets; two sockets available; <i>Non-italics:</i> standard memory in one socket; 3 sockets available	
Graphics	ATI™ Radeon™ X1250, integrated graphics in 690G, uses main memory (up to 256MB), one analog VGA DB-15 connector	Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, open (reader/diskette) Bay ④ 3.5", 1" high, no access, std disk
DVI-D connector	DVI-D connector on rear bracket to support two monitors (uses DVI-D Cable attached to DVI header on planar [SurroundView™]); supports up to 4 monitors with opt dual head ATI graphics adapter	Slot 1: half-length, full-height, PCI Express x1* Slot 2: half-length, full-height, PCI Express x16 (75w max) Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)
SATA disk	80, 160, or 250GB, SATA 3.0Gb/s 7200 rpm, vibration dampening	* DVI-D connector on bracket for DVI-D Cable blocks slot
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in SB600, RAID 0/1 support	
SATA DVD	Some: DVD-ROM DL SATA 1.5Gb/s 16X-48X Max ⁴ Drive (41N5618)	
SATA Combo	Some: CD-RW/DVD-ROM Combo SATA 1.5Gb/s Drive	
SATA DVD±RW	Some: Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive (41N5620)	
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors on planar	
EIDE controller	Enhanced IDE, ATA-133, integrated in SB600, one EIDE connector on planar	
Diskette drive	None	
Media reader	None	
Chipset	AMD 690G Chipset with HyperTransport™ 1.0 and PCI Express® 1.1 support; SB600 south bridge for SATA 3.0Gb/s with RAID 0/1 support, ATA-133 EIDE, PCI 2.3, USB, LPC bus / Winbond® W83627DHG Super I/O	
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (VGA DB-15, DVI-D)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)	
Audio	High Definition (HD) Audio, ALC888 codec	
Speaker	One internal speaker for business audio	
Ethernet	Gigabit ethernet on planar, Marvell® 88E8071, PCIe x1, Wake on LAN®, ASF 2.0	
Modem	None	
Security chip	Winbond WPCT200 SafeKeeper™ Trusted Platform Module, TCG 1.2-compliant	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key	
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo	
Power supply	280 watts with variable speed fan, manual switch	
		Security <ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) Power-on password Administrator password Hard disk password Boot sequence control Boot without keyboard, mouse, diskette Unattended start mode Hard disk I/O control Serial port I/O control Parallel port I/O control Individual USB port disablement
		Supports ThinkVantage® technologies
		RoHS-compliant

Preloaded operating system²⁰ - Microsoft® Windows® XP Professional with Vista® COA ♦ Disk-to-Disk Recovery (in hidden protected area) Preloaded applications⁵ (only some listed) <ul style="list-style-type: none"> Rescue and Recovery™ Client Security Solution™ ThinkVantage Productivity Center ThinkVantage System Update System Migration Assistant Norton Internet Security™ Diskeeper® Home PC-Doctor™ (diagnostics) Microsoft Office 2007 Trial (60-day) Sonic RecordNow and Drive Letter Access (combo, DVD±RW) Corel® WinDVD® (combo, DVD, DVD±RW) Corel WinDVD Creator (DVD±RW) 	Accessories <ul style="list-style-type: none"> 1GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2001 2GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2002 250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 USB Portable Diskette Drive 05K9276 USB 2.0 Essential Memory Key 32GB 45K1258 USB 2.0 Ultra Secure Memory Key 4GB 45J5917 USB 2.0 Ultra Secure Memory Key 8GB 45J5918 USB 2.0 Portable Secure 320GB Hard Disk 43R2019 ThinkVision® L2240p Wide 22" Monitor 4422HB6 ThinkVision L2440p Wide 24" Monitor 4420HB2 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 Kensington Cable Lock from Lenovo 73P2582 ATI Radeon HD 2400 Pro 128MB 43R1961 ATI Radeon HD 2400 XT 256MB 43R1962 ATI Radeon HD 2600 XT 512MB 43R1963 Other accessories at lenovo.com/accessories 	Limited Warranty¹ <ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378
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See footnotes for important warranty information
 US models announced August 14, 2007, September 25, 2007, or February 18, 2008
 US models withdrawn effective June, September, October, or December 2008

ThinkCentre® A61 Tower (9134) - TopSeller (Vista®) - withdrawn

Personal Systems Reference (PSREF)

Name	Type	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ⁸	SATA disk	SATA optical	Integrated graphics	Security chip	DVI-D connector	Vista preload	Vista logo	Global Educ	Avail date
A61	9134-AGU	4x4	Athlon 64 3800+	2.4	512KB	Single	1GB	80GB ²	Combo	X1250	Yes	DVI-D	Bus32	Basic	No	Aug 07
A61	9134-AAU	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB	80GB	Combo	X1250	Yes	DVI-D	Bus32	Basic	No	Aug 07
A61	9134-ARU	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB	160GB	Combo	X1250	Yes	DVI-D	Bus32	Basic	No	May 08
A61	9134-ASU	4x4	Athlon 64 X2 5000+	2.6	2x512KB	Dual	2GB	160GB	DVD±RW	X1250	Yes	DVI-D	Bus32	Prem	No	May 08

- These small and medium business (SMB) models are part of the US TopSeller™ Program
- These models have a 3-year limited warranty¹

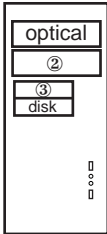
Positioning	Quality, reliability and manageability for small/medium businesses		Tower <ul style="list-style-type: none"> • Business black color • 6.9" W X 17.3" D X 15.8" H • 175mm W X 440mm D X 402mm H • 20.3 to 24.9lb (9.2 to 11.3kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 	
Processor	AMD® Athlon™ 64 3800+ with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology or AMD Athlon 64 X2 4400+ or 5000+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology			
Implementation	Processor in 940-pin PGA package in Socket AM2		Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, open (reader/diskette) Bay ④ 3.5", 1" high, no access, std disk	
Memory	1GB or 2GB std , 8GB max ⁸ , PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Italics:</i> standard memory in two sockets; two sockets available; <i>Non-italics:</i> standard memory in one socket; 3 sockets available			
Graphics	ATI™ Radeon™ X1250 , integrated graphics in 690G, uses main memory (up to 256MB), one 15-pin analog D-sub connector		Slot 1: half-length, full-height, PCI Express x1* Slot 2: half-length, full-height, PCI Express x16 (75w max) Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)	
DVI-D connector	DVI-D connector on rear bracket to support two monitors (uses DVI-D Cable attached to DVI header on planar [SurroundView™]); supports up to 4 monitors with opt dual head ATI graphics adapter			
SATA disk	80GB or 160GB , SATA 3.0Gb/s 7200 rpm, vibration dampening		Security <ul style="list-style-type: none"> • Security chip (see information on left) • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Hard disk password • Boot sequence control • Boot without keyboard, mouse, diskette • Unattended start mode • Hard disk I/O control • Serial port I/O control • Parallel port I/O control • Individual USB port disablement 	
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in SB600, RAID 0/1 support			
SATA Combo	Some: CD-RW/DVD-ROM Combo SATA 1.5Gb/s Drive		Supports ThinkVantage® technologies RoHS-compliant	
SATA DVD±RW	Some: Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive (41N5620)			
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors on planar		Limited Warranty¹ ⇨ 3-year parts and labor ⇨ International Warranty Service⁹ ⇨ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇨ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇨ ThinkPlus services at lenovo.com/thinkplus/warranty ⇨ Post warranty maintenance services available ⇨ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378	
EIDE controller	Enhanced IDE, ATA-133, integrated in SB600, one EIDE connector on planar			
Diskette drive	None			
Media reader	None			
Chipset	AMD 690G Chipset with HyperTransport™ 1.0 and PCI Express® 1.1 support; SB600 south bridge for SATA 3.0Gb/s with RAID 0/1 support, ATA-133 EIDE, PCI 2.3, USB, LPC bus / Winbond® W83627DHG Super I/O			
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)			
Rear ports	Four USB 2.0, serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15, DVI-D)			
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)			
Audio	High Definition (HD) Audio, ALC888 codec			
Speaker	One internal speaker for business audio			
Ethernet	Gigabit ethernet on planar, Marvell® 88E8071, PCIe x1, Wake on LAN®, ASF 2.0			
Modem	None			
Security chip	Winbond WPCT200 SafeKeeper™ Trusted Platform Module, TCG 1.2-compliant			
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key			
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo			
Power supply	280 watts with variable speed fan, manual switch			
Preloaded operating system²⁰	Accessories 1GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2001 2GB PC2-5300 DDR2 UDIMM (TopSeller) 43R2002 250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 Essential Memory Key 32GB 45K1258 USB 2.0 Security Memory Key 2GB 41U5119 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 Ultra Secure Memory Key 2GB 45J5916 USB 2.0 Ultra Secure Memory Key 4GB 45J5917 USB 2.0 Ultra Secure Memory Key 8GB 45J5918 USB 2.0 Portable 160GB Hard Disk 43R1784 USB 2.0 Super Multi-Burner Drive 41N5565 ThinkVision® L1700p 17" Monitor 9417HE2 ThinkVision L1940p Wide 19" Monitor 4424HB6 ThinkVision L2240p Wide 22" Monitor 4422HB6 ThinkVision L2440p Wide 24" Monitor 4420HB2 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 Kensington Cable Lock from Lenovo 73P2582 ATI Radeon HD 2400 Pro 128MB 43R1961 ATI Radeon HD 2400 XT 256MB 43R1962 ATI Radeon HD 2600 XT 512MB 43R1963 Acc Guide in pdf lenovo.com/accessoriesguide Other accessories at lenovo.com/accessories			
Microsoft® Windows® Vista Business Edition (32-bit)				
Preloaded applications⁵				
• Rescue and Recovery™				
• Client Security Solution™				
• ThinkVantage Productivity Center				
• ThinkVantage System Update				
• System Migration Assistant				
• Norton Internet Security™ (90 days of virus definitions)				
• Diskeeper® Home				
• PC-Doctor™ (diagnostics)				
• Adobe® Reader				
• Windows Live™ Toolbar				
• Windows Live Search				
• Picasa from Google				
• Microsoft Office 2007 Trial (60-day)				
• Sonic RecordNow and Drive Letter Access (combo, DVD±RW)				
• Corel® WinDVD® (combo, DVD±RW)				

See footnotes for important warranty information
 US models announced August 14, 2007 or April 15, 2008
 US models withdrawn effective September or October 2008

ThinkCentre® A61 Tower (9143) - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ⁸	SATA disk	SATA optical	Integrated graphics	Security chip	Preload	Limited warranty ¹	Global Educ	Avail date
A61	9143-AGU	4x4	Sempron 3600+	2.0	256KB	Single	512MB	80GB ²	DVD	X1250	Yes	XP Pro	3-yr	None	Aug 07
A61	9143-APU	4x4	Sempron 3600+	2.0	256KB	Single	1GB	80GB	Combo	X1250	Yes	XP Pro	3-yr	None	Aug 07
A61	9143-BAU	4x4	Athlon 64 3800+	2.4	512KB	Single	1GB	80GB	DVD	X1250	Yes	XP Pro	3-yr	None	Aug 07
A61	9143-ASU	4x4	Athlon 64 X2 4000+	2.1	2x512KB	Dual	1GB	80GB	DVD	X1250	Yes	XP Pro	3-yr	None	Aug 07

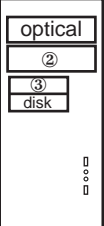
Positioning Processor	Mainstream enterprise stability and manageability AMD® Sempron™ 3600+ with single-core, integrated L1/L2 cache, AMD64, and integrated DDR2 memory controller or AMD Athlon™ 64 3800+ with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology or AMD Athlon 64 X2 4000+ with dual-core , integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology	Tower <ul style="list-style-type: none"> • Business black color • 6.9" W X 17.3" D X 15.8" H • 175mm W X 440mm D X 402mm H • 20.3 to 24.9lb (9.2 to 11.3kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention 
Implementation	Processor in 940-pin PGA package in Socket AM2	
Memory	512MB or 1GB std , 8GB max ³ , PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Non-italics:</i> standard memory in one socket; 3 sockets available	Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, open (reader/diskette) Bay ④ 3.5", 1" high, no access, std disk
Graphics	ATI™ Radeon™ X1250 , integrated graphics in 690G, uses main memory (up to 256MB), one 15-pin analog D-sub connector	Slot 1: half-length, full-height, PCI Express x1 Slot 2: half-length, full-height, PCI Express x16 (75w max) Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)
DVI-D connector	None	
SATA disk	80GB , SATA 3.0Gb/s 7200 rpm, vibration dampening mounts	
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in SB600, RAID 0/1 support	
SATA DVD	<i>Some:</i> DVD-ROM DL SATA 1.5Gb/s 16X-48X Max ⁴ Drive (41N5618)	
SATA Combo	<i>Some:</i> CD-RW/DVD-ROM Combo SATA 1.5Gb/s Drive (41N5619)	
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors on planar	
EIDE controller	Enhanced IDE, ATA-133, integrated in SB600, one EIDE connector on planar	
Diskette drive	None	
Media reader	None	
Chipset	AMD 690G Chipset with HyperTransport™ 1.0 and PCI Express® 1.1 support; SB600 south bridge for SATA 3.0Gb/s with RAID 0/1 support, ATA-133 EIDE, PCI 2.3, USB, LPC bus / Winbond® W83627DHG Super I/O	Security <ul style="list-style-type: none"> • Security chip (see information on left) • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Hard disk password • Boot sequence control • Boot without keyboard, mouse, diskette • Unattended start mode • Hard disk I/O control • Serial port I/O control • Parallel port I/O control • Individual USB port disablement
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)	
Audio	High Definition (HD) Audio, ALC888 codec	
Speaker	One internal speaker for business audio	
Ethernet	Gigabit ethernet on planar, Marvell® 88E8071, PCIe x1, Wake on LAN®, ASF 2.0	
Modem	None	
Security chip	Winbond WPCT200 SafeKeeper™ Trusted Platform Module, TCG 1.2-compliant	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key	Supports ThinkVantage® technologies
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo	
Power supply	280 watts with variable speed fan, manual switch	RoHS-compliant
Preloaded operating system²⁰	Accessories	Limited Warranty¹
- Microsoft® Windows® XP Professional with Vista® COA	1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984	↔ 3-year parts and labor
↔ Disk-to-Disk Recovery (in hidden protected area)	2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985	↔ International Warranty Service⁹
Preloaded applications⁵	1GB PC2-6400 NP DDR2 UDIMM 41U2977	↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)
• Rescue and Recovery™	2GB PC2-6400 NP DDR2 UDIMM 41U2978	↔ Onsite service upgrade options (in eligible locations):⁷
• Client Security Solution™	500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990	• 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192)
• ThinkVantage Productivity Center	USB Portable Diskette Drive 05K9276	• 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193)
• ThinkVantage System Update	USB 2.0 Lenovo Multimedia Headset 40Y8518	• 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194)
• System Migration Assistant	USB 2.0 Lenovo Webcam 40Y8519	• 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195)
• Norton Internet Security™ (90 days of virus definitions)	USB 2.0 Essential Memory Key 4GB 45J7904	• 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196)
• Diskeeper® Home	USB 2.0 Essential Memory Key 8GB 45J7905	↔ ThinkPlus services at lenovo.com/thinkplus/warranty
• PC-Doctor™ (diagnostics)	USB 2.0 Security Memory Key 2GB 41U5119	↔ Post warranty maintenance services available
• Adobe® Reader	USB 2.0 Security Memory Key 4GB 41U5120	↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378
• Windows Live™ Toolbar	USB 2.0 Portable 120GB Hard Disk 41N8379	
• Windows Live Search	USB 2.0 Super Multi-Burner Drive 41N5565	
• Picasa from Google	Super Multi-Burner DL DVD±RW SATA Drive 41N5620	
• Microsoft Office 2007 Trial (60-day)	ThinkVision® L197 Wide 19" LCD Monitor 4434HE1	
• Multimedia Center for Think Offerings (combo, DVD)	ThinkVision L220p Wide 20.1" LCD Monitor 4438HB6	
• Sonic RecordNow and Drive Letter Access (combo)	ThinkVision L220x Wide 22" LCD Monitor 4433HB2	
• Corel® WinDVD® (combo, DVD)	ThinkVision USB Soundbar 40Y7616	
	Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067	
	Laser Tilt Wheel Mouse (USB, PS/2) 41U3074	
	Kensington Cable Lock from Lenovo 73P2582	
	ATI Radeon HD 2400 Pro 128MB 43R1961	
	ATI Radeon HD 2400 XT 256MB 43R1962	
	ATI Radeon HD 2600 XT 512MB 43R1963	
	Acc Guide in pdf lenovo.com/accessoriesguide	
	Other accessories at lenovo.com/accessories	

See footnotes for important warranty information
 US models announced August 14, 2007
 US models withdrawn effective June or September 2008

ThinkCentre® A61 Tower (9143) - Vista® - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core	Memory ³	SATA disk	SATA optical	Graphics	DVI-D conn	Chassis intr switch	Vista preload	Vista logo	Global Educ	Avail date
A61	9143-AHU	4x4	Sempron 3600+	2.0	256KB	Single	512MB	80GB ²	DVD	X1250			Bus32	Basic		Aug 07
A61	9143-ALU	4x4	Athlon 64 3800+	2.4	512KB	Single	1GB	160GB	Combo	X1250			Bus32	Premium		Aug 07
A61	9143-BBU	4x4	Athlon 64 X2 4000+	2.1	2x512KB	Dual	1GB	80GB	DVD	X1250	DVI-D		Bus32	Basic	Gbl	Aug 07
A61	9143-AMU	4x4	Athlon 64 X2 4000+	2.1	2x512KB	Dual	1GB	80GB	DVD	X1250			Bus32	Premium		Aug 07
A61	9143-BCU	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB	80GB	DVD	X1250	DVI-D		Bus32	Basic	Gbl	Aug 07
A61	9143-ANU	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB	80GB	Combo	X1250			Bus32	Premium		Aug 07
A61	9143-BDU	4x4	Athlon 64 X2 4800+	2.5	2x512KB	Dual	1GB	80GB	Combo	X1250	DVI-D		Bus32	Basic		Aug 07
A61	9143-AQU	4x4	Athlon 64 X2 4800+	2.5	2x512KB	Dual	1GB	160GB	DVD±RW	X1250			Bus32	Premium		Aug 07
A61	9143-ARU	4x4	Athlon 64 X2 4800+	2.5	2x512KB	Dual	1GB	160GB	DVD±RW	X1250			Bus64	Premium		Nov 07
A61	9143-BEU	4x4	Athlon 64 X2 4800+	2.5	2x512KB	Dual	1GB	160GB	DVD±RW	X1300	DVI-D	Switch	Bus32	Basic		Aug 07
A61	9143-BGU	4x4	Athlon 64 X2 5000+	2.6	2x512KB	Dual	1GB	80GB	DVD	X1250			Bus32	Basic		Oct 07
A61	9143-BHU	4x4	Athlon 64 X2 5000+	2.6	2x512KB	Dual	1GB	80GB	Combo	X1250	DVI-D		Bus32	Basic		Oct 07
A61	9143-BJU	4x4	Athlon 64 X2 5000+	2.6	2x512KB	Dual	1GB	160GB	DVD±RW	X1250	DVI-D		Bus32	Basic		Oct 07

Positioning Processor	<i>Mainstream enterprise stability and manageability</i> AMD® Sempron™ 3600+ with single-core, integrated L1/L2 cache, AMD64, and integrated DDR2 memory controller or AMD Athlon™ 64 3800+ with single-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology or AMD Athlon 64 X2 4000+, 4400+, 4800+, or 5000+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology	Tower <ul style="list-style-type: none"> Business black color 6.9" W X 17.3" D X 15.8" H 175mm W X 440mm D X 402mm H 20.3 to 24.9lb (9.2 to 11.3kg) Handle on top front Toolless cover removal Toolless disk, diskette drive, optical drive removal Toolless adapter retention 
Implementation	Processor in 940-pin PGA package in Socket AM2	
Memory	512MB or 1GB std , 8GB max ³ , PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Italics:</i> standard memory in two sockets; two sockets available; <i>Non-italics:</i> standard memory in one socket; 3 sockets available	<ul style="list-style-type: none"> Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, open (reader/diskette) Bay ④ 3.5", 1" high, no access, std disk
Graphics (one of following)	<ul style="list-style-type: none"> ATI™ Radeon™ X1250, integrated graphics in 690G, uses main memory (up to 256MB), one 15-pin analog D-sub connector ATI Radeon X1300, PCI Express x16 adapter, ATI Avivo™, 256MB 400MHz DDR2, 400MHz RAMDAC, S-Video out, dual head support (analog DB-15 and digital DVI-I conn via dongle) 	<ul style="list-style-type: none"> Slot 1: half-length, full-height, PCI Express x1* Slot 2: half-length, full-height, PCI Express x16 (75w max) Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v) Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)
DVI-D connector	<i>Some:</i> DVI-D conn on rear bracket to support two monitors (uses DVI-D Cable attached to DVI header on planar [SurroundView™]); supports up to 4 monitors with opt dual head ATI graphics adapter	* <i>Some:</i> DVI-D connector on bracket for DVI-D Cable blocks slot
SATA disk	80GB or 160GB , SATA 3.0Gb/s 7200 rpm, vibration dampening mounts	<h3>Security</h3> <ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® Microsaver® cable) Power-on password Administrator password Hard disk password Boot sequence control Boot without keyboard, mouse, diskette Unattended start mode Hard disk I/O control Serial port I/O control Parallel port I/O control Individual USB port disablement <i>Some:</i> Chassis intrusion switch
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in SB600, RAID 0/1 support	
SATA DVD	<i>Some:</i> DVD-ROM DL SATA 1.5Gb/s 16X-48X Max ⁴ Drive (41N5618)	
SATA Combo	<i>Some:</i> CD-RW/DVD-ROM Combo SATA 1.5Gb/s Drive	
SATA DVD±RW	<i>Some:</i> Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive (41N5620)	
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors on planar	
EIDE controller	Enhanced IDE, ATA-133, integrated in SB600, one EIDE connector on planar	
Diskette drive	None	
Media reader	None	
Chipset	AMD 690G Chipset with HyperTransport™ 1.0 and PCI Express® 1.1 support; SB600 south bridge for SATA 3.0Gb/s with RAID 0/1 support, ATA-133 EIDE, PCI 2.3, USB, LPC bus / Winbond® W83627DHG Super I/O	
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15, DVI-D in some models)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)	
Audio	High Definition (HD) Audio, ALC888 codec	
Speaker	One internal speaker for business audio	
Ethernet	Gigabit ethernet on planar, Marvell® 88E8071, PCIe x1, Wake on LAN®, ASF 2.0	
Modem	None	
Security chip	Winbond WPCT200 SafeKeeper™ Trusted Platform Module, TCG 1.2-compliant	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key	
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo	
Power supply	280 watts with variable speed fan, manual switch	
Preloaded operating system²⁰	<ul style="list-style-type: none"> <i>Some:</i> Microsoft® Windows® Vista Business Edition (32-bit) <i>Some:</i> Microsoft Windows Vista Business Edition (64-bit) 	<h3>Limited Warranty¹</h3> <ul style="list-style-type: none"> ↪ 3-year parts and labor ↪ International Warranty Service⁹ ↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↪ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↪ Other ThinkPlus services at lenovo.com/thinkplus/warranty ↪ Post warranty maintenance services available ↪ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378
Preloaded applications⁵ (all OSes)	<ul style="list-style-type: none"> Rescue and Recovery™ Client Security Solution™ ThinkVantage Productivity Center ThinkVantage System Update System Migration Assistant Norton Internet Security™ (90 days of virus definitions) Diskeeper® Home PC-Doctor™ (diagnostics) Adobe® Reader Windows Live™ Toolbar Windows Live Search Picasa from Google Microsoft Office 2007 Trial (60-day) Sonic RecordNow and Drive Letter Access (combo, DVD±RW) Corel® WinDVD® (combo, DVD, DVD±RW) 	

See footnotes for important warranty information

US models announced August 14, September 25, or October 16, 2007

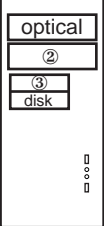
US models withdrawn effective September 2007, September 2008, or October 2008

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(ALPA1-4) December 2008

Name	Type-model	Slot x bay	AMD processor	GHz	L2 cache	Core Memory ⁸	SATA disk	SATA optical	Integrated graphics	Security chip	DVI-D connector	Vista preload	Vista logo	Global Educ	Avail date
A61	9143-BRU	4x4	Sempron LE 1150	2.0	256KB	Single 1GB	80GB ²	DVD	X1250	Yes		Bus32	Basic		Dec 07
A61	9143-BSU	4x4	Sempron LE 1150	2.0	256KB	Single 1GB	160GB	Combo	X1250	Yes	DVI-D	Bus32	Basic		Dec 07
A61	9143-D1U	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual 1GB	160GB	Combo	X1250	Yes		Bus32	Basic	Educ	Apr 08

• These models have a 3-year limited warranty¹

Positioning Processor	Mainstream enterprise stability and manageability AMD® Sempron™ LE 1150 with single-core, integrated L1/L2 cache, AMD64, and integrated DDR2 memory controller or AMD Athlon™ 64 X2 4400+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology		Tower	
Implementation	Processor in 940-pin PGA package in Socket AM2		<ul style="list-style-type: none"> Business black color 6.9" W X 17.3" D X 15.8" H 175mm W X 440mm D X 402mm H 20.3 to 24.9lb (9.2 to 11.3kg) Handle on top front Toolless cover removal Toolless disk, diskette drive, optical drive removal Toolless adapter retention 	
Memory	1GB std , 8GB max ⁸ , PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Non-italics</i> : standard memory in one socket; 3 sockets available		Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, open (reader/diskette) Bay ④ 3.5", 1" high, no access, std disk	
Graphics	ATI™ Radeon™ X1250 , integrated graphics in 690G, uses main memory (up to 256MB), one 15-pin analog D-sub connector		Slot 1: half-length, full-height, PCI Express x1*	
DVI-D connector	<i>Some</i> : DVI-D conn on rear bracket to support two monitors (uses DVI-D Cable attached to DVI header on planar [SurroundView™]); supports up to 4 monitors with opt dual head ATI graphics adapter		Slot 2: half-length, full-height, PCI Express x16 (75w max)	
SATA disk	80GB or 160GB , SATA 3.0Gb/s 7200 rpm, vibration dampening Serial ATA, SATA 3.0Gb/s, integrated in SB600, RAID 0/1 support		Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)	
SATA controller	<i>Some</i> : DVD-ROM DL SATA 1.5Gb/s 16X-48X Max ⁴ (41N5618)		Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)	
SATA DVD	<i>Some</i> : CD-RW/DVD-ROM Combo SATA 1.5Gb/s Drive		* <i>Some</i> : DVI-D connector on bracket for DVI-D Cable blocks slot	
SATA Combo	Two SATA cables (each 1-drop to device), four SATA connectors			
SATA cables	Enhanced IDE, ATA-133, integrated in SB600, one EIDE connector			
EIDE controller	None			
Diskette drive	None			
Media reader	None			
Chipset	AMD 690G Chipset with HyperTransport™ 1.0 and PCI Express® 1.1 support; SB600 south bridge for SATA 3.0Gb/s with RAID 0/1 support, ATA-133 EIDE, PCI 2.3, USB, LPC bus / Winbond® W83627DHG Super I/O		Security <ul style="list-style-type: none"> Security chip (see information on left) One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> Padlock loop (in rear for opt padlock) Security slot (in rear for optional Kensington® Microsaver® cable) Power-on password Administrator password Hard disk password Boot sequence control Boot without keyboard, mouse, diskette Unattended start mode Hard disk I/O control Serial port I/O control Parallel port I/O control Individual USB port disablement 	
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)			
Rear ports	Four USB 2.0, serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15, DVI-D in some models)			
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)			
Audio	High Definition (HD) Audio, ALC888 codec			
Speaker	One internal speaker for business audio			
Ethernet	Gigabit ethernet on planar, Marvell® 88E8071, PCIe x1, Wake on LAN®, ASF 2.0			
Modem	None			
Security chip	Winbond WPCT200 SafeKeeper™ Trusted Platform Module, TCG 1.2-compliant			
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key			
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo			
Power supply	280 watts with variable speed fan, universal, manual switch			
Preloaded operating system²⁰	- Microsoft® Windows® Vista Business Edition (32-bit)			
Preloaded applications⁵	<ul style="list-style-type: none"> Some: Education software VitalSource Library College Edition Adobe® Instructor Resource Center Adobe Digital School Collection <ul style="list-style-type: none"> Photoshop Elements 6 (and CD) Premier Elements 4 (and DVD) Acrobat 8 Professional (and CD) Contribute 4 (and CD) Rescue and Recovery™ Client Security Solution™ ThinkVantage Productivity Center ThinkVantage System Update System Migration Assistant Norton Internet Security™ (90 days of virus definitions) Diskeeper® Home PC-Doctor™ (diagnostics) Adobe Reader Windows Live™ Toolbar Windows Live Search Picasa from Google Microsoft Office 2007 Trial (60-day) Sonic RecordNow and Drive Letter Access (combo) Corel® WinDVD® (combo, DVD) 			
Accessories	<ul style="list-style-type: none"> 1GB PC2-5300 CL5 NP DDR2 UDIMM 73P4984 2GB PC2-5300 CL5 NP DDR2 UDIMM 73P4985 1GB PC2-6400 NP DDR2 UDIMM 41U2977 2GB PC2-6400 NP DDR2 UDIMM 41U2978 250GB SATA 3.0Gb/s Disk (7200 rpm) 41N3015 500GB SATA 3.0Gb/s Disk (7200 rpm) 43R1990 USB Portable Diskette Drive 05K9276 USB 2.0 Lenovo Multimedia Headset 40Y8518 USB 2.0 Lenovo Webcam 40Y8519 USB 2.0 Essential Memory Key 32GB 45K1258 USB 2.0 Security Memory Key 2GB 41U5119 USB 2.0 Security Memory Key 4GB 41U5120 USB 2.0 Ultra Secure Memory Key 2GB 45J5916 USB 2.0 Ultra Secure Memory Key 4GB 45J5917 USB 2.0 Ultra Secure Memory Key 8GB 45J5918 USB 2.0 Portable 160GB Hard Disk 43R1784 USB 2.0 Super Multi-Burner 41N5565 Super Multi-Burner DL DVD±RW SATA Drive 41N5620 ThinkVision® L1700p 17" Monitor 9417HE2 ThinkVision L1940p Wide 19" Monitor 4424HB6 ThinkVision L2240p Wide 22" Monitor 4422HB6 ThinkVision L2440p Wide 24" Monitor 4420HB2 Wireless Kbd & Opt Wheel Mouse (via USB) 73P4067 Laser Tilt Wheel Mouse (USB, PS/2) 41U3074 Kensington Cable Lock from Lenovo 73P2582 ATI Radeon HD 2400 Pro 128MB 43R1961 ATI Radeon HD 2400 XT 256MB 43R1962 ATI Radeon HD 2600 XT 512MB 43R1963 Acc Guide in pdf lenovo.com/accessoriesguide Other accessories at lenovo.com/accessories 			
	Supports ThinkVantage® technologies			
	RoHS-compliant			
	Limited Warranty¹ <ul style="list-style-type: none"> 3-year parts and labor International Warranty Service⁹ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ThinkPlus services at lenovo.com/thinkplus/warranty Post warranty maintenance services available 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 			

See footnotes for important warranty information
 US models announced November 13, 2007 or March 25, 2008
 US models withdrawn effective October 2008

ThinkCentre® A61 Tower (9171) - ENERGY STAR® 4.0 - withdrawn

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	AMD processor	L2 cache	Core	Memory ^a	SATA disk	SATA optical	Integrated graphics	Security chip	ENERGY STAR 4.0	Preload	Limited warranty ¹	Global Educ	Avail date
A61	9171-A1U	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB	160GB ²	Combo	X1250	Yes	ES40 XP Pro	3-yr	No	Sep 07
A61	9171-A2U	4x4	Athlon 64 X2 4400+	2.3	2x512KB	Dual	1GB	160GB	Combo	X1250	Yes	ES40 Bus32	3-yr	No	Sep 07

Positioning	<i>Mainstream enterprise stability and manageability</i>																																																											
Processor	AMD® Athlon™ 64 X2 4400+ with dual-core, integrated L1/L2 cache, AMD64, integrated DDR2 memory controller, and virtualization technology																																																											
Implementation	Processor in 940-pin PGA package in Socket AM2	Tower <ul style="list-style-type: none"> • Business black color • 6.9" W X 17.3" D X 15.8" H • 175mm W X 440mm D X 402mm H • 20.3 to 24.9lb (9.2 to 11.3kg) • Handle on top front • Toolless cover removal • Toolless disk, diskette drive, optical drive removal • Toolless adapter retention <p>Bay ① 5.25", 1.6" high, access, std optical</p> <p>Bay ② 5.25", 1.6" high, access, open</p> <p>Bay ③ 3.5", 1" high, access, open (reader/diskette)</p> <p>Bay ④ 3.5", 1" high, no access, std disk</p> <p>Slot 1: half-length, full-height, PCI Express x1</p> <p>Slot 2: half-length, full-height, PCI Express x16 (75w max)</p> <p>Slot 3: half-length, full-height, 32-bit PCI 2.3 (5v)</p> <p>Slot 4: half-length, full-height, 32-bit PCI 2.3 (5v)</p>																																																										
Memory	1GB std , 8GB max ⁸ , PC2-5300 667MHz DDR2 , non-parity, dual-channel capable, four 240-pin DIMM sockets; <i>Non-italics:</i> standard memory in one socket; 3 sockets available																																																											
Graphics	ATI™ Radeon™ X1250 , integrated graphics in 690G, uses main memory (up to 256MB), one 15-pin analog D-sub connector																																																											
DVI-D connector	None																																																											
SATA disk	160GB , SATA 3.0Gb/s 7200 rpm, vibration dampening mounts																																																											
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in SB600, RAID 0/1 support																																																											
SATA Combo	CD-RW/DVD-ROM Combo SATA 1.5Gb/s Drive																																																											
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors																																																											
EIDE controller	Enhanced IDE, ATA-133, integrated in SB600, one EIDE connector																																																											
Diskette drive	None																																																											
Media reader	None																																																											
Chipset	AMD 690G Chipset with HyperTransport™ 1.0 and PCI Express® 1.1 support; SB600 south bridge for SATA 3.0Gb/s with RAID 0/1 support, ATA-133 EIDE, PCI 2.3, USB, LPC bus / Winbond® W83627DHG Super I/O	Security <ul style="list-style-type: none"> • Security chip (see information on left) • One lock to secure both cover and entire system to fixed object: <ul style="list-style-type: none"> - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® Microsaver® cable) • Power-on password • Administrator password • Hard disk password • Boot sequence control • Boot without keyboard, mouse, diskette • Unattended start mode • Hard disk I/O control • Serial port I/O control • Parallel port I/O control • Individual USB port disablement 																																																										
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	Supports ThinkVantage® technologies EPEAT™ Silver rating ENERGY STAR 4.0-compliant RoHS-compliant Limited Warranty¹ <ul style="list-style-type: none"> ↔ 3-year parts and labor ↔ International Warranty Service⁹ ↔ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ↔ Onsite service upgrade options (in eligible locations):⁷ <ul style="list-style-type: none"> • 3-year LOR 9x5, 4 hour response (ThinkPlus™ part number 41C9192) • 3-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9193) • 4-year LOR 9x5, Next Business Day (ThinkPlus part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ↔ ThinkPlus services at lenovo.com/thinkplus/warranty ↔ Post warranty maintenance services available ↔ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378 																																																										
Rear ports	Four USB 2.0, serial (9-pin), parallel (25-pin), keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (DB-15)																																																											
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)																																																											
Audio	High Definition (HD) Audio, ALC888 codec																																																											
Speaker	One internal speaker for business audio																																																											
Ethernet	Gigabit ethernet on planar, Marvell® 88E8071, PCIe x1, Wake on LAN®, ASF 2.0																																																											
Modem	None																																																											
Security chip	Winbond WPCT200 SafeKeeper™ Trusted Platform Module, TCG 1.2-compliant																																																											
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key																																																											
Mouse	Optical Wheel Mouse (USB only), black, Lenovo logo																																																											
Power supply	280 watts with variable speed fan, autosensing, 80% PSU																																																											
Preloaded operating system²⁰	<ul style="list-style-type: none"> - <i>Some:</i> Microsoft® Windows® XP Professional - <i>Some:</i> Microsoft Windows Vista® Business Edition (32-bit) † <i>Vista model:</i> Vista Basic logo	Accessories <table border="0"> <tr><td>1GB PC2-5300 CL5 NP DDR2 UDIMM</td><td>73P4984</td></tr> <tr><td>2GB PC2-5300 CL5 NP DDR2 UDIMM</td><td>73P4985</td></tr> <tr><td>1GB PC2-6400 NP DDR2 UDIMM</td><td>41U2977</td></tr> <tr><td>2GB PC2-6400 NP DDR2 UDIMM</td><td>41U2978</td></tr> <tr><td>250GB SATA 3.0Gb/s Disk (7200 rpm)</td><td>41N3015</td></tr> <tr><td>500GB SATA 3.0Gb/s Disk (7200 rpm)</td><td>43R1990</td></tr> <tr><td>USB Portable Diskette Drive</td><td>05K9276</td></tr> <tr><td>USB 2.0 Lenovo Multimedia Headset</td><td>40Y8518</td></tr> <tr><td>USB 2.0 Lenovo Webcam</td><td>40Y8519</td></tr> <tr><td>USB 2.0 Essential Memory Key 32GB</td><td>45K1258</td></tr> <tr><td>USB 2.0 Security Memory Key 2GB</td><td>41U5119</td></tr> <tr><td>USB 2.0 Security Memory Key 4GB</td><td>41U5120</td></tr> <tr><td>USB 2.0 Ultra Secure Memory Key 2GB</td><td>45J5916</td></tr> <tr><td>USB 2.0 Ultra Secure Memory Key 4GB</td><td>45J5917</td></tr> <tr><td>USB 2.0 Ultra Secure Memory Key 8GB</td><td>45J5918</td></tr> <tr><td>USB 2.0 Portable 160GB Hard Disk</td><td>43R1784</td></tr> <tr><td>USB 2.0 Super Multi-Burner Drive</td><td>41N5565</td></tr> <tr><td>Super Multi-Burner DL DVD±RW SATA Drive</td><td>41N5620</td></tr> <tr><td>ThinkVision® L1700p 17" Monitor</td><td>9417HE2</td></tr> <tr><td>ThinkVision L1940p Wide 19" Monitor</td><td>4424HB6</td></tr> <tr><td>ThinkVision L2240p Wide 22" Monitor</td><td>4422HB6</td></tr> <tr><td>ThinkVision L2440p Wide 24" Monitor</td><td>4420HB2</td></tr> <tr><td>ThinkVision USB Soundbar</td><td>40Y7616</td></tr> <tr><td>Wireless Kbd & Opt Wheel Mouse (via USB)</td><td>73P4067</td></tr> <tr><td>Laser Tilt Wheel Mouse (USB, PS/2)</td><td>41U3074</td></tr> <tr><td>Kensington Cable Lock from Lenovo</td><td>73P2582</td></tr> <tr><td>ATI Radeon HD 2400 Pro 128MB</td><td>43R1961</td></tr> <tr><td>ATI Radeon HD 2400 XT 256MB</td><td>43R1962</td></tr> <tr><td>ATI Radeon HD 2600 XT 512MB</td><td>43R1963</td></tr> </table> Acc Guide in pdf lenovo.com/accessoriesguide Other accessories at lenovo.com/accessories	1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985	1GB PC2-6400 NP DDR2 UDIMM	41U2977	2GB PC2-6400 NP DDR2 UDIMM	41U2978	250GB SATA 3.0Gb/s Disk (7200 rpm)	41N3015	500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990	USB Portable Diskette Drive	05K9276	USB 2.0 Lenovo Multimedia Headset	40Y8518	USB 2.0 Lenovo Webcam	40Y8519	USB 2.0 Essential Memory Key 32GB	45K1258	USB 2.0 Security Memory Key 2GB	41U5119	USB 2.0 Security Memory Key 4GB	41U5120	USB 2.0 Ultra Secure Memory Key 2GB	45J5916	USB 2.0 Ultra Secure Memory Key 4GB	45J5917	USB 2.0 Ultra Secure Memory Key 8GB	45J5918	USB 2.0 Portable 160GB Hard Disk	43R1784	USB 2.0 Super Multi-Burner Drive	41N5565	Super Multi-Burner DL DVD±RW SATA Drive	41N5620	ThinkVision® L1700p 17" Monitor	9417HE2	ThinkVision L1940p Wide 19" Monitor	4424HB6	ThinkVision L2240p Wide 22" Monitor	4422HB6	ThinkVision L2440p Wide 24" Monitor	4420HB2	ThinkVision USB Soundbar	40Y7616	Wireless Kbd & Opt Wheel Mouse (via USB)	73P4067	Laser Tilt Wheel Mouse (USB, PS/2)	41U3074	Kensington Cable Lock from Lenovo	73P2582	ATI Radeon HD 2400 Pro 128MB	43R1961	ATI Radeon HD 2400 XT 256MB	43R1962	ATI Radeon HD 2600 XT 512MB	43R1963
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See footnotes for important warranty information
 US models announced August 14, 2007
 US models withdrawn effective June or October 2008

Partial list of accessories supported on ThinkCentre A61

Memory

Tower 9120/9134 support:

1GB PC2-5300 DDR2 UDIMM (TopSeller)	43R2001	ann 03/25/08
2GB PC2-5300 DDR2 UDIMM (TopSeller)	43R2002	ann 03/25/08

All:

512MB PC2-5300 CL5 NP DDR2 UDIMM	73P4983	ann 06/28/05
1GB PC2-5300 CL5 NP DDR2 UDIMM	73P4984	ann 06/28/05
2GB PC2-5300 CL5 NP DDR2 UDIMM	73P4985	ann 09/26/06
512MB PC2-6400 NP DDR2 UDIMM ⁴⁸	41U2976	ann 09/26/06
1GB PC2-6400 NP DDR2 UDIMM ⁴⁸	41U2977	ann 09/26/06
2GB PC2-6400 NP DDR2 UDIMM ⁴⁸	41U2978	ann 01/08/08

⁴⁸ When PC2-6400 is installed with systems that have PC2-5300 memory, PC2-6400 will operate at the PC2-5300 memory speed.

Optical

DVD-ROM DL SATA 1.5Gb/s 16X-48X Max ⁴	41N5618	ann 09/26/06
Super Multi-Burner DL DVD±RW SATA Drive	41N5620	ann 09/26/06

Storage and removable storage

80GB SATA 3.0Gb/s Disk (7200 rpm)	09N4253	ann 05/19/03
160GB SATA 3.0Gb/s Disk (7200 rpm)	09N4254	ann 05/19/03
250GB SATA 3.0Gb/s Disk (7200 rpm)	41N3015	ann 01/24/06
500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990	ann 11/06/07

USB Portable Diskette Drive	05K9276	ann 06/05/00
USB 2.0 Essential Memory Key 1GB	41U4940	ann 01/23/07
USB 2.0 Essential Memory Key 2GB	41U4944	ann 01/23/07
USB 2.0 Essential Memory Key 4GB	45J7904	ann 06/24/08
USB 2.0 Essential Memory Key 8GB	45J7905	ann 07/15/08
USB 2.0 Essential Memory Key 32GB	45K1258	ann 10/28/08
USB 2.0 Security Memory Key 1GB	41U5118	ann 07/17/07
USB 2.0 Security Memory Key 2GB	41U5119	ann 07/17/07
USB 2.0 Security Memory Key 4GB	41U5120	ann 07/17/07
USB 2.0 Ultra Secure Memory Key 1GB	45J5915	ann 08/26/08
USB 2.0 Ultra Secure Memory Key 2GB	45J5916	ann 08/26/08
USB 2.0 Ultra Secure Memory Key 4GB	45J5917	ann 08/26/08
USB 2.0 Ultra Secure Memory Key 8GB	45J5918	ann 08/26/08
USB 2.0 Portable 160GB Hard Disk	43R1784	ann 09/23/08
USB 2.0 Portable Secure 160GB Hard Disk	43R2018	ann 11/18/08
USB 2.0 Portable Secure 320GB Hard Disk	43R2019	ann 11/18/08
USB 2.0 CD-RW/DVD-ROM Combo II Drive	40Y8637	ann 01/05/06
USB 2.0 Super Multi-Burner Drive	41N5565	ann 01/23/07

Graphics

Desktop 9144/9169 support Low Profile 25 watts max:

ATI™ Radeon™ HD 2400 Pro 128MB	43R1961	ann 11/06/07
ATI Radeon HD 2400 XT 256MB	43R1962	ann 11/06/07

Tower 9120/9134/9143/9171 support 75 watts max:

ATI Radeon HD 2400 Pro 128MB	43R1961	ann 11/06/07
ATI Radeon HD 2400 XT 256MB	43R1962	ann 11/06/07
ATI Radeon HD 2600 XT 512MB	43R1963	ann 11/06/07

Keyboard

Preferred Pro USB Keyboard	73P5220	ann 06/21/05
Preferred Pro Full Size PS/2 Keyboard	31P7415	ann 06/04/02
Enhanced Performance USB Keyboard	73P2620	ann 03/23/04
Wireless Kbd & Opt Wheel Mouse (via USB)	73P4067	ann 12/07/04
Lenovo USB Fingerprint Keyboard	73P4730	ann 02/22/05

Mouse

Optical Wheel Mouse (USB)	06P4069	ann 05/21/03
Optical ScrollPoint® Mouse (USB, PS/2)	31P7405	ann 08/27/02
Laser Tilt Wheel Mouse (USB, PS/2)	41U3074	ann 01/23/07
Lenovo Wireless Laser Mouse (blk, via USB)	45K1696	ann 11/25/08
Lenovo Wireless Laser Mouse (red, via USB)	51J0198	ann 11/25/08

Multimedia

USB 2.0 Lenovo Multimedia Headset	40Y8518	ann 06/27/06
USB 2.0 Lenovo Webcam	40Y8519	ann 08/29/06

Security

Kensington® Cable Lock from Lenovo	73P2582	ann 12/29/03
Kensington Twin Head Cable Lock	45K1620	ann 09/30/08
USB Gemplus GemPC Smart Card Reader	41N3040	ann 02/21/06

Monitors

ThinkVision® L174 17" Monitor	9227AE1	ann 04/15/08
ThinkVision L1700p 17" Monitor	9417HE2	ann 09/17/08
ThinkVision L1900p 19" Monitor	4431HE1	ann 11/11/08
ThinkVision L1940p Wide 19" Monitor	4424HB6	ann 09/17/08
ThinkVision L200p Wide 20.1" Monitor	4438HB6	ann 04/15/08
ThinkVision L2240p Wide 22" Monitor	4422HB6	ann 09/17/08
ThinkVision L2440p Wide 24" Monitor	4420HB2	ann 09/17/08
ThinkVision L2440x Wide 24" Monitor	4421HB2	ann 09/17/08

Monitor Accessories⁴⁶

ThinkVision USB Soundbar	40Y7616	ann 08/23/05
ThinkVision Soundbar (L1900p, 24" Wide)	45K1263	ann 09/16/08
Kensington Cable Lock from Lenovo	73P2582	ann 12/29/03
Kensington Twin Head Cable Lock	45K1620	ann 09/30/08
Radial Arm	19K4464	ann 05/05/00

⁴⁶Compatible on selected Lenovo and ThinkVision monitors.

Medialess License Key (MLK)

Microsoft® Office 2007 Basic, English	43R1528	ann 01/31/07
Microsoft Office 2007 Small Business, Engl	43R1534	ann 01/31/07
Microsoft Office 2007 Professional, English	43R1531	ann 01/31/07

Other accessories at <http://www.lenovo.com/accessories>

Accessories Guide pdf at <http://www.lenovo.com/accessoriesguide>

Need to buy accessories no longer marketed by Lenovo? See <http://www.itxchange.com/lenovo> for the Options Continuation Program.

ThinkPlus™.7 service upgrade options⁷ for 1-year warranty models:

1-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9189
2-year Lenovo Onsite Repair (LOR) 9x5 Next Business Day	41C9187
2-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9190
3-year Lenovo Onsite Repair (LOR) 9x5 Next Business Day	41C9188
3-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9191

ThinkPlus™.7 service upgrade options⁷ for 3-year warranty models:

3-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9192
3-year Lenovo Onsite Repair (LOR) 24x7 4 hour response	41C9193
4-year Lenovo Onsite Repair (LOR) 9x5 Next Business Day	41C9194
4-year Lenovo Onsite Repair (LOR) 9x5 4 hour response	41C9195
4-year Lenovo Onsite Repair (LOR) 24x7 4 hour response	41C9196

Post-warranty annual maintenance agreements at lenovo.com/thinkplus/warranty

- Availability:** All offers subject to availability. Lenovo reserves the right to alter product offerings and specifications at any time, without notice. Lenovo is not responsible for photographic or typographic errors.
- Warranty:** For a copy of applicable product warranties, write to: Warranty Information, P.O. Box 12195, RTP, NC, 27709, Attn: Dept ZPYA/B676. Lenovo makes no representation or warranty regarding third party products or services.
- ¹ **Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges.
 - ² **Hard drive:** GB = billion bytes, TB = trillion bytes. Accessible capacity is less; up to 4GB is service partition.
 - ³ **Limited onsite service systems** are designed to be repaired during the applicable warranty period primarily with customer-replaceable parts provided by Lenovo. Lenovo will only send a technician onsite to perform a repair if (a) remote telephone diagnosis and/or customer part replacement are unable to resolve the problem, or (b) the part is one of the few designated by Lenovo for onsite replacement. For a list of onsite replaceable parts, contact Lenovo. In the United States call 1-800-426-7378. Support unrelated to a warranty issue may be subject to additional charges. Lenovo onsite repair (LOR), 8 am to 5 pm, Monday through Friday coverage excluding holidays, next business day (NBD) response time.
 - ⁴ **CD and DVD list** maximum rates; rates are variable and are often less than the maximum.
 - ⁵ **Included software** may differ from its retail version (if available), and may not include user manuals or all program functionality. License agreements may apply.
 - ⁶ **Multi-Burner Plus** (part number 73P3305 or 73P3370) is a DVD±RW device that reads and writes to DVD-RAM, DVD-R, DVD-RW, DVD+R, and DVD+RW. It also reads and writes to CD-R and CD-RW media. 73P3370 also writes to DVD+R double layer media.
 - ⁷ **ThinkPlus Services:** These services are available for machines normally used for business, professional, or trade purposes, rather than personal, family, or household purposes. Not all machine types and models are covered. Service period begins with the equipment date of purchase. Service must be purchased during the original limited product warranty period. Service levels are response time objectives and are not guarantees. If the machine problem turns out to be a Customer Replaceable Unit (CRU), a part will be express shipped to you for quick replacement. Onsite 24x7x2-hour service is not available in all locations. P&L means parts and labor. P/U means pick-up. See ThinkPlus terms and conditions for complete details and restrictions.
 - ⁸ **Memory:** For PCs without a separate graphics card, memory supports both system and video. Accessible system memory may be up to 384MB less than the amount stated, depending on video mode.
 - ⁹ **International Warranty Service** is available in any country in which this product is sold and serviced. Service delivery methods and parts availability vary by country, may be different from that in the country of purchase, and are subject to change without notice. Fees and restrictions may apply in some countries.
 - ¹⁰ **Modem speeds:** Public network download speeds are limited to 53Kbps. Upload speeds are limited to 48Kbps for V.92 modems. Actual speeds depend on many factors and are often less than the maximum possible. V.92 functions and speeds require compatible phone line and server equipment. Check with your telephone and ISP service providers for availability.
 - ¹¹ **For combination drives,** maximum speeds only are given in the following order: CD read, CD write, CD re-write, DVD read.
 - ¹⁴ **Response times may vary.** May exclude some holidays. Telephone support may be subject to additional charges.
 - ¹⁵ **Update Connector** is available at no charge to registered customers during the limited warranty period. Line charges may apply.
 - ¹⁶ **Embedded Security Subsystem** works with optional VPN software.

- ¹⁸ **Embedded Security Subsystem** may require download of client security software from the Web.
- ¹⁹ **Asset ID** allows system-specific information to be stored in a chip inside the system; it does not have any radio frequency support.
- ²⁰ **Operating System:** Level of support varies by operating system. Operating systems not preloaded on the system may not provide full feature functionality. Refer to lenovo.com/pc/support and enter your machine type and model number for more information.

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