
[IBM] [desktops]



Personal System/2 76/77i, 76/77s 77s Ultimedia

Empower the enterprise

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Choose the PS/2 for enterprise computing

For business-critical applications in LAN environments, you've got to provide three things: rock-solid technology, efficiently-managed way to ensure that your network of PCs can be relied on over time to empower the enterprise with the information infrastructure your company counts on for success.

Yet far too often, these basics prove to be costly over time. Technicians and many others spend countless hours tracking assets, configuring and reconfiguring adapter cards, setting up systems, determining problems, and testing new solutions for compatibility with current investments.

Now there's the IBM PS/2® 76/77 i and s family. For small workgroups or LANs of thousands of PCs over a wide geographic area, you'll find the PS/2 76/77 i and s to be ideal clients that can lower your cost of computing while empowering users throughout the enterprise.

Here are just a few reasons why:

- Manageability features
- Configuration flexibility
- Multimedia with MediaBurst(TM) Movie
- Reliability features and warranty
- Service and support
- Stability

Unprecedented simplicity for systems hardware management

There's no need to wait for "plug and play" operating systems and yet-to-be-offered hardware in order to streamline adapter card installation and con-figuration. Today, without DIP switches, jumpers, hand tools or adapter conflicts, any of the 1,200 or so Micro Channel® adapters currently available can be completely installed and fully functional in the PS/2 76/77 in just minutes. That's because IBM's plug and play-ready 32-bit Micro Channel bus has always provided "easy install" configuration. Once the supporting software is installed, all your technician does is plug the card in, reboot, and type "y" for "yes" when the system asks if it should reconfigure for the new adapter. When next-generation plug and play opera-ting systems are available, even that simple step will be automatic on your PS/2 systems.

The PS/2 76/77 i and s, together with the Tivoli, TME 10 NetFinity 4.0 hardware management product, can simplify day-to-day network administration tasks. Without leaving the system management work-station, for example, the administrator can query any PS/2 client on the LAN for extensive, detailed configuration information. This can include adapter cards installed; which Micro Channel slots they occupy and which slots are still free; extensive details on installed memory and more.

Then there's Vital Product Data (VPD) - a built-in record of the system's serial number, system board serial number, model, submodel and additional details. Software such as TME 10 NetFinity 4.0 can read VPD remotely, so no one has to physically visit every client system in the company to maintain accurate, detailed inventory lists.

The Power-On Self Test (POST) boot routine runs comprehensive testing and diagnostic programs with every warm or cold

start. If a problem appears, IBM's Power-On Error Detect(1) sends an alert message, consisting of details about the POST error and system configuration to the TME 10 NetFinity 4.0 Manager. The TME 10 NetFinity 4.0 Alert Manager can be programmed to initiate any response you deem appropriate, from paging the administrator's beeper to placing an icon on a control console screen.

All in all, you'll streamline time and labor-intensive tasks such as asset management, system configuration management, capacity planning, troubleshooting and help desk functions by leveraging the unique combination of TME 10 NetFinity 4.0(2) and the built-in features of the PS/2 76/77. It's the combination that can make your LAN the most effective - and cost-effective - solution it can be.

Configuration flexibility to meet your needs on your terms

PS/2 76/77 i and s are available in a very wide variety of configurations. From space-saving desktop systems to servers to multimedia, there's a 76/77 platform to perfectly fit your company's business support needs today-and ensure a clear growth path with investment protection for the future.

The wealth of standard features and options found in the PS/2 76/77 begins with the powerful, flexible 32-bit Micro Channel bus. The system board is preconfigured with any of three Intel® i486(TM) processors, and a ZIF socket for processor upgrades, including Pentium(TM) OverDrive(TM) processors.

But there's more. Enhanced local bus SVGA graphics with up to 2MB VRAM gives you the resolution and color depth to meet your needs-1,280 x1,024 with 256 colors; 800 x 600 or 640 x 480 with 16 million colors, or 1,024 x 768 with 64,000 colors.

The 2.88MB* diskette drive lets you migrate or archive files more quickly and with fewer diskettes. It features media sense to automatically read/write 2.88MB, 1.44MB and 720KB diskettes.

Your first big choice is between the three slot/three bay space-saving 76 or the five slot/four bay 77. Each can be used in either horizontal desktop or vertical tower configurations. You can select an entry 486SX-33 model, or choose between DX2-66 and DX4-100 models with L2 write-buffered cache. After that, you can choose between IDE and SCSI-2 fast controllers and storage devices.

You can select the classic 101-key IBM keyboard, Quiet® keyboard or advanced TrackPoint II(TM) keyboard(3) with productivity-enhancing built-in pointing device. Tactile feedback and other characteristics reflect the results of intensive ergonomic research and testing, while the elimination of the separate mouse reduces clutter on the user's desk.

Because it's a Micro Channel system, there's a wide range of communications adapters available. They include Ethernet, Token-Ring, LANStreamer(TM), PS/2 ServerGuard(TM), Wide Area Connector Adapters, data/fax modems and many more.

The system also supports a variety of LAN and desktop operating environments, including Novell® NetWare®, Banyan® VINES®, IBM OS/2® LAN Server, OS/2, DOS/Windows(TM), Microsoft® Windows NT(TM), AIX®, SCO® UNIX®, Solaris® and others.

When you add an IBM P or V series monitor, you can take advantage of 76/77 power management functions to enable the monitor to comply with EPA Energy Star(TM) guidelines.(4) This can reduce monitor power consumption to under thirty watts on the V series monitors, and less than eight watts on the P series monitors in standby mode.

** MB stands for million bytes. Total user accessible capacity may vary slightly based on operating system environment.*

Client or server?

While PS/2 76/77 makes an ideal client, the PS/2 77s-VTG makes an outstanding server for printing, communications or other purposes.

Like the 77 client, the 77s-VTG server model features five 32-bit Micro Channel slots and four bays. It is specially con-figured for use as a server, with a fast/wide SCSI busmaster controller that enhances performance. It also features 16MB ECC memory, and supports over 4GB of disk storage plus Micro Channel LANStreamer and EtherStreamer(TM) adapters for outstanding data transfer speeds of up to 40MB/sec.

Built-in reliability

There isn't a safer place for your mission-critical applications than the PS/2 76/77. Parity memory is standard on the desktop and multimedia models, with ECC memory supported. IBM memory SIMMs have been tested to IBM's stringent standards of performance, includ-ing the stress of heavy multi-tasking environments.

Another IBM exclusive is the enhanced memory subsystem design. Should POST discover a bad memory block during power-on test, PS/2 76/77 will logically isolate that block, alert you to the problem, and allow the system to function until you replace the defective SIMM.

As for security, three levels of password protection are standard. With LogicLock (available through special bid), you can raise your system to US Government requirements for C2 level security.

The Micro Channel architecture was designed from the start for maximum reliability and high-speed operation. It contains features such as data and address parity to check data integrity while running. Interrupts are level-sensitive instead of edge-triggered to reduce the possibility of false interrupts and subsequent system hang-ups from noise spikes. What's more, generous use of grounding throughout the system helps attenuate noise to prevent spikes from appearing in the first place.

Proven by extensive testing and backed by a three-year warranty

The PS/2 family has been thoroughly tested for adherence to IBM standards including testing of components, sub-systems, ease of maintenance and compatibility with industry-standard operating systems and applications.

In addition to accelerated life testing that stresses systems for the equivalent of a full year, the 76/77 i and s meet a wide range of worldwide workplace standards for ergonomics and product safety.

If you want to know exactly how well these PS/2 systems performed in IBM tests, you - or your Human Resources or Legal department - can get a copy of the unique IBM Supplier's Declaration. You'll find full documentation of PS/2 compliance with ISO 9241-3, MPR II and other international standards and guide-lines for product safety, ergonomics, thermal, acoustics and emissions.

IBM's rigorous compatibility testing assures you that PS/2 76/77 i and s platforms will work with most industry-standard operating systems, LAN topologies and network operating systems.

Nationwide support

IBM's warranty is unprecedented. In fact, IBM is the first major manufacturer with enough confidence in the quality of its product to offer a three-year onsite warranty⁽⁵⁾ with 24-hour, seven day access and an average four-hour turn-around. Your connection with the IBM HelpCenter® also gets you assistance with setup, configuration, and operation at no extra cost. Plus HelpWare® fax service, elec-tronic bulletin board, and help desk-type assistance available for you or your advanced users.

Best of all, no matter where your business is, no matter how many locations you have or where they all are, you can count on IBM being nearby to support your installation. And that's something you can count on for a long time to come.

Platform stability to support your long-term enterprise computing strategy

Rolling out a powerful enterprise solution in an organization of any size can take years. That's why long-term support and compatibility are so important in the 76/77 Micro Channel platform. Consistent models, available for an extended time, allow you to plan with confidence.

For example, you won't find incompatibilities in BIOS. Micro Channel SurePath(TM) BIOS gives you consistency throughout the family.

As another example of platform stability, you can upgrade any current PS/2 76/77 or PS/2 56/57 with the new PS/2 Planar Upgrade.⁽⁶⁾ You'll gain all the advantages of the new 76/77 i and s systems. Current 76/77 systems will perform up to 38% faster while keeping everything else intact.

The expense and bandwidth requirements of distributing video information without seriously degrading playback quality are probably the greatest obstacles to enterprise-wide desktop video. Applications such as just-in-time training, interactive video reference, presentation tools and other powerful distributed video programs can make a difference in productivity and quality-and can be expected to do so more and more in the future as additional applications are developed.

Until now, your choices have been between running video in very small, 160 x 120 onscreen windows, running it larger with poor quality and dropped frames resulting in jerky motion and sound synchronization problems, or investing in costly dedicated video cards and systems.

MediaBurst Movie for full screen video

Now there's the 77s Ultimedia® PS/2. Built right into the system board (and separately available for 76/77 i and s systems) is the IBM MediaBurst Movie feature that can play standard software video files, such as Microsoft Video for Windows and Intel Indeo(TM), with full motion, full screen video at multiple resolutions, up to 30 frames per second and 16-bit color on a full 640 x 480 screen. By enlarging and accelerating the video screen locally, MediaBurst allows video files to be smaller and to be stored on hard disk for transmission over LANs for practical and cost-effective multimedia today.

What's more, the MediaBurst subsystem includes the VESA® Media Channel for future video technologies. Your capabilities for sophisticated video techniques will be able to grow with the technology and applications.

Sight and sound

For the full impact of full motion video, you need high quality sound. That's why the 77s Ultimedia comes with the IBM Audiovation(TM)16-bit audio card. The MIDI-compatible Audiovation card features IBM Mwave(TM) Digital Signal Processing (DSP).

To make sure you can readily benefit from that high-quality sound processing and playback, a quality internal speaker is standard. Headphone and microphone jacks are on the 77s Ultimedia's front panel with the volume control, where they can be easily reached. Also accessible via the front panel is a multi-session double-speed CD-ROM drive, which is Kodak Photo CD(TM)-compatible and supports standard audio CDs. Now you can experience multimedia with a totally integrated solution from IBM.

The ideal LAN client

To save time in setup and other administrative duties; to save time in testing for compatibility; to save time in problem determination; to save productivity by returning systems to operational status faster, the PS/2 76/77 i and s stand out as ideally-suited client systems for your environment.

You get built-in asset and systems management features that can lower your cost of computing. You get the power and compatibility of the Micro Channel bus, with adapter cards that are already plug and play-capable. You get certified compliance with major international standards, for increased productivity. You get investment protection with compatibility and IBM's continuing commitment to the PS/2 platform.

Plus you get IBM nationwide technical support under the industry's first three-year onsite warranty(5), with 24 hour toll-free access to the IBM HelpCenter.

For more information about PS/2 76/77 i and s, 77s Ultimedia, TME 10 NetFinity 4.0 or Micro Channel architecture, or for a copy of IBM's Supplier's Declaration of compliance test results, contact your IBM marketing representative.

Features and Benefits

Choice of microprocessors

- Lets you cost-effectively balance current needs against performance

CPU upgradeability

- Provides capability to upgrade to a range of processors from 486 to Pentium OverDrive, helping to extend effective lifetime of system

32-bit Micro Channel bus

- Fast, efficient true 32-bit data path; access to wide range of proven reliable add-on cards

Easy install, plug and play-ready

- Provides easy install of adapter cards today-no need for DIP switches, jumpers or hand tools; dramatically lowers technician intervention (and cost) during feature installation; will support plug and play operating systems when available

SCSI-2 and IDE hard drive controllers

- Provides your choice of IDE controller for economical storage, or SCSI-2 controller for attaching up to seven devices, including high-capacity disk drives, read/write optical drives, CD-ROM, tape backup, etc.

Enhanced local bus SVGA graphics

- Provides ultra high resolution with up to 16 million colors for photo-realistic images and up to with up to 2MB Video RAM 1,280 x 1,024 resolution, plus advanced GUI support; provides compatibility with XGA-2 with OS/2 Presentation Manager® and Windows applications

Ergonomic standards-compliant

- Greater user comfort, health and economy of motion for enhanced productivity (see Supplier's Declaration from IBM for documentation of conditions of compliance to ISO 9241-3 and other standards.)

MediaBurst Movie capability (Standard on 77s Ultimedia; optional on all others)

- Software motion video support with full screen, full-motion video from industry-standard (standard on 77s Ultimedia; video files; scales video from very small windows to full screen

8MB interleaved parity memory, multi-tasking tested, expandable to 64MB on system board

- Higher grade memory to assure data integrity; expandability allows system to be tailored to meet anticipated workspace requirements and to be expanded at any convenient time.

ECC memory (standard on 77s-VTG; optional on all others)

- Extra protection for data integrity to support mission-critical applications and your company's data assets with confidence

Metal SIMM retainers

- More robust than the plastic retainers found on other systems for greater long-term reliability with repeated configuration changes

Enhanced memory subsystem

- Capability to isolate defective memory blocks and keep system productive until memory can be replaced

Gold contacts on SIMMs and SIMM sockets

- Long-term quality and reliability for memory connection

Network-ready

- Tested for compatibility with most LAN topologies, networks and operating systems (For details, see "at a glance")

VPD (Vital Product Data)

- Vital Product Data including system's serial number stored electronically; accessible remotely via TME 10 NetFinity 4.0 or other software for simplified, more effective systems asset management

Power-On Self Test (POST)

- Runs complete test and diagnostics upon cold or warm start; assures all subsystems are properly functioning before you begin the day's work; optional bypass for quick start-up

Power-On Error-Detect

- Notifies administrator via TME 10 NetFinity 4.0 of any power-on system failures; can be programmed to initiate automated response (such as paging administrator's or technician's beeper); provides description of system configuration and error to TME 10 NetFinity 4.0 Manager system

Horizontal desktop or vertical tower orientation

- Footprint flexibility to meet user preference or space constraints

SurePath BIOS

- Ensures compatibility between hardware and operating system and applications software, reducing potential downtime due to incompatibility

Three-year onsite warranty(5)

- 24-hour, seven-day, four-hour average response time, anywhere, anytime(7)

IBM HelpWare

- Provides around-the-clock assistance with setup, usage and service

Features common to 76/77i, 76/77s, and 77s Ultimedia

Bus architecture

- Micro Channel

Data path

- 32-bit

Memory (RAM)

Standard

- 8MB (70ns) parity standard on all desktop and Ultimedia systems; ECC optional
- 16MB (70ns) ECC standard on 9577-VTG

Maximum on system board

- 64MB

Diskette storage (internal)

- Standard (3.5-inch) 2.88MB with media sense
- Optional (3.5-inch) 1.44MB, 2.88MB electronic eject
- Optional (5.25-inch) 1.2MB

Integrated functions

- Two 9-pin DMA serial ports, DMA parallel port, keyboard port, pointing device port, SCSI-2 port (76s and 77s only), BIOS flash update function, system partition, diskette controller

Display modes

Enhanced local bus graphics, including all VGA, EGA, CGA, MCGA and the following modes:

- 640 x 480, up to 16 million colors
- 800 x 600, up to 16 million colors
- 1,024 x 768, up to 64K colors
- 1,280 x 1,024, up to 256 colors
- Compatible with XGA-2 with OS/2 Presentation Manager and Windows applications
- 1MB VRAM, expandable to 2MB

Monitors

- IBM P Series and 951x Color family
- IBM V Series and 631x Color family
- IBM 6091 Color
- IBM PS/2 85xx Monochrome and Color family

Keyboards

- IBM Enhanced Keyboard and mouse (71G5791): 101 keys, buckling spring; IBM Quiet Keyboard and mouse (71G5794): 101 keys, rubber dome; IBM Enhanced Keyboard with TrackPoint II3 (82G3281): 101 keys, buckling spring; IBM Quiet Touch Keyboard with TrackPoint II (61G2900): 84 keys, rubber dome

Selectable operating systems

- IBM DOS 5.02/Microsoft Windows 3.1, DOS 6.1/Windows 3.1, DOS 6.3/Windows 3.11
- IBM Operating System/2r 2.11, 2.1

Also supported

- OS/2 1.30.1 SE and EE and higher
- OS/2 2.00.1
- OS/2 LAN Server
- NetWare 3.12 and 4.01
- AIX PS/2
- SCO UNIX V/386
- SCO XENIX
- SCO Open Desktop(TM)
- Solaris
- Microsoft Windows NT
- Microsoft Windows NT Advanced Server
- Microsoft Windows for Workgroups(TM)

Three-year onsite warranty(5)

- 24-hour, seven-day, four-hour average response time, anywhere, anytime(7)

HelpWare

- 4-hour average response time from IBM or an IBM Authorized Servicer; setup, usage and support assistance from the

IBM PC Company HelpCenter 24 hours/7 days a week at no charge during warranty-via phone 1 800 772-2227, fax 1 800 426-3395, or bulletin board 1 919 517-0001; self-maintainer program offerings available for a fee via special bid; 30-day, money-back guarantee; lease. For HelpWare in Canada, please call 1 800 465-7999.

IBM Personal System/2® 76i and 76s at a glance

Models	9576		
Machine numbers	9576-AU9, AUB, BUB	9576-ANB, BNB	9576-ATB, BTB
Processor(8)	SX-33	DX2-66/33	DX4-100/33
L2 cache	Optional	Standard 128KB	Standard 256KB
Math coprocessor	Optional	Standard	Standard
Hard drives	Model number		
IDE 170MB	9576-AU9		
IDE 270MB	9576-AUB	9576-ANB	9576-ATB
SCSI 270MB	9576-BUB	9576-BNB	9576-BTB
Package	Three 32-bit slots, three bays		
Power supply	118-watt worldwide autosensing with built-in overcurrent, short circuit, overvoltage, and surge protection-no external surge suppressors are required		
Size	4.5"H x 14.2"W x 15.6"D (115mm x 360mm x 395mm)		
Weight	30 lbs (13.6 kg)		

IBM Personal System/2 77i and 77s at a glance

Models	9577(9)		
Machine numbers	9577-AUB, BUB BNB, BNG	9577-ANB, ANG, BTB, BTG, VTG(1) 7NG, 6NG	9577-ATB, ATG
Processor(8)	SX-33	DX2-66/33	DX4-100/33
L2 cache	Optional	Standard 128KB	Standard 256KB
Math coprocessor	Optional	Standard	Standard
Hard drives	Model number		
IDE 270MB	9577-AUB	9577-ANB	9577-ATB
IDE 527MB	9577-ANG	9577-ATG	
SCSI 270MB	9577-BUB	9577-BNB	9577-BTB
SCSI 540MB	9577-BNG	9577-BTG 9577-VTG(1)	
Package	Five 32-bit slots, four bays		
Power supply	197-watt worldwide manual switching with built-in overcurrent, short circuit, overvoltage, and surge protection - no external overcurrent, short circuit, overvoltage, and surge suppressors are required		

Size 6.6"H x 17.3"W x 15.5"D (168mm x 440mm x 394mm)

Weight 35 lbs (15.9 kg)

(1)16MB ECC memory standard/Fast/Wide SCSI busmaster adapter standard

IBM Personal System/2 77s Ultimedia at a glance

Models 9577s Ultimedia(9)

Machine numbers 9577s-7NB, 6NB, 9577s-7TG, 6TG

Processor(8) DX2-66/33 DX4-100/33

L2 cache Standard128KB Standard 256KB

Math coprocessor Standard Standard

Hard drives	Model number
SCSI 270MB	9577-7NB comes with OS/2
	9577-6NB comes with DOS/Windows
SCSI 540MB	9577-7NG comes with OS/2
	9577-6NG comes with DOS/Windows
	9577-7TG comes with OS/2
	9577-6TG comes with DOS/Windows

Package Five 32-bit slots, four bays

Power supply 197-watt worldwide manual switching with built-in surge protection
-no external surge suppressors are required

Size 6.6"H x 17.3"W x 15.5"D (168mm x 440mm x 394mm)

Weight 35 lbs (15.9 kg)

Video MediaBurst Movie

Sound Audiovation microphone

CD-ROM Double-speed multisession

MPC-2 certified(10) Yes Yes

Front panel controls Volume, mic input, headphone jack

Integrated quality speaker Yes Yes

(1)16MB ECC memory standard/Fast/Wide SCSI busmaster adapter standard

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(1) Power-On Error Detect will be available free on IBM bulletin boards or with TME 10 NetFinity 4.0 Release 2 in July 1994.

(2) TME 10 NetFinity 4.0 is a software package, containing a group of distributed applications that provide easy to use and highly effective hardware systems management on a LAN. Contact your IBM marketing representative or IBM authorized dealer for more information.

(3) Keyboards with TrackPoint II will be offered at an additional charge.

(4) The Energy Star emblem does not represent EPA endorsement of any product or service. Power management software is available via IBM bulletin boards for DOS/WIN and OS/2 environments.

(5) For information regarding the terms and conditions of IBM's limited warranty and 30-day, money-back guarantee, please call 1 800 772-2227. Copies of IBM's statement of limited warranty and 30-day money-back guarantee are available on request.

(6) The PS/2 Model 8556/8557, 9556/9557 and 9576/9577 Upgrade Planar-P/N 71G0714. PS/2 Planar Upgrade Hardware support kit-P/N 71G0715 for xxx6 systems, P/N 71G0716 for xxx7 systems.

(7) Some locations may vary in response time.

(8) All processors can be upgraded. Intel verified: for a Pentium OverDrive processor.

(9) The 77s Ultimedia models will be available in 4Q 94.

(10) All 77s Ultimedia models meet the Multimedia PC Marketing Council's specifications for MPC Level 2. Minimum standards include; 25MHz 486SX processor; 4MB RAM; 160MB hard drive; 16-bit audio; 640 x 480 resolution with 64,000 colors; Windows 3.1 compatibility; CD-ROM drive with 300KB/sec. sustained data rate, multi-session Photo CD-XA capable.

IBM will continue to enhance products and services as new technologies emerge. IBM, therefore, reserves the right to alter specifications and other product information without prior notice.

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