InJoy Dialer 3.0

User Guide

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1 InJoy Basics

1.1. Introduction

The initial idea and still the primary design-goal of InJoy is to offer a quality tool that integrates all the essential connectivity and security features into a robust and intuitively designed cross-platform PPP Dialer. An indispensable utility that would take the frustration out of dial-up access and instead make it an "injoy"able experience.

Whereas most operating systems do a good job in offering basic dial-up, InJoy is designed for much more. InJoy can practically be automated in any way favorable to your setup and you can add plugin features ranging from advanced Firewall Protection to high-end IPSec VPN security. You can use InJoy on multiple platforms and enjoy exactly the same features and low-resource user interface everywhere.

For the responsible IT professional that needs to be able to quickly diagnose and solve problems, InJoy is just right. InJoy was never designed to hide what goes on behind the scenes, but to reveal it and provide adequate control to the operator. For instance, if InJoy communicates with the modem, then it shows that communications directly on the screen. Whatever connectivity know-how you already have is rewarded and what you don't already know, InJoy will make easier to understand.

The fact that InJoy by design and with regards to its feature set is fully self-contained means that once you have it configured, you can build your own "shrink-wrapped" InJoy solution and easily ship it to your business clients, take it on the road, back it up with its configuration, move to a different platform, set it up as a corporate multi-platform VPN client, or even pass it pre-configured to help an Internet challenged family member.

For an interoperable InJoy solution specifically designed for (x)DSL, Cable and other Ethernet based Internet connections, refer to the home page of F/X Communications.

Industry Recognition

Since our launch in 1996, The InJoy products have secured the networks of thousands of organizations including Fortune 500 companies with complex multi-site networks, government agencies and small businesses.

InJoy is publicly available software on the Internet. It has been rewarded ”Five Cows" by Tucows and nominated as the best Internet utility across ALL platforms (by the “Shareware Industry Awards Foundation”).

Our technical expertise and reputation for quality has landed us attractive customers and partner status with some of the leading security product vendors, such as Cisco Systems and Nortel Networks.

Unique state-of-the-art security and wide-ranging flexibility, allows InJoy to be tailored towards almost any dial-up requirement. This fact is further demonstrated by the amazing number of high-end applications for which InJoy has been successfully applied:

- Automated Teller Machines (ATM)
- FDA approved medical devices
- Airport terminals
- Insurance companies
- Banks
- Car sales networks
- Embedded Self-Service Systems
- As a preconfigured ISP dialer
- Operating Systems

1.2. Technology Brief

The InJoy Dialer is optimized for connectivity with traditional modems and external ISDN Adapters. Supported modems communicate with the InJoy Dialer via the standard RS232 com-port.

InJoy is **not** an extension to the Internet Dialer included in your Operating System, but rather a completely autonomous software-based Internet Dialer that by large can be compared to an external hardware-based router or firewall. All your typical Internet software applications (such as the web-browser) remains the same, but InJoy provides a new and secure interface for communicating with the Internet.

For communication with the Operating System, InJoy uses a specialized approach on every different platform. On Linux and Windows, special low-level drivers must be installed, while on OS/2, InJoy hooks directly with the IP stack. The low-level access to IP traffic allows InJoy to undertake **any** transport oriented networking task, such as applying VPN tunneling and encryption. On incoming traffic, InJoy can provide Firewall security before IP packets even hit a potentially vulnerable Operating System.

InJoy ensures an optimal connection through features such as Dial-on-Demand (DoD), re-dial and auto-connect. InJoy can be automated for

unattended operation and it's specifically tested for mission-critical 24/7 operation.

The clean interfaces and the modular design guarantees the ability to plug in new features without introducing new problems in the existing network configurations. Simply select the required features and avoid the complexity, the waste of resources and the price of bloated software. The plugin concept helps in keeping the basic Dialer simple, reliable and low on resources.

For easy and cost-effective deployment, installation requires only that InJoy is unzipped and a simple install script is run.

1.3. Key Features

Multiplatform Support

Selecting the right software is critical for designing, building and managing mission critical, networked computing environments. Businesses often have to take several OS platforms into consideration, as new company-wide connectivity and security policies are defined. Legacy applications may only run on one platform, while new solutions may require a completely different platform. Human resources have to be specifically allocated with each platform and it all results in an exceedingly high cost of ownership.

The InJoy products have been specifically designed to address the problems of managing mixed environments. Ranging from the home user to the largest enterprise, InJoy offers tremendous value by providing a reliable and cost-effective solution that remains the same on every supported platform. It's an effective solution for businesses relying on multiple platforms in their network topology and it’s the ultimate choice for freely roaming IT professionals that require scalable VPN, Firewall or Gateway solutions.

Currently, InJoy officially supports these platforms:

- Linux Red Hat 7.2+
- OS/2 Warp (incl. eComStation)
- OS/2 Warp Server
- Windows 2000/2003
- Windows XP

Dial On Demand (DoD)

Dial-On-Demand allows for automatic dialing when a TCP/IP application needs it; auto-disconnecting when the connection is idle and, auto-dialing again, at the next demand.

For example: Imagine a remote unattended PC that every hour needs to dial-up and send statistics to a central server on the Internet. To facilitate this setup, you would simply enable Dial-On-Demand and let InJoy offer

transparent Internet access as required. No changes are required in your TCP/IP application.

DoD is widely used by individuals and large corporations. Businesses use DoD as a cost saving feature in installations that require sporadic Internet access, such as remote branch offices, embedded devices or unattended remote hardware.

Small businesses, home offices or even stand-alone computers can use DoD to deliver automated Internet access and transparent Internet gateway capability. With very little configuration effort, InJoy will in most cases slash the cost and make dial-up based Internet access more convenient.

DoD is a feature that is triggered on network activity. This means that any bogus IP packet routed to the Internet can trigger Dial-on-Demand and that might not always be practical. To help you fine-tune the DoD operation, InJoy includes two features. One is the "Simple DoD filter", which instructs DoD to dial only on DNS requests and new TCP connections. The other dial-preventing feature is the Firewall plugin. The Firewall plugin allows you to define filters that accurately match the traffic that you don't want to trigger dialing. Enabling the "Simple DoD filter" option is generally sufficient to get rid of unwanted excessive dialing.

Dial-In

PPP based dial-in allows InJoy to not only dial out, but also answer incoming calls. Answering an incoming PPP call will, after authentication, result in TCP/IP access to the InJoy PC and optionally the network behind it.

With traditional hardware and software, PPP dial-in has often been less than simple to configure. With InJoy, you can dial-in enable a PC in seconds and instead of having the dial-in support tie up a separate phone line and modem, you can combine the dial-out and the dial-in feature. With both features enabled, the InJoy PC can offer both automated dial-out and automated answering of incoming calls.

For example: Imagine the remote PC that dials out, but also must have its data backed up every two weeks. Installing two phone lines would be an option, but if the PC is part of a global network, then that takes time and money. The simple solution is to let InJoy's DoD feature take care of the automated dial out, but also enable PPP dial-in. With both options enabled, the central office can now dial the remote PC and back it up at will.

For IT professionals that maintain remote solutions on different platforms, the InJoy dial-in support is a quick and easy way to offer remote access. The security that comes with InJoy is second to none, which is further detailed in the firewall and IPSec sections.

Firewall Capability

With the rapid growth in the Internet, network security has become a major concern to companies and home users throughout the world. The fact that the information and tools needed to penetrate the security of corporate networks are widely available has only increased that concern. New tools that probe for system vulnerabilities makes it easy for hackers to quickly scan portions of the Internet to pinpoint sites that can be attacked. Whereas dial-up connections previously have been low-risk connections, then they are fundamentally no different from full time broadband connections. For instance, when the Code Red Internet worm peeked, just one or two minutes on the Internet would be enough to get infected.

The Firewall Plugin implements a flexible and secure connection between your private network and the public Internet. It prevents unauthorized access to your private network (or stand-alone PC), while providing controlled Internet access to users within your network.

The Firewall plugins found at the Professional level turns InJoy into a security bastion with much stronger security than you would usually expect from a dial-up client. Firewall features include predefined security levels, dynamic firewall rules with observation lists and blacklisting, rule based access control, port and address redirection, traffic accounting, access logging, flood guarding, (D)DOS protection, security alert logs, connection logs, dropped packet logs and lots more…

To learn more about the many exciting features of the Firewall, please refer to the InJoy Firewall Plugin documentation.

Internet Sharing (NAT)

With no reconfiguration of network applications, InJoy can share your Internet connection and with Dial on Demand, InJoy is completely transparent to LAN users.

No expensive gateway or routing equipment. The only requirement is that InJoy runs and the LAN is capable of running the TCP/IP protocol. InJoy with NAT runs on a single computer which does not have to be "dedicated" to the task.
NAT is a standard for Internet sharing, widely supported by the major firewall vendors such as Cisco, 3COM, IBM, Shiva. One major advantage of NAT, is that it operates beneath the routing layer, so expect InJoy to out-perform application layer proxies.

Install InJoy on one computer and everyone can surf the net, get mail, read news, telnet and everything else, from any computer on the LAN, all at the same time!
NAT will for any other type of LAN client, such as: Windows 9x/NT/2000/XP, MAC, Linux, OS/2, etc.

IPSec VPN Support

Internet has shown its strength during the nineties. Most major corporations are now connected, and a large fraction of homes will be networked in the next few years. Though superior in its flexibility, the Internet has shown a major weakness; the lack of security.

Without encryption, anyone can read and tamper with the data sent over the network. Secrets can be stolen and mission critical data can be modified to cause irreparable harm.

Without proper authentication, anyone can easily lie about identity and it may be impossible to know who you are doing business with or keep track if a crime has been committed.

Internet devices without protection are susceptible to external attacks. An attacker can get into internal data repositories, destroy information, install viruses, or just simply turn off or prohibit the services.

The obvious demand for a comprehensive security standard has finally been answered with the network vendor adoption of the IPSec standard.

Support of IPSec turns InJoy into a powerful VPN Client, providing comprehensive VPN security and the highest level of standards-based data protection. It provides reliable and interoperable data exchange, ensuring confidentiality, integrity and authenticity of transmitted data.

Through the InJoy IPSec Plugin, it's possible to build secure channels to other major vendors in the market or to other InJoy products.

The IPSec standard is interoperable across OS platforms and the InJoy Dialer has proven interoperable with the InJoy Firewall and many other vendors, such as Cisco, Nortel, PGPnet, F-Secure, Linux and many others.

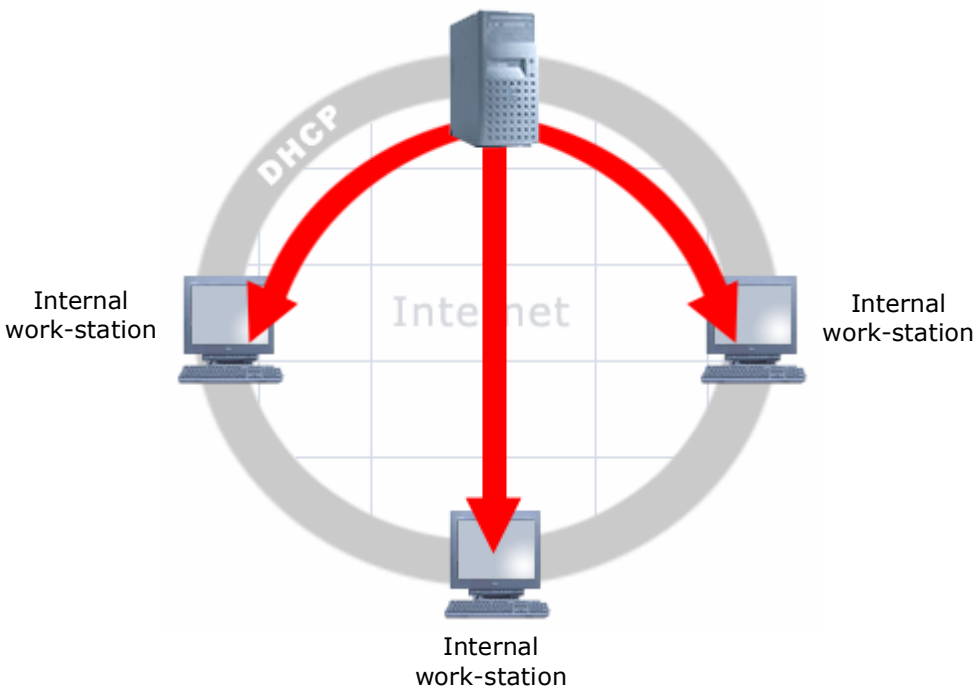
To learn more about the IPSec VPN security features, please refer to the InJoy IPSec Plugin documentation.

DHCP Server

A Dynamic Host Control Protocol (DHCP) Server allows network administrators to automate and control the assignment of IP address configurations simply and quickly.

Say you need to install connectivity for a range of branch offices, or maybe you use dial-up in your small business, or maybe you just use InJoy to power the family network. In either case, you can rely on InJoy to provide reliable and secure Internet connectivity, but there are still some trivial networking tasks that you must take care of. One of these tasks, is to get all the internal work-stations an IP number, a name server reference and a default gateway. This is where DHCP comes in and offers a centralized solution.

InJoy DHCP Server



The DHCP Server virtually eliminates the need to set computers up individually. The Procedure is transparent, automatic and instantaneous.

If a mobile user plugs their laptop into the network it automatically gives their computer the right configuration.

Having DHCP serving built into InJoy, as a plugin feature, gives you ultimate choice. InJoy's DHCP Server is deliberately kept simple and to the point. Because it is integrated with InJoy, it is also configured in the same way you already use to configure InJoy's other plugin features. The documentation is never far away and the server uses very few resources. Whereas DHCP is made a science in some solutions, then you will find that the InJoy DHCP Server will supply only the most common parameters to your internal work-stations. These common parameters include:

- Fixed or dynamic IP Address from one of more IP pools
- Netmask
- Up to 3 DNS servers
- Up to 3 WINS servers
- Default gateway/route

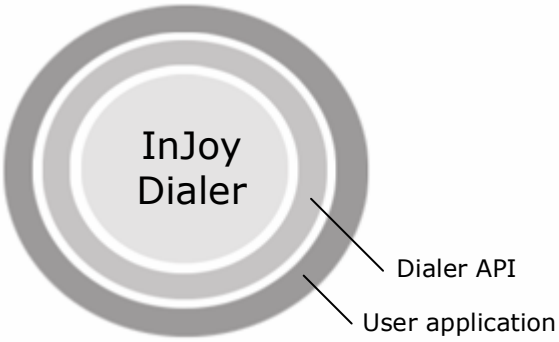
To learn more about the InJoy DHCP Server, please refer to the DHCP Plugin documentation.

Dialer API

In response to corporate demand, a powerful high-end Dialer API ("DIALAPI") has been made available for the InJoy Dialer.

The InJoy API provides business applications and embedded systems with full control and monitoring of InJoy based dial-up connectivity. The API is a separate toolkit, complete with sample code and documentation. Finally it's possible to build a fully functional Internet dialer in just half an hour.

The API toolkit is written in the C, but can be interfaced from any programming language and as a finishing touch, it can be remote controlled over TCP/IP to ease application testing in geographically dispersed environments.



For further information and pricing on the Dialer API Toolkit, please contact F/X Communications.

1.4. Features at a Glance

The multitude of powerful features has made InJoy an indispensable tool for businesses and power users. Generally the intuitive design appears logical to most users and the responsive console-window user interface is easily operated. InJoy ships with profound documentation and on-screen hints eases the configuration.

For your reference, the following section lists the most notable features. To associate features with InJoy levels, refer to the InJoy home page is a better starting point

Master Feature List

General Features

- All the dial-up connectivity features, nicely integrated into one powerful Internet Dialer.
- Enjoy the logical design, the menu driven control and the unmatched performance. On-screen hints available to ease configuration.
- InJoy exists on multiple platforms with exactly the same user interface. It's learn once, harvest many software that you can take with you. Currently, InJoy (officially) supports these platforms:
- Linux Red Hat 7.2+
- OS/2 Warp (any version, incl. eComStation)

- OS/2 Warp Server
- Windows 2000/2003
- Windows XP
- Try before you buy. InJoy does not does not show advertisements and does not interrupt your work with registration reminder messages.
- Easy, 1-minute installation and un-installation. InJoy only requires an Operating System and a TCP/IP stack.
- Free upgrades up till the next major version.

Plugin features:

- WAN PPP dial-in (1 port). Enables InJoy to answer incoming PPP calls, providing transparent Internet access. Easily configured and perfect for quickly setting up remote access for employees, friends or family.
- Dynamic Firewall support with:
- Access Rule Lists with unlimited rules
- Rule based Firewall Port/IP Redirection
- Rule based Firewall Traffic Accounting
- Rule based Firewall Alerts/auto-starting
- Rule based logging. Logging is cached for extreme performance, IP numbers are optionally resolved, packet payload can be optionally formatted for best possible readability.
- Time based Firewall rules, working on days and hours
- Hexstring matching and packet searching
- Bidirectional rules
- Real-Time TCP/IP Connection Table
- Firewall Rule dumping with hit counts and type
- Rule based recording of binary packets (forensics)
- Security Event Log (message, details, (formatted) hexdump)
- Dynamic Firewall, observation and blacklist feature
- Port Scan Detection
- Intrusion Detection System (IDS)
- Flood Guarding
- Basic Virus protection
- Configurable Honeypot/Lure Feature
- 10 Predefined Security Levels. You can easily add your own
- URL logging / filtering

- Log of Rejected Connections
- On the Fly updates
- More…
- Stand-alone IPSec VPN client for tunneling and secure connectivity to remote locations on the Internet. IPSec Features include:
- Tunnel/Transport mode
- Full ISAKMP/Oakley support (RFC 2412)
- Main/Aggressive mode ISAKMP SA negotiation methods
- Strong 3DES encryption
- Faster 1DES and NULL-ESP encryption for high-speed tunnels
- X-authentication with interactive userid and password prompting
- Split tunneling for mixed IPSec and regular Internet traffic
- ISAKMP Config Mode for server assigned IP addresses
- Dynamic IP addresses on the client (Road Warrior support)
- IPCompression (DEFLATE, LZS)
- Large list of documented interoperable with third party vendors, including Cisco, Nortel, Linux FreeS/WAN, PGPnet, F-Secure, IRE Safenet/SoftPK, Microsoft Win2k, and more...
- On the Fly updates
- More…
- Transparent and secure Internet Gateway Capability with no reconfiguration of network applications. Use the always available NAT statistics to see who is using the bandwidth.
- Dial on Demand (DoD) allows for automatic dialing when an application needs it. Disconnect automatically on the Idle or Session timeout.
- Dialer API plugin provides business applications and embedded systems with full control and monitoring capability of dial-up PPP based Internet connectivity.
- Easily configurable DHCP server for (optionally) assigning IP addresses to the work-stations on your internal network.

Networking

- Mission critical. The InJoy product undergoes rigorous testing by our staff of in-house security engineers to ensure that we release only top-notch products.
- PPP/SLIP connections (according to the latest RFC's) with support of (MS)CHAP and PAP authentication

- Supports all Hayes compatible modems, ISDN adapters and even NULL modems. The always handy Terminal Mode window makes it easy to test and communicate directly with the modem.
- Supports server assigned DNS addresses and DNS Forwarding. On your internal work-stations, set the DNS server to 1.1.1.1 and InJoy takes care of the rest.
- Re-dialing and re-connecting in case you have problems maintaining a stable connection to your ISP. If one phone number is not enough, use the 10 entry big phone number list.
- Auto-connect to the ISP directly at program startup. Simply provide InJoy with the ISP-name on the command line OR click Auto-connect in the InJoy user-interface.
- Built-in trace capability to screen and file.
- Connection log, providing a quick overview of the number of connections per day, month and more...

Usability Features

- Auto learned scripts to automate complex login procedures. No need to create your own advanced dial or login scripts.
- Multiple ISP profiles, offering full control of the PPP protocol and the performance tuning options.
- Usability features such as real-time monitoring of CPS rates, FCS errors, online time and Modem connect speed. Configurable user confirmations, optional audible tunes at connect or disconnect.
- Auto starting and stopping of external programs at any event. Configurable per ISP profile and also generally for InJoy.

Tools

- Customizable (pre-configured) Log viewer to follow the Firewall, IPSec or InJoy action locally or over your LAN.
- IPFORMAT utility to format output of binary forensic logs saved by the firewall.
- Utility programs to manage dialer externally, to ease the integration with existing business applications. Trigger dialing, disconnection, adjust timers or make InJoy die.

2 Installation

2.1. Install

For rapid cost-effective deployment, the InJoy installation is kept as simple as possible. The "install" script will create desktop icons and install the required device drivers. Simply go through the following steps:

1. Create a directory for InJoy
2. Unzip InJoy into the directory
3. Run install

The installation procedure should be completed in seconds.

Install decisions

During installation, the Windows and Linux install scripts will prompt for the optional enabling of IP Forwarding.

IP Forwarding is a feature of the Operating System that when enabled, permit IP packets to jump network interfaces. You must answer "Yes" to enable IP forwarding if you plan to use InJoy as a gateway or VPN router.

Depending on the Operating System, you may also need to confirm to the OS that you really want to install device drivers.

Re-installation and upgrading

The InJoy install script makes it straightforward to handle any re-install or upgrade situation. You simply run the install script **any time you need it** and thereby refresh the desktop folders and device drivers.

The install script can be run repeatively without any un-installation requirement. For example, after re-installing your Operating System or moving InJoy to a new location, simply run the InJoy install script again (and reboot).

For upgrading InJoy versions, the standard upgrade procedure is to:

1. Backup your current InJoy version
2. Unzip on top of your current InJoy
3. Check the accompanying readme for further guidance

4 Reboot

After upgrading InJoy, all your settings will be automatically ported over.

Install example:

The following transcript shows the output of the InJoy installation process on Windows 2000.

The installation was completed in less than 15 seconds.

```
E:\test>install
F/X Communications Windows NT/2K Driver Installer
Driver "fx" Installed successfully.
Driver "fxdod" Installed successfully.
If you want to enable IP forwarding for InJoy internet connection
sharing, please type Y and enter now.
Y
You must reboot for changes to take effect.
InJoy is now ready to be run.
```

2.2. Un-install

To un-install InJoy is as simple as installing it. The "uninstall" script will completely uninstall the device drivers from the Operating System and also delete the desktop folder.

The InJoy directory remains on the harddisk and must be deleted manually.

2.3. Starting InJoy

Start InJoy like any other program, either by clicking the icon referencing InJoy, or by running InJoy directly from the command line.

If COM 2 is not available on your system, InJoy will report "Could not open device" when starting the FIRST time. Simply click on OK to proceed with initialization. Then, during setup (see below) you must specify the correct COM port in InJoy's "default" host.

2.4. To Unlock InJoy's Power

After you have purchased InJoy you will receive a key code to unlock InJoy's power, at the level registered. To unlock:

1 Open InJoy.

2 While on the opening screen press SHIFT-F10.

3 Enter your name and your key code with care. BOTH your name and key code is case sensitive and must be entered EXACTLY as provided. Using the clipboard is highly recommended.

4 When both have been entered, and checked for accuracy, click on OK.

5 When you return to the main InJoy screen the registration will proceed and after waiting a few seconds, you can press SHIFT-F10 to check if your registration info was accepted.

6 Restart InJoy!

3 InJoy User Interface

3.1. A Familiarization

Refer to the following "screen shots", or just open InJoy and look at the real thing while learning about the six sections of InJoy's display:

Terminal Mode Window
Used during Terminal Mode operations and to display bytes received/transmitted while dialing, and when running a connect script.

Host List Window
Contains user defined hosts and all controls necessary to create, edit and remove host using the manipulation buttons [New], [Change] and [Delete]. For ease of use, the [Dial] button is immediately below the list of user configured hosts.

Output Window
Shows InJoy messages and trace information, if trace is enabled.

Other Control Buttons
Immediately below the Host List, and next to the Output Window, are additional buttons for the purpose of forcing a line drop [Hang Up], accessing/setting miscellaneous options [Misc. opt.] and for closing InJoy [Exit].

Characters Per Second (CPS) Info Line and Bar Chart
Provides real-time data (from left to right, with displayed symbols) on:

- ▲ Total characters sent on communications line since connect
- ▼ Total characters received on comma line since connect
- ↑ Current CPS transmission rate, updated every second
- ↓ Current CPS receive rate, updated every second

avg Average CPS processed during last second
max Peak CPS processed during any second of current connection

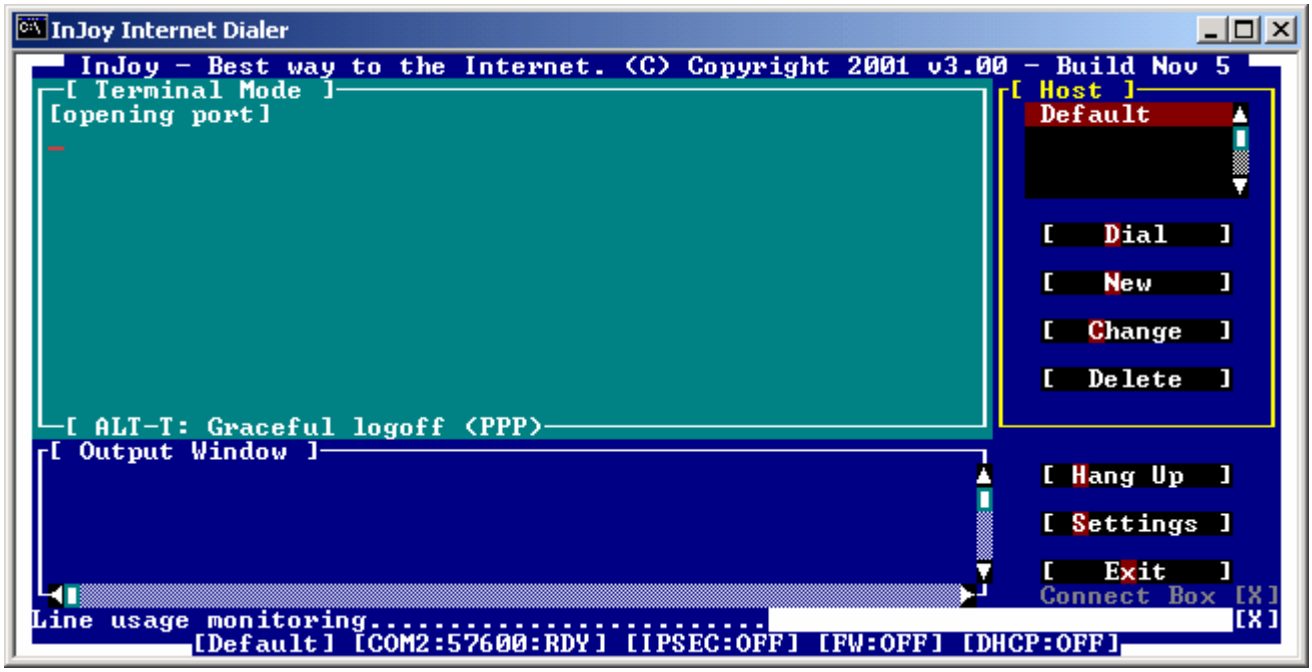
The last two numbers (avg and max) are based on the sum of both transmitted and received characters. Notice that these numbers are what is actually sent and received, including PPP encapsulation characters. Additionally, the Info Line is calculated at a rather low priority within InJoy (keeping the pipe full is a lot higher on the food chain), therefore some of the 'every second' updates will occur during a rather long second.

Immediately to the right of the "max" data point is a display of the total CPS receives and transmit rate in a visual Bar Chart Line.

The check box on the right of the visual indicator will toggle the entire Info Line on or off.

When using InJoy with Dial On Demand (DOD) with the "display DOD indicator" option turned on, the CPS Bar Line displays the DOD packet scan. This is only the case when off-line, so that function will not conflict with the normal use of the CPS monitor.

Status Line (at the bottom): Shows information about the current status of InJoy and status of plugins.



Using the mouse in InJoy

InJoy has full mouse support in both windowed and full screen windows. When running Windowed, it is however getting customary for Operating Systems to interpret a mouse click as an attempt to mark text for the clipboard. You will see this as a thick yellow marking of text lines in the InJoy window.

The Operating Systems usually have an easy accessible setting in the properties to turn off this clipboard marking. In the Windows Operating System, this setting is called “QuickEdit Mode” and in the OS/2 Operating System, you will find the same option referenced as “Mouse Actions”.

4 Hints

4.1. InJoy's Efficient Help System

Useful hints are available at the bottom of the InJoy screen when operating within the following described setup screens. These online hints change as the various portions of the setup screens are highlighted for data entry, or toggling. Therefore, since the hints are context sensitive you will find them very useful in completing even the most complicated setup.

In fact, most people find that the hints are all that is needed to successfully complete all initial setup and performance tuning steps.

5 Creating an ISP Profile

5.1. A First Step to Connecting

To connect your computer or network to the Internet, you must start by defining an ISP profile (host). The host configuration constitutes the parameters and options needed to communicate successfully with your ISP (Internet Service Provider).

InJoy is shipped with a "default" host which cannot be deleted. You may modify to suit your needs, and you should set the "default" host to match the settings to use at InJoy start-up. For instance, most people modify the "default" host so that it has all the settings necessary to connect to their Internet Service Provider.

However, before overwriting the "default" consider this: Most people find that the "default" works as well as (and in many cases, much better than) competing dialers. Therefore, it is suggested that you replace the "default" only after you have another host with tested capability. Additional information on this subject is available in the section "Saving Host Info", below.

Please note that the settings contained in the "default" host are used in creating new and/or multiple hosts. Additional host are created by selecting the [New] button or pressing <Insert> while the Host List Window has the focus.

5.2. Host Setup

- When creating a new host, the first screen prompts you for a configuration name, user ID and password:

The configuration name you provide becomes the host name used by InJoy in the Host List Window to identify the set of parameters that defines one particular host. For example: If your Internet Service Provider is IBM you might want to use IBM as the host name. On the other hand, if you will use several IBM gateway telephone numbers (say for a portable computer), you might want to set up numerous hosts, each with a different city's name.

- Fill in the User ID and Password fields with the values supplied by your ISP.

Those are the values which will be used by log on scripts or PAP/CHAP authentication protocols.

It's possible to enter a '?' in any of the fields, in order to be prompted for a user and/or password prior to connecting.

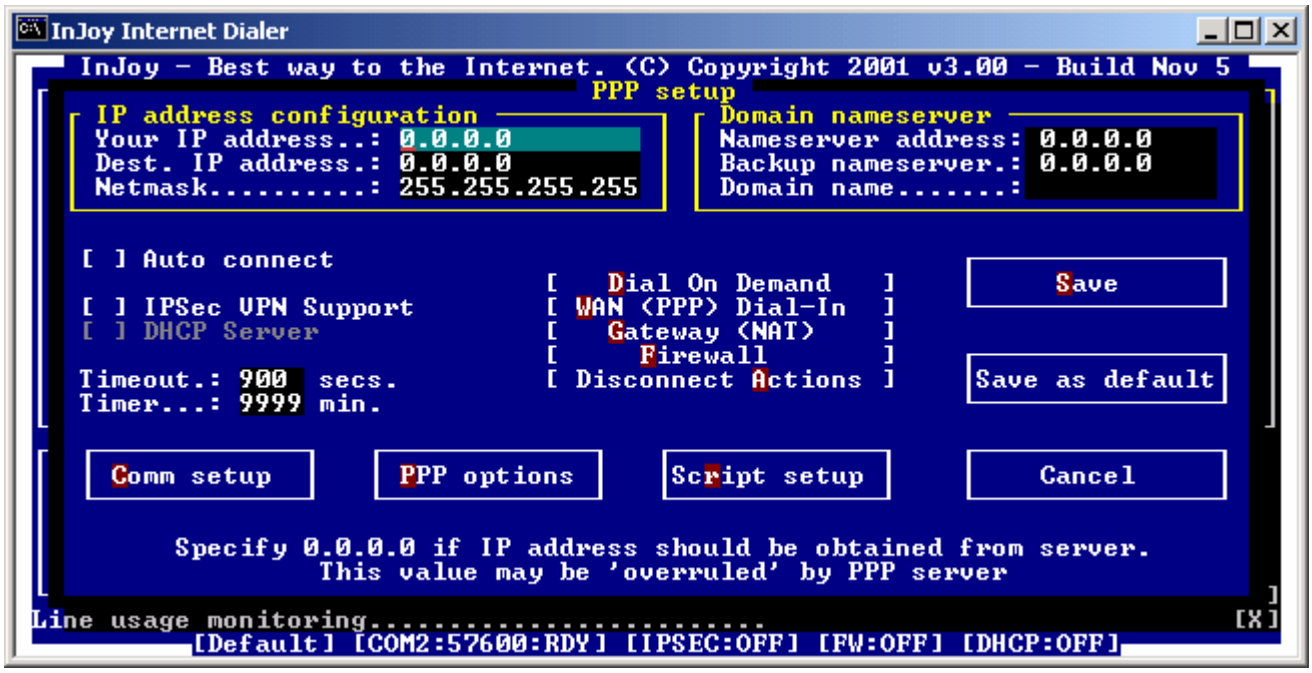
- After filling in the above, select the appropriate radio-button for either PPP or SLIP. 99% of all configurations use PPP today, but if you are connecting to legacy equipment, you may need to select SLIP. Your ISP should be able to tell you which protocol is most likely to provide the best service. But, without other information available, you should probably attempt to connect first via PPP.

Refer to other sources for a description of the differences between PPP and SLIP.

6 PPP/SLIP Setup

6.1. Setting up PPP or SLIP

When you have gone through the fields of the previous host setup screen and selected to run either PPP or SLIP as framing protocol, you will see a screen like this:



NOTE: The screens are nearly the same for PPP and SLIP. Each of the various items you need to fill in are explained below. Additionally, the differences between setting up for PPP or SLIP are explained, where necessary:

Your IP address
This is the Internet Protocol (IP) address that your computer will use throughout your session. The value 0.0.0.0 means that InJoy should obtain your actual IP address from the ISP server, during log on negotiation.

Obtaining the IP address from the server is the standard way of assigning IP addresses using PPP, but it is possible to specify an IP address when the server will not dynamically assign one.

For SLIP you should either use an IP address statically assigned to you by your ISP or auto-grab it from the text stream transmitted by your server at connect. Auto-learned scripts can simplify this operation.

Destination IP address
This is the IP address of the ISP's server. It is normally assigned by the PPP server during the log on sequence. However, some Internet providers specify a fixed IP address that you should enter here.

For SLIP you should either use a static IP address assigned by the ISP, or auto-grab it from the text transmitted by your server during connect.

Netmask
The netmask specifies the IP addresses which are supposed to go through your SLIP or PPP interface. If you did not receive an assigned netmask from your ISP then set it to 255.255.255.255.

Auto connect
Marking this check box causes InJoy to attempt an auto-connect to this host during start-up.

Since InJoy can only attempt to connect with one host at a time, marking this block in one host automatically resets all other hosts to not attempt an auto-connect.

Nameserver & Backup nameserver address
The nameserver and backup nameserver are IP addresses of your preferred nameservers.

If your ISP supports "server assigned DNS addresses" (RFC 1877), then enable the negotiation by entering 0.0.0.0 in the nameserver fields. Only nameserver fields containing 0.0.0.0 will be negotiated.

Domain name
This is the domain in which your computer exists on the Internet. You should specify the symbolic name that you have received from your ISP.

IPSec VPN Support
Enables the IPSec VPN Plugin. The InJoy IPSec is described in the key feature section of this document. For configuration guidance, please refer to the IPSec documentation.

DHCP Server
Enables the DHCP Server Plugin. The InJoy DHCP is described in the key feature section of this document. For configuration guidance, please refer to the DHCP documentation.

Timeout
This is the "idle timeout". It specifies for how long the line may remain idle (i.e. nothing being received) before InJoy will automatically disconnect the

line. The timeout counter will not reset for outgoing only, traffic. It may be set from 0 to 9999 seconds.

If the timeout value is larger than 60 seconds a timeout warning (consisting of four beeps) will be sounded and the phrase "TIMEOUT: 1 min. to disconnect . . . " will appear in the Output Window.

You may reset the idle timeout by pressing ALT-R, in which case your connection will continue as if nothing happened.

A note of caution is advisable here. Some may set the idle timeout to five minutes or so, and walk away from the computer after beginning a long down/upload . . . knowing that when finished InJoy will drop the connection, as the idle timer reaches zero. Be careful, many hosts periodically sends dummy data on the line in order to avoid unintentional disconnects. Therefore, if you are paying for your connection by the minute (to either your ISP or telephone company) you might want to insure the line is dropped within a reasonable time after data flow has stopped.

To completely disable the idle timeout, specify a value of zero. In that case, the line will never be dropped due to inactivity.

Timer
This timer specifies how long InJoy may stay connected before it will automatically disconnect. Set any value from 0 to 9999 minutes.

This function is much like the one on your VCR or TV that enables you to automatically turn it off after half an hour or so, without worrying about the TV starting a fire during the night.

As it can go wrong for a television, so it can for InJoy too. If InJoy has a problem disconnecting there is nothing it can do except increase your phone bill (InJoy has never started a fire!).

Notice that if the timer value is set to more than one minute, you will hear/see a timer warning similar to that described for the idle timeout. And, you may reset this timer by pressing ALT-E.

To completely disable the timeout, specify a value of zero. In that case, the line will never be dropped for exceeding a preset time on line.

Dial On Demand
Clicking this button brings up the Dial On Demand options. Please refer to the "Dial On Demand section" section.

WAN (PPP) Dial-In
Clicking this button brings up the dial-in options. Please refer to the "WAN (PPP) Dial-In" section.

Gateway (NAT)

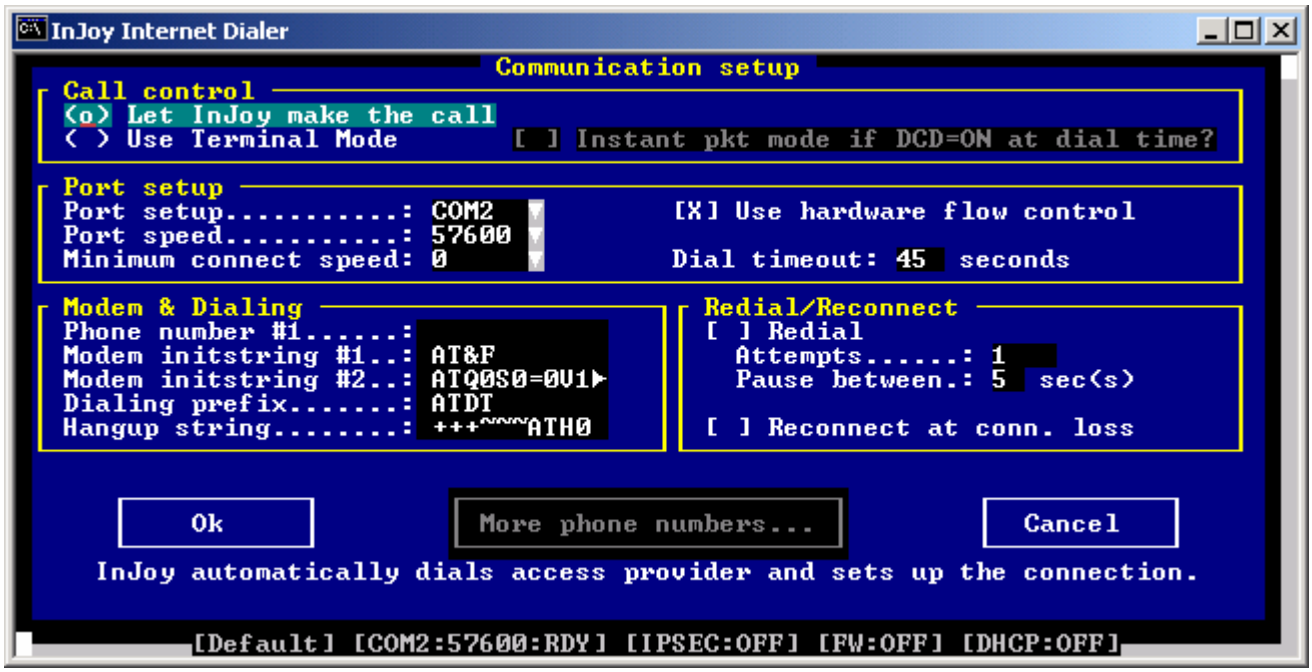
Clicking this button brings up the Gateway (NAT) options. Please refer to the "Gateway (NAT)" section.

Disconnect actions
Please refer to the "disconnect actions" section.

7 Communication Setup

7.1. Basic Settings

The communication setup screen enables you to specify the parameters required for your communication link:



Most of this setup you probably already know from other communication programs, so let's focus on the InJoy specific parameters:

Call control
In this window you specify whether InJoy should make the call for you, or not. If you choose to do so, InJoy will automatically initialize your modem and call the specified host's telephone number, when you click on [Dial]. Your job will be only to fill in the right configuration and let InJoy take care of the rest.

The other possibility is to use Terminal Mode, which will put you in charge of initializing the modem and setting up the call.

Even when running Terminal Mode, you can still generate and auto-run a script.

When you choose Terminal Mode as the call control method, then you say good-bye to some valued services like automatically re-dialing and re-connecting after an unexpected line drop, so make sure you have a good reason for selecting Terminal Mode for dialing.

Checking the "Instant pkt mode if DCD=ON at dial time?" causes InJoy to enter packet mode immediately, if DCD is present. If not present, InJoy will revert to terminal mode and the "press ESC to start packet mode" will appear when the CARRIER is up. This feature is just what is needed for a leased line or null modem setup.

Phone number #1
This is the primary phone number used if you choose to let InJoy make the call for you.

The phone number you specify here is always the first phone number to be dialed. If your ISP provides several phone numbers in your calling area, you have the opportunity to list them here and have InJoy keep dialing until it finds a free line.
Refer to the "More Phone Numbers" section below, for more info.

For a host setup dedicated to dial-in, leave this phone number empty.

Modem initstring #1
The default initialization strings in InJoy's distribution archive should work satisfactorily with any Hayes compatible modem, but they may NOT be the best for your modem. There are several sources for potentially better init strings.

Dial Timeout
This is the amount of time that InJoy will allow your modem to attempt to negotiate with your ISP's modem. You may set any value between 0 and 999 seconds.

This timeout can be effected if the S7 modem register value is more than what is set in InJoy's "Dial Timeout". That situation allows InJoy to 'time out' and disconnect PRIOR to the modem's 'time out' and disconnect. The solution is to either decrease the S7 time, or increase the value set in the "Dial Timeout". Bottom line: Modem S7 should be LESS than InJoy's dial timeout.

Redial
Enabling causes InJoy to initiate another dialing attempt when the first attempt fails.

- The number of times InJoy should attempt to dial a number is set in the Attempts" block. (It is not possible to set the value to zero, as that would prevent InJoy from dialing.)
- The amount of time, in seconds, to pause between dialing attempts is set in the "Pause between" block.

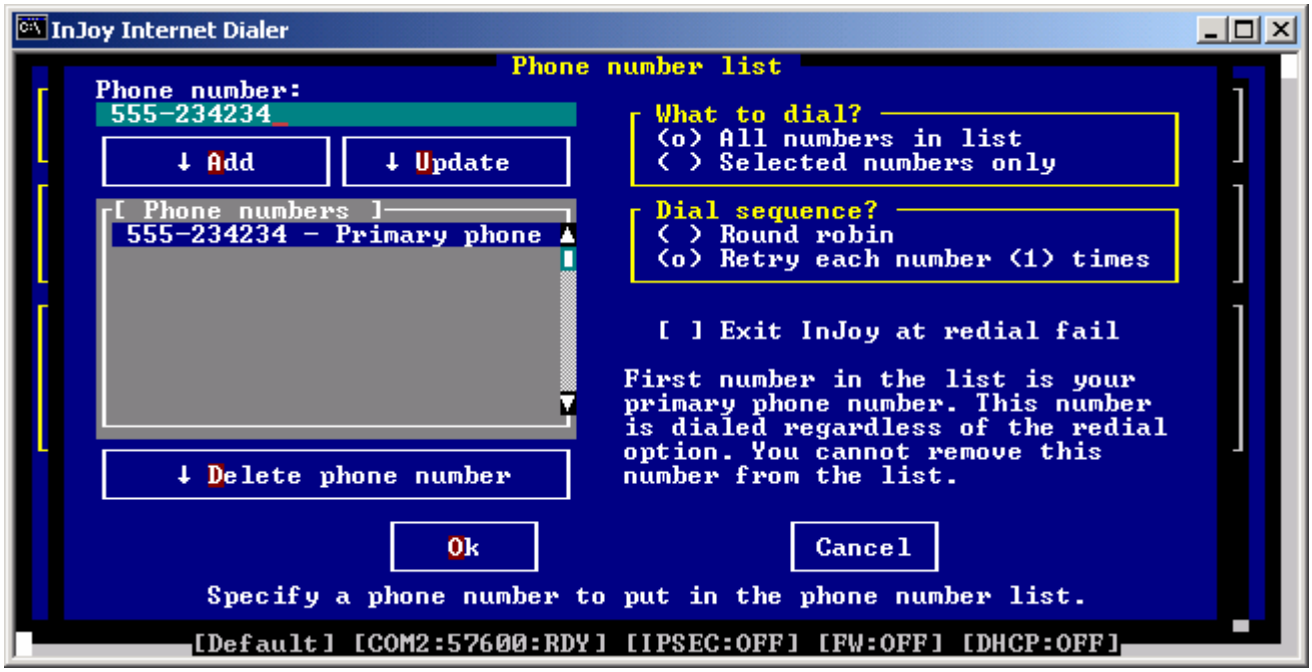
Reconnect at connection loss

This option, if checked, causes InJoy to attempt to re-connect if for some reason the link fails after initially being established. This helps keep a constant connection, making InJoy the perfect choice for keeping a connection alive 24 hours a day.

7.2. Giving More Chances to Hook Up

If you elected to have InJoy do the dialing, you may specify a list of phone numbers to be tried in case of unsuccessful dial attempts.

In order for InJoy to use the list you must enable re-dialing. Having done so, you are able to click on the "More phone numbers . . ." button at the bottom center of the Communications Setup screen. That will open and the following screen where you may add the additional phone numbers:



Phone number
In this field you may add as many as 10 phone numbers to the list.

What to dial
With this option you control whether every number on the list will be dialed, or if only those selected should be dialed.

Select numbers by using either the mouse or the SPACE key in the "Phone numbers" list box. Selected phone numbers are marked by a different color.

Note that the primary phone number cannot be de-selected.

Dial sequence

In this section you set how InJoy will sequence the listed and selected numbers.

Skipping to a new phone number after each dial attempt is known as Round Robin dialing. Using this alternative causes InJoy to skip ahead to the next number (in the listed sequence) if a busy signal or other non-connect situation occurs on any number.

The "Retry each number (x) times" option will cause listed phone numbers to be tried the number of times specified in the "Redial attempts" parameter before attempting the next number. The "Redial attempts" parameter is set in the "Communication setup" screen.

By learning what the problems are in your area usually are, you will be able to determine, and use, the method provides the best connect rate.

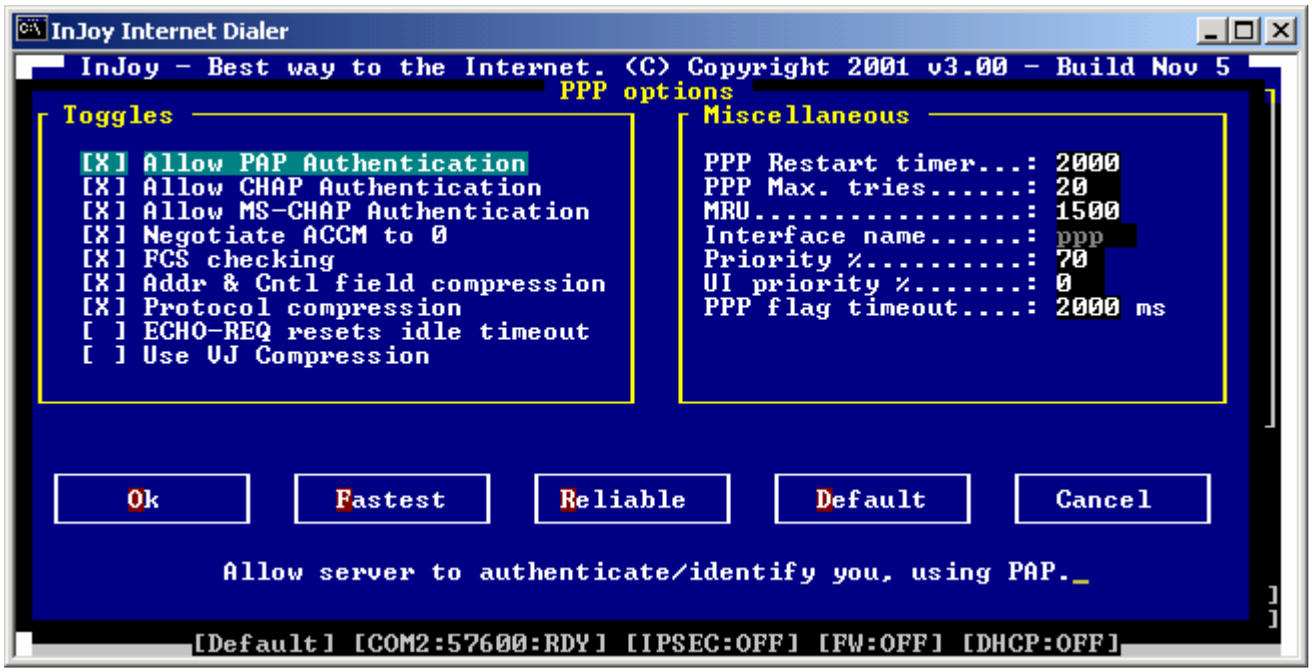
Exit InJoy at redial fail
You may have the need to continue redial attempts. You can establish that by selecting to quit InJoy after having run through the phone number list.

The "Exit InJoy at redial fail" parameter in combination with the auto-connect to host at start-up will enable you to redial forever.

8 PPP/SLIP Options

8.1. Tune for Speed

The PPP and SLIP options screens (accessed by single clicking on the "PPP Options" or "SLIP Options" button in the lower half of the screen) lets you to make choices which help tailor InJoy to your communications line for maximum performance:



Note: Don't overlook the capability in the PPP Options screen to just click on the "Make fast" button and then the "OK" button. The "Make fast" settings might be all the speed you need and it might save you from having to read all this:

Allow PAP Authentication (PPP Only)
To make sure that you are not authenticating in clear text, turn this option off. However, there is normally no reason to turn PAP Authentication off since CHAP is negotiated before PAP, if the host server allows such. Therefore, clear text passing of your user name and password is unlikely, but possible. Be ware that your ISP might only support PAP.

The bottom line: If you have special data to protect OR need to be SURE your password is never exposed in clear text turn the PAP option OFF.

Allow CHAP Authentication (PPP Only)
CHAP is an authentication protocol which does not pass your ID/password in the clear.

With some ISPs you may need to turn off CHAP authentication. There are a few known PPP servers which behave very strangely when they receive a CHAP response, even though they indicate support for CHAP.

Allow MS-CHAP Authentication
In the name of security, Microsoft introduced an extension to CHAP which made their NT servers incompatible with non-MS log on routines. However, InJoy will authenticate using MS-CHAP techniques if you enable this switch and when challenged for you user account name you must reply in typical NT format, e.g. "redmond\money" where "redmond" is an NT domain containing the user account "money". If a domain is not provided, the backslash should also be omitted, e.g. "money".

If you have trouble you might need these error MS-CHAP error codes:

```
646 ERROR_RESTRICTED_LOGON_HOURS
647 ERROR_ACCT_DISABLED
648 ERROR_PASSWD_EXPIRED
649 ERROR_NO_DIALIN_PERMISSION
691 ERROR_AUTHENTICATION_FAILURE
709 ERROR_CHANGING_PASSWORD
```

They are returned in a line similar to:

Remote message: E=649 R=0

The "E=" is the error number from the table above, and the "R=" flag indicates whether the error is transient and the client should retry. If you consistently get error 691, then either you're using the wrong account name/password or another problem I'll need to help with. So, check the name/password settings and if problems persist see README.TXT for support contacts.

Force ACCM to 0 (PPP Only)
ACCM - Asynchronous Control Character Map, is a table specifying which characters that may NOT be transmitted transparently on the link.

Today, the use of ACCM is almost gone, but some hosts still set up this table to the default value of 0xffffffff. This means that all characters below 0x20 will be escaped and accordingly occupy 2 bytes each.

Setting the "Force ACCM to 0" will make InJoy attempt to negotiate the ACCM mask to 0, and thereby remove the use of the mask. In general, turning this parameter on is a very beneficial to line performance. Bad side effects from doing so are uncommon.

FCS checking (PPP Only)
Set this parameter on to make InJoy check all incoming packets for a correct Format CheckSum (FCS). Checking will take a little away from total performance (not much though). In most cases there is no need to turn on this feature since the TCP protocol processes the checksum as well.

Be careful though: InJoy's PPP negotiation is NOT running on top of TCP/IP. Therefore, line errors that occur while negotiating might give unpredictable results. It is therefore recommended that conservative systems should have this parameter on.

Address & Control field compression (PPP Only)
Each PPP packet includes a few leading bytes that hardly ever change. Selecting this option will force compression of these bytes and save a couple of bytes per PPP packet.

There should be no side effects for turning on this option and the CPU load is not affected by it.

Protocol compression (PPP Only)
This routine compresses the protocol information in the PPP packets from two to one byte. (Why not save a byte where possible?)

Enabling this option does not take any additional CPU and saves a byte per packet.

ECHO-REQ resets idle timeout (PPP Only)
Some ISPs send echo request periodically to test if your machine responds (if not, the ISP drops the line). Each request/answer pair resets the idle timer and may cause the connection to never timeout and disconnect. Remove the X from this block to ignore echo requests and NOT reset the idle timeout--this allows disconnects to occur based on the lack of other data flow.

Use VJ Compression
By enabling this option InJoy will try to negotiate the use of VJ (Van Jacobsen) compression. VJ compression takes some CPU cycles and it is therefore recommended only for faster computers with slow lines. VJ compression can be implemented differently and it has sometimes been found to be a source of problems. If you have problems with PPP or SLIP, then turn off this option.

VJ compression will save about 30 bytes per compressible PPP/SLIP packet.

Restart timer (PPP Only)
The PPP negotiation protocol uses a timer to resend protocol blocks which contained errors again, at the correct time.

For example: If your PAP/CHAP user ID and password block is lost during transmission (maybe due to a bad connection) it must be retransmitted. The time for the retransmission is specified by the restart timer, and the sooner the better (within the limits of your communication line). Therefore, the lower

value the better. This parameter can have a BIG influence on the negotiation time, so try to fine tune this value to be as small as possible. (InJoy ships with a default of 1000 milliseconds, work down from there when searching for supreme speed. However, legacy ISP equipment have been found, which require as much as 5000 milliseconds.)

Keep in mind this timer only affects the time required to negotiate a connection with your ISP. It does NOT affect the actual throughput of the line once the connection is completed.

Max. tries (PPP Only)
Specifies how many times the PPP protocols blocks should be resent in case of bad or missing response.

Values of 5 to 10 should be sufficient for most implementations.

Maximum Receive Unit (MRU) (PPP Only)
The Maximum Receive Unit sets the maximum number of bytes that InJoy is capable of receiving in one PPP packet.

Generally, the bigger the better (up to the 4136 max), as the round trip delay of most connections is fairly large.

An incorrect MRU value may be the root cause of an inability to transmit/receive TCP/IP packets even though a PPP connection was successfully negotiated. If you experience that situation, try decreasing the MRU value to see if more reliable operation will result (1500 is the default MRU for most systems on the Internet).

During PPP negotiations, InJoy attempts to negotiate the MRU size set by this parameter. However, many ISP servers do not allow the MRU value to be negotiated and instead dictate the value used. InJoy automatically accepts host dictated values even though higher values improve line performance significantly.

Maximum Transmit Unit (MTU) (SLIP Only)
This setting is similar in nature to the MRU setting in PPP, except that instead of setting receive packet size, it sets the maximum size of transmitted packages. A setting larger than 1500 (the default) imposes a risk of sending packets larger than those supported by your ISP.

Interface name (Both PPP and SLIP)
This is the symbolic name used as prefix for the PPP/SLIP interface. Keeping the default value of "PPP" or "SLIP" is a good choice. This parameter should only be changed if you have very specific reason to it. Results will vary depending on the Operating System.

Priority (Both PPP and SLIP)
The priority parameter specifies the priority that the Operating System will assign to the InJoy dialer communication threads.

The value may be fine tuned by hand, but you should be aware of the following:

Any value larger than (roughly) 75 percent, will register InJoy as a time critical process. Being time critical is a logic choice for a program handling the CPU demanding COM port.
However, raising the value much above 75 percent may cause system hangs as the OS scheduler will not allow other processes to "wake up" when they are really needed.

UI Priority (Both PPP and SLIP)
This option specifies the priority of the InJoy User Interface.

Obviously, a user interface need not have the same priority as the more important communication threads, and accordingly, InJoy lets you assign an individual priority to just this thread.

The UI Priority option has offered the customization to people in need of InJoy functioning in an environment where several applications (e.g. legacy DOS applications that poll the keyboard for input) are fighting for the CPU cycles.

Unless you find yourself in this category of users, it is recommended that you keep the user interface priority at its default value of zero. Zero means keep the priority that the OS assigned to this thread - a.k.a. the default priority.

PPPFLAG timeout (PPP Only)
Each PPP packet can potentially start with a 0xFF byte. Normally the 0xFF is only inserted in the PPP frame if the line has been idle for a while (normally 2 seconds).

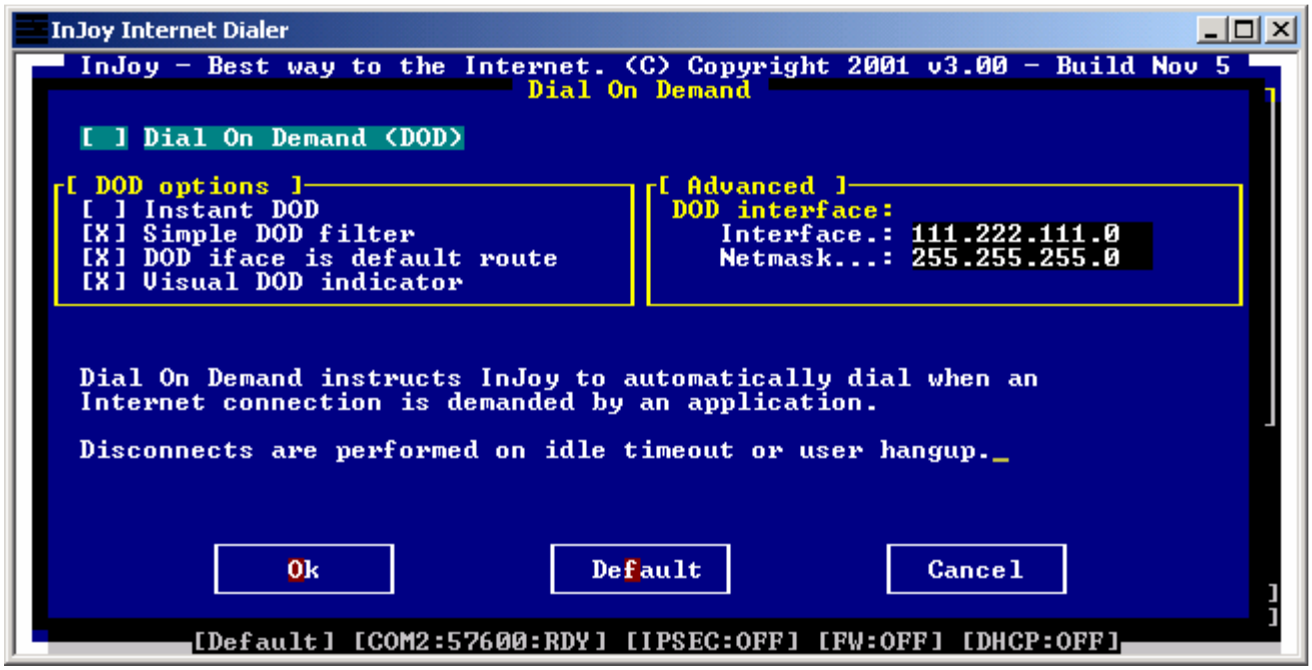
Some servers require this byte in each package, if that is the case with your ISP, set this option to 0. However, since this PPP FLAG byte is not normally needed, you might want to try setting the timeout to the maximum value of 9999, and see if performance improves.

9 Dial On Demand

9.1. Disconnect Actions

Dial on Demand (DOD) allows for automatic dialing when an application on your machine or a NAT LAN client needs it; auto-disconnecting when the connection is idle (using the idle timeout feature); and, auto-dialing again, at the next need/demand.

To enable dial on demand in its most basic form, enable the "Dial On Demand" option, accessed by clicking on "Dial On Demand" on the PPP setup page.



Dial On Demand (DOD)
Specifies whether the DOD feature is enabled.

Instant DOD
Specifies how InJoy should handle DOD once you select an ISP.

If "Instant DOD" is enabled InJoy will proceed directly to the DOD state, where it waits for an outgoing packet before triggering an Internet connection.

If "Instant DOD" is disabled InJoy will immediately establish an Internet connection once you select a host. When you hang up, InJoy will proceed to the DOD state. In the DOD state, InJoy will wait for an outgoing packet before triggering a new Internet connection.

Simple DOD filter
Provides simple filtering of the packets that may trigger DOD.
Enable the "Simple DoD filter" to ONLY trigger dialing on new TCP connections and DNS lookups.

Disable to allow DOD triggering on any outgoing packet.

For further filtering of the dial out criteria, consult the InJoy Firewall Plugin documentation.

DOD interface is default route
This option helps you to specify which packets will trigger DOD.

If the 'DOD' interface is the default route, any packet not routed to your LAN, will be routed to InJoy and potentially trigger DOD dialing.

If the 'DOD' interface is NOT the default route, then only packets that are specifically routed to this interface will trigger DOD.

In the standard DOD setup, it is recommended to let the DOD interface be the default route.

Visual DOD indicator
When DOD is active and waiting to be triggered, an on-screen indication can be shown. The 'graphical' CPS monitor is used as the visual tool, helping you not to leave this function unattended in a setup that could cost you money due to excessive calling.

DOD interface & netmask
To provide the DOD feature, InJoy creates a DOD network interface is created on your TCP/IP stack. The characteristics of this interface controls which packets will trigger DOD.

The DOD interface is an advanced option that should only be changed if you have reason to limit the packets that trigger DOD to a specific network destination. Otherwise stick with the default values.

What disables DOD?

DOD is meant as a cost saving option and to keep it as such, the InJoy Dialer deliberately auto-disables DOD when dialing does not lead to a PPP connection. This capability is critical when InJoy is left unattended.

However, there are situations where it is desirable that DOD never gets auto-disabled. To

achieve this you have to enable Redial, specify a high number of redial-attempts (such as 999) and also enable Reconnect. Only when **ALL** the dial attempts specified in the Redial/Reconnect box have failed, will DOD be auto-disabled.

Working with DOD

In this section you can find a few hints that will prove useful when working with Dial on Demand.

First of all, if you have Dial on Demand enabled and you really don't want InJoy to dial until you again select a specific host, then turn it off using the F6 key.

To enable DOD for a host, you can use the function key F5 on the InJoy main screen. This requires the DOD to be enabled in the host settings.

In case you have "Instant DOD" enabled and yet wish to have an immediate connection, then use the key SHIFT-F5 to trigger an immediate dial.

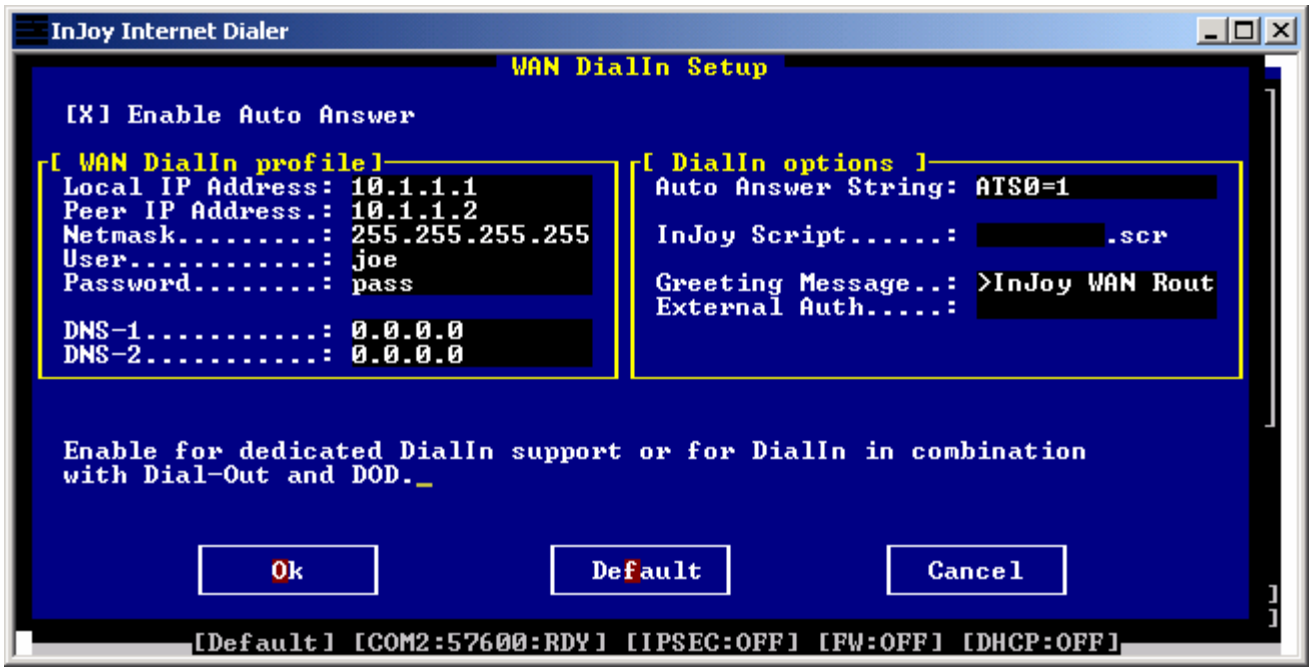
In a disconnected state, you can monitor the status of dial on demand by looking at the CPS meter in the bottom of the screen. A red bar will visualize the packet scanning activity, assuming that you have the "Display DOD indicator" option turned on.

Seeing the IP packet that triggered DOD

Sometimes you will find it useful to go back and see what packet triggered DOD. You can do that. InJoy saves the offending packet to the file 'dod.dmp'. This file maintains a format that can be viewed with the included multi-platform utility “ipformat”. To view the packet in “dod.dmp”, issue the command “ipformat –i dod.dmp”.

10 WAN (PPP) Dial-In

PPP based dial-in allows InJoy to not only dial out, but also answer incoming calls. Answering an incoming PPP call will, after authentication, result in TCP/IP access to the InJoy PC and optionally the network behind it.



Enable Auto-Answer
Enable this option to enable dial-in support.

Local IP Address
The IP address of the PPP serving InJoy Dialer.

There are few requirements for this IP number. The local IP number together with the remote IP number and netmask make up the network interface. The network interface is registered with the IP stack and normal routing will take place.

Peer IP Address
The IP address of the remote dial-up client. To let the remote dialer pick its own IP address, type 0.0.0.0 into this field.

Netmask

The netmask controls the type of network interface InJoy will create. With a host netmask of 255.255.255.255, the link will be point to point and only traffic destined directly for the IP address at the other end of the connection will be routed through the PPP link.

With a netmask of 255.255.255.0, the PPP network interface will cover a full range Class C net. This means that the IP stack will assume 255 IP addresses at the other end of the PPP connection and it will route traffic accordingly.

It is advised that you keep the netmask of PPP interfaces to 255.255.255.255 and instead use static routing table entries to specifically route additional traffic to the remote client.

Refer to the generally available TCP/IP documentation for more information on the route command and netmasks.

User
Static user name for authentication of the peer. Leave empty for NO authentication.

Password
Static password for authentication of the peer. Leave empty for NO authentication.

DNS-1 & DNS-2
DNS addresses assigned to peer when the PPP client requests server assigned DNS addresses. Older dial-up clients need manual DNS configuration

Auto Answer String
Defines the string InJoy will send to the modem to enable auto-answer.

ATS0=1 instruct the modem to answer the first incoming ring. The '=1' signifies that the modem will go off-hook on the first RING. Specify '=2' to get the modem to answer on the second ring, and so forth.

InJoy Script
InJoy can run a script when the remote client is connected. The script must use the InJoy script syntax described elsewhere in this manual. The script will execute prior to the Greeting Message.

Greeting Message
Specifies an optional message to be sent to the peer, prior to starting PPP packet mode. Leave field empty to disable. Meta variables [$DEST_IP] and [$YOUR_IP] can be used in the string.

11 Network Address Translation (NAT)

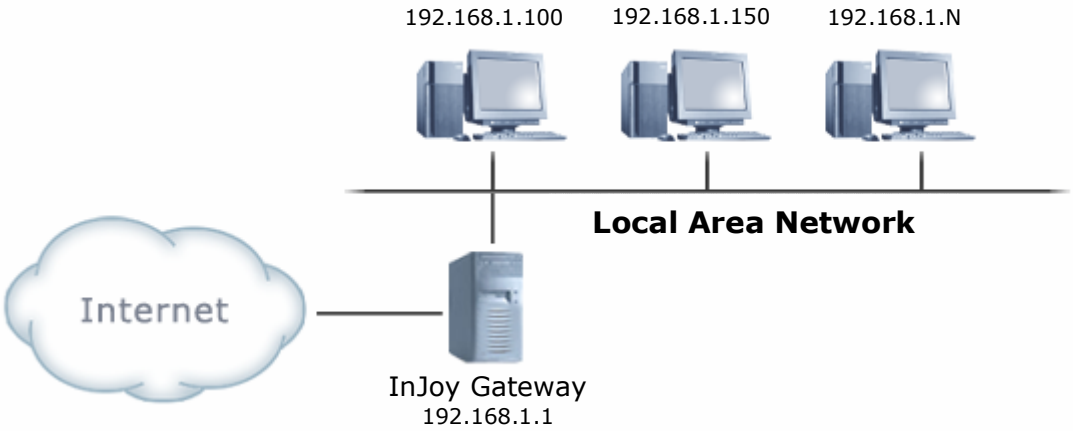
11.1.Internet Connection Sharing

NAT allows you to share the dial up based ISP connection. With it you can use InJoy as an Internet gateway for your entire LAN even though you have only one ISP account, one IP address and one modem.

The Internet sharing technique implemented by InJoy is known as Network Address Translation (NAT). NAT is a standard for Internet sharing, widely supported by the major firewall vendors such as Cisco, 3COM, IBM, Shiva. One major advantage of NAT, is that it operates beneath the routing layer, so expect InJoy to out-perform application layer proxies. Another advantage of NAT is that the work stations on your internal LAN get direct access to the Internet, without reconfiguration of network applications.

Here is how the IEFT working group describes NAT:
"IP V4 Network Address Translation (NAT) has become an increasingly common function in the Internet for a variety of reasons. NATs are used to interconnect a private network consisting of unregistered IP addresses with a global IP network using limited number of registered IP addresses. NATs are also used to avoid address renumbering in a private network when topology outside the private network changes for variety of reasons. And, there are many other applications of NAT operation."

The InJoy NAT component is NOT in itself a firewall, but by its very nature of operation, it does provide security for all LAN clients using it as their gateway (by disallowing all incoming TCP/IP connections). A typical network sharing is illustrated below:



Install InJoy on one computer and everyone can surf the net, get mail, read news, telnet and everything else, from any computer on the LAN, all at the same time!

All your normal TCP/IP applications will run. Below a list of some of those programs:

- Netscape, Internet Explorer, Opera, Mozilla, or any other web browser
- Any FTP client
- Any mail client (Outlook, Pine, PMMail, etc)
- News readers (Agent, Pan, etc)
- IRC (including DCC CHAT/DCC SEND/IDENTD)
- ICQ
- Napster (downloading)
- Trace Route
- Ping
- Cuseeme
- Telnet
- Gopher
- Servers will run only on the InJoy PC. Any other client running TCP or UDP protocol should be running. For servers on LAN clients, bring into play the InJoy Firewall Plugin with its Port Redirection feature.

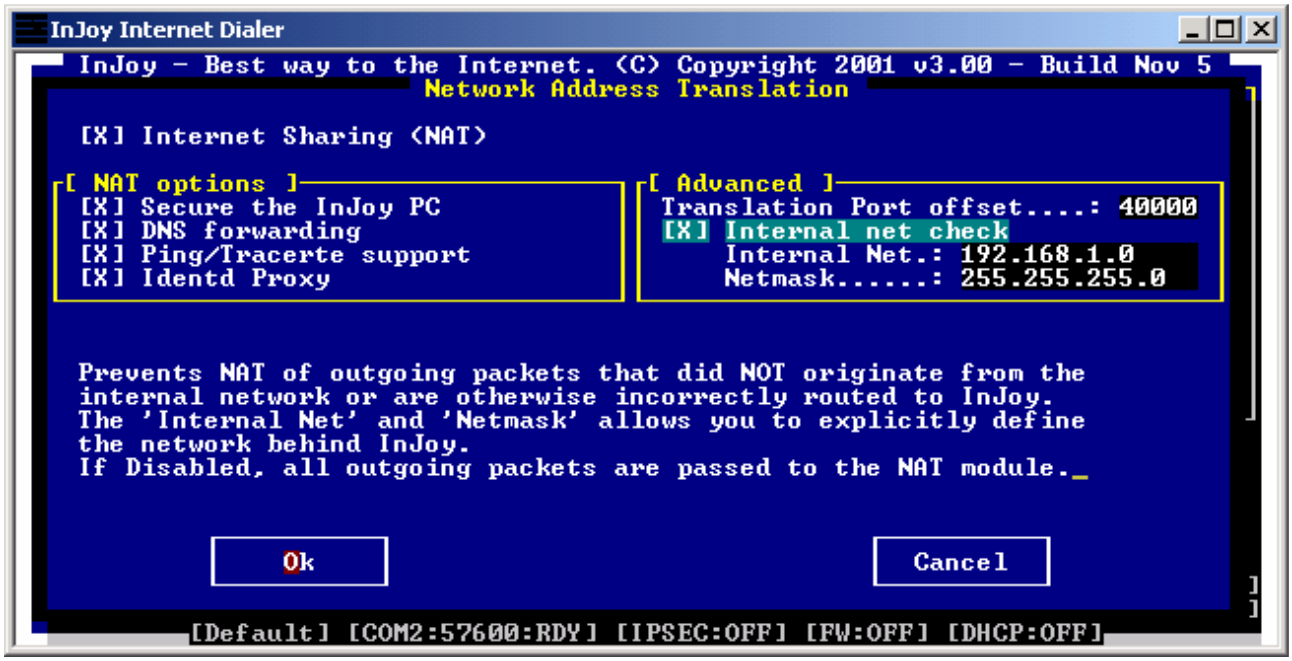
These applications will NOT run:

- Programs not running TCP or UDP protocol (except Ping & Trace Route) – Will run on the InJoy computer though.
- Netmeeting (InJoy support pending)
- Other Multi-media applications that aren’t firewall aware.

With InJoy's NAT your LAN has only one IP address. In other words, to other machines on the Internet your entire LAN appears as if it is only one machine. Consequently, when a user on your LAN sends data through InJoy to the Internet, each data packet's IP address must be changed from the individual user's LAN address to the single address 'seen' by the Internet. Similarly, incoming packets are changed so they can routed to the appropriate user on your LAN.

This process is a bit complicated, but luckily not very CPU/RAM consuming and as a user you should see nothing but a well functioning Internet connection.

NAT options:



The above dialogue shows the options available for NAT.

Internet Sharing (NAT)
This option toggles the use of NAT. Turn on this option if you want InJoy to act as a secure Internet Gateway for your internal network.

Secure the InJoy PC
Enable the securing of the InJoy PC to prevent any incoming connections to your InJoy PC.

If you run servers or tricky protocols that can't be translated by NAT, then one of your possibilities is to NOT "Secure the InJoy PC" and instead use that PC for completely transparent Internet access.

If security is a priority, then choose to "Secure the InJoy PC" and enable the Firewall plugin to explicitly define what IP traffic that may pass through.

Ping/Tracerte support
Enable to have InJoy's NAT provide special support for Ping and Trace Route. Traditional NAT does not provide support for ICMP based protocols, as ICMP (unlike TCP and UDP) does not use port numbers.

Ping and Tracerte support through NAT can cause forwarding of ICMP reply packets to other internal PC's than the original sender(s). While this does not affect general operation, the feature CAN pose a security risk and should be turned off in high-security setups.

DNS Forwarding

Time saving NAT feature that causes InJoy to act as an intermediary DNS server. DNS queries will be forwarded to the matching external DNS server, and responses will be passed back to the originating computer.

Without opening or listening on any socket, InJoy's DNS Forwarding transparently forwards the DNS requests destined for any of the following static IP addresses.

- 1.1.1.1
- 1.1.1.2
- 1.1.1.3

DNS requests initially destined for 1.1.1.1 are forwarded to the first external DNS server. Requests destined for 1.1.1.2 are forwarded to the secondly known DNS server and 1.1.1.3 to the third.

In the TCP/IP configuration of the internal work-stations, specify 1.1.1.1 as primary DNS server. InJoy knows the external DNS servers either from the values you filled into the setup or from the PPP negotiation with the ISP.

Enable DNS forwarding if you do not have a DNS server in your network and want InJoy to forward DNS requests to your ISP.

Identd Proxy
Identd is an authentication server (protocol) used to authenticate IRC clients. Standard NAT does NOT provide for incoming identd requests to pass through the gateway, so to allow authentication of internal IRC clients an ident daemon (identd) must be started on the Gateway PC. InJoy includes such an identd, capable of acting as a proxy for the other PCs on your private LAN.

Enable this flag to have the built-in identd automatically started. With the identd daemon running, incoming identd requests are first received by the built-in daemon and then forwarded to the appropriate LAN client. Notice, a possible identd (built into most IRC clients) running on your LAN client STILL gets to do the real authentication.

There can be only one identd daemon running on a single PC, so if you use our built-in identd, then you can't run another identd on the gateway PC. This means that our identd daemon must be fully capable of authenticating IRC clients running on the gateway PC and to provide this feature, you have the possibility to specify the 'UserID' to be used in this case.

Translation port offset
Specifies the offset used when translating the source ports of the TCP/IP packets. InJoy has to change these port numbers to be able to recognize reply packets and send them in the right direction.

Leaving the translation port offset at the default value is typically good, but some ISPs pose limitations on the port range available, in which case this option is the only solution.

Internal net check
Prevents NAT of outgoing packets that did NOT originate from the internal network or are otherwise incorrectly routed to InJoy. The 'Internal Net' and 'Netmask' allows you to explicitly define the network behind InJoy.

The most significant benefit of the internal net check, is to avoid having your NAT table (of internal work-stations) crowded with foreign IP addresses. It is not uncommon for badly configured ISP routers or poorly behaved TCP/IP applications to send or generate traffic that should never even have hit your network.

If Disabled, all outgoing packets are passed to the NAT module.

Internal net & netmask
The 'internal net' and 'netmask' together define the internal net. This example defines a class C network behind InJoy, ranging from 10.2.2.0 to 10.2.2.255.

Internal Net: 10.2.2.0
Netmask: 255.255.255.0

More information
Much more information is available in the FAQ, and here is a quick check list of what to remember when setting up NAT:

- Make sure your internal work-stations reference a working nameserver. Your ISP nameserver must be referenced in order for your LAN clients to be able to resolve symbolic host names!
- Make sure your LAN clients have the InJoy PC as their default route/gateway. This way InJoy gets packets not destined for your own network and can process them for the Internet.
- Turn on IP forwarding for the TCP/IP stack. This can be done by running 'ipgate on' at system start up or by setting the appropriate check box under route set up. In some Operating Systems, the IP forwarding option is hidden away, which is why InJoy ships with the IPGATE tool.

The InJoy Mail List can offer more help for making different setups work!

12 Disconnect Actions

12.1.Supplementary Robustness

To help build the ultimate dial-up station, InJoy makes available a set of actions that can be performed while InJoy is in the disconnected state (or hits the disconnected state).

The possible actions are split into two categories:

- Controlled InJoy exiting
- Peer Triggered Actions

The controlled exiting of InJoy allows you to have InJoy auto-exit when a certain condition is met. For instance, you can configure InJoy to exit at "Redial failure", thereby preventing or warning about a potentially serious situation. When InJoy exists, a shell script will typically take over and e.g. call the number of a pager or start InJoy back up with another ISP selection. The possibilities are unlimited and these simple features have often proved to be a deciding factor in setting up the perfect mission critical system.

Peer Triggered Actions enable InJoy to monitor the COM port and react to either a secret "trigger string" or a sudden connection (defined as CARRIER detect). The possible actions are limited to picking up on the call or calling the selected ISP.

Access the setup (shown below) by clicking on [...Disconnect actions] on the PPP or SLIP setup page:

12.2.Options for the Disconnected State

Exit InJoy at ...

These options are as simple as they look and they direct InJoy to exit when one or more of the defined conditions are met.

Before InJoy exits, it will put up a small warning and allow the operator to cancel the exiting. If no one is around to cancel, InJoy will exit to the Operating System shell.

Peer Triggered Actions

Monitor COM port
This setting instructs InJoy that it must pro-actively monitor the COM port in order to either detect the trigger string or DCD (Data Carrier Detect). DCD is the signal that indicates a functioning connection between two modems.

COM port monitoring requires the port to be left open at all times. To do that, click on the [Settings] button on InJoy's face, then on the [General options] button and enable "COM port always open?".

Trigger String & Delay
When an incoming call arrives in a modem, the local modem will send the word “RING” to the com port. The “RING” word is sometimes picked up by applications to update their state or to actually trigger the local modem to answer the call.

The “RING” word is the default string that InJoy will look for as a trigger string, any word can be put into this field. Note: other strings than “RING” will require the two involved modems to get fully connected.

Once InJoy sees the trigger string on the com port, it will wait for the amount of time specified in Delay, and then launch the clicked action.

Answer the call
Answers an incoming modem “RING” with "ATA". The resulting connection can be handled by InJoy's PPP server. This way of answering an incoming call should be seen as an alternative to “ATS0=1”.

Using the “Answer the call” option to serve incoming PPP calls, requires “Auto Answer” to be enabled in the “WAN DialIN Setup” dialogue. To disable the sending out of “ATS0=1”, the “Auto Answer String” should be emptied.

Call this ISP
Click this option to have InJoy connect itself to the selected ISP. InJoy will start this process when it sees the trigger and it will connect after having waited for the amount of time specified in the “Delay” field.

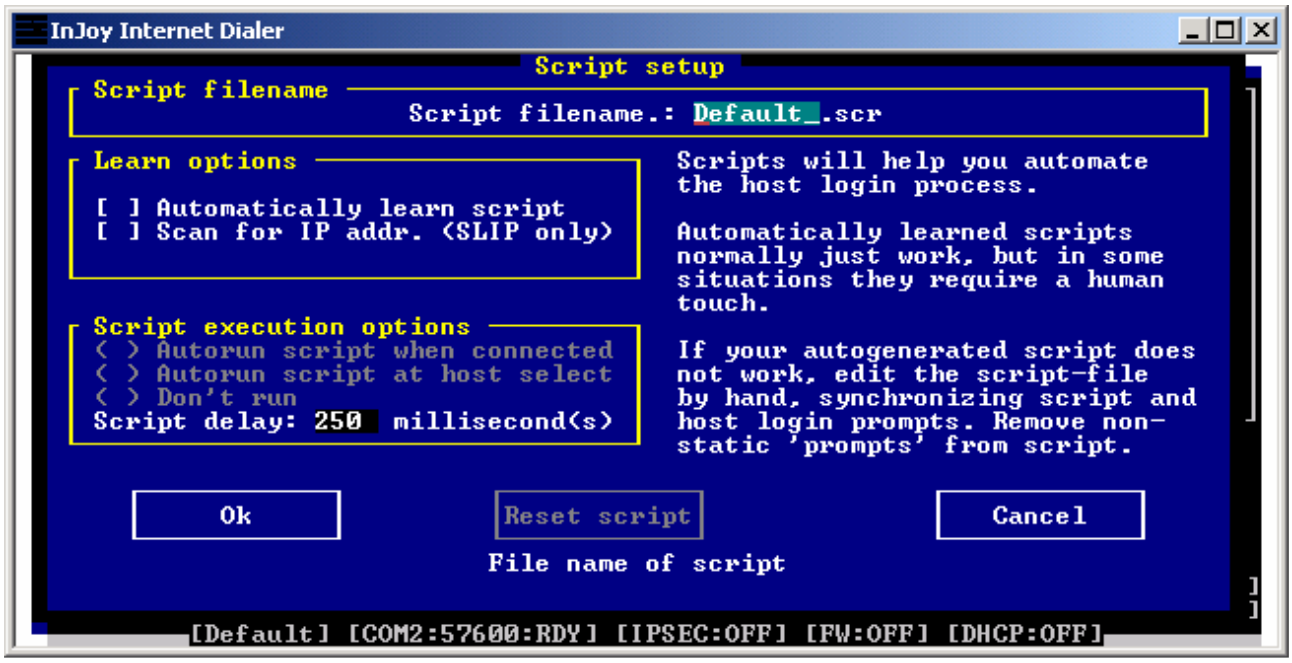
13 Script Setup

13.1.Simple and Effective

Prepared scripts take all the pain out of logging on your ISP's server by completely automating the entire process.

First, if your ISP has either PAP or CHAP you will probably NOT need a script. So, check out that option first. Just make sure PAP and CHAP are enabled on the PPP setup page and try a connection while the "Automatically learn script" check box is empty. If your UserID and password is accepted automatically and a connection is negotiated, you can skip this whole section.

And, if the first attempt fails, you still might be able to log on without a script by turning off CHAP.



Most of the options are self explanatory, let's look at what is not so obvious:

Script file name
Naming your script is simple, just be sure that you do not have two hosts with the same name for the first 8 characters. That is not illegal, but when creating new hosts you might accidentally overwrite a needed script when InJoy

automatically generates the new script based on the first 8 characters of the host's configuration name.

The above fact makes deleting, resetting and creating a script just a bit tricky, so take care.

Scan for IP addresses
Enable this option if you are running SLIP and need to grab the IP addresses from the text sent to you by the server.

The "Scan for IP addresses" is only used in connection with script learning. Found IP addresses are presented to you upon script learn completion and at that time you have to link the IP addresses found to match the "Your IP address" and "Gateway IP address" fields.

InJoy will insert two lines in the bottom of your script like shown below. One of them to find and identify "Your IP address" and one to identify "Gateway IP address".

```
RX: Welcome to SLIPNET
TX: \r
RX: Login:
TX: 200000000000\r
RX: Password:
TX: cataftermouse\r
RX: Interface going up!\r\n
GY: Your IP address is: [$YOUR_IP]
GD: My IP address is: [$DEST_IP]
```

Be sure that your script is waiting for data to arrive after the IP addresses. This gives InJoy a chance to scan the data received for the script, and is done in the above by the line:

```
RX: Interface going up!\r\n
```

It works because IP addresses are sent before the interface is reported as "going up", giving InJoy a chance to search the script input buffer for IP addresses.

Script delay
Script delay is a timer which sets how long InJoy waits between the execution of each line in the script.

Normally, since scripts wait for prompts after having sent something it is safe to set this value very low (even below the 200 in the "default" host) but, sometimes a critical timing situation may occur causing the modem to hang. In some cases the modem is no longer capable of even responding with an "OK" to an At command. In other cases the modem is not able to handle AT commands in a very fast sequence even though it has answered back with and "OK".

The bottom line is that 250 should work; less than that will improve performance if systems on both ends can support it; and, two seconds should give even the oldest (and slowest) hardware ample time to get the job done.

Notice that this value must be specified in milliseconds. (1000 milliseconds equals one second!)

14 Script Language

14.1.Roll Your Own

The script language is very simple and it includes the following commands:

```
TX: text to send
RX: text to expect
DE: milliseconds .. delay in milliseconds (1000 = 1 second)
PA: E71
PA: N81
GY: Here is your IP address: [$YOUR_IP]
GD: Here is the Gateway address: [$DEST_IP]
ID: Put up an interactive box, allowing input
IN: Put up an interactive box with default input, which allows input
PS: Put up an interactive box, allowing input (not echoed)
```

In order to specify Carriage Return and/or Line Feed in the scripts, you have to use the following escape characters:

```
\r - indicates a Carriage Return (0x0D).
\n - indicates a Line Feed (0x0A).
\\ - indicates just a normal backslash.
\! - indicates the character Escape (0x1b).
```

Check this simple sample of an average script:

```
RX: login:
TX: [$USERID]\r
RX: password:
TX: [$PASSWORD]\r
```

Check out this example to see how the scripts can be used (full sample):

```
DE: 2000
TX: \r
RX: login:
```

```
TX: [$USERID]\r
RX: password:
TX: [$PASSWORD]\r
RX: annex
TX: ppp\r
RX: Enter todays dynamic secret:
ID: Enter the secret!!!          ; Will show a box allowing user
                                 ; input... "Enter the secret"
                                 ; will be the user prompt!

IN: StaticPart                   ; Will show a user input box
                                 ; with the "StaticPart" already
                                 ; entered on the input line.
RX: Enter top secret admin password:
PS:                              ; Will show a box allowing a
                                 ; password to be entered non-
                                 ; echoed.. Keeping the format
                                 ; "PS: " is mandatory, so use an
                                 ; editor that preserves the
                                 ; space.
RX: Interface going up\r\n
GY: Your IP address is: [$YOUR_IP]; Grab the IP addresses from
GD: My IP address is: [$DEST_IP]  ; screen
```

The first line of this script waits for 2000 milliseconds (which is 2 seconds) and then continues to wait for the prompt "login:".

Upon receipt of that prompt it sends the special InJoy meta variable that includes the user ID you specified under the host setup.

You should also notice that a similar meta variable for the password also exists.

It is perfectly legal to start the script using any command. It is also allowable to specify the same command several times in a row, i.e. You don't have to wait for something between each send, and you don't have to start the script by waiting for something.

If you have InJoy auto-generate a script for you, the script file is saved when you press ESC to enter PPP packet mode.

You can modify the saved file, if you need to, using a text editor. For example you may wish to streamline the script which InJoy automatically created for you.

Some hosts require you to log in using 7 databits and EVEN parity (e.g. Compuserve). For that purpose you can use the 'PA: E71' directly in your script. To go back to 8 bit no parity use the
'PA: N81' verb.

Example of a Compuserve script below:

```
PA: E71
TX: \r
RX: ame:
TX: CIS\r
RX: ID:
TX: [$USERID]/GO:PPPCONNECT/NOINT\r
RX: ssword:
TX: [$PASSWORD]\r
RX: One
PA: N81
```

15 Saving Host Info

15.1.Default or Not?

After filling in all host information, you are returned to the SLIP/PPP setup screen where you may 'save' or 'save as default'.

Clicking on 'save' will cause the information entered in the various setup screens to be associated with the host name you selected as a first step.

'Save as default' does much more. It overwrites the information in the 'default host' as it existed when InJoy was distributed. Therefore, you may wish to initially use 'save host' until you have a proven workable setup.

Then, when you are ready to experiment with tweaking the various setting to improve performance, you may want to save a new setup you created as the 'default host'. Then, each newly created host begins with proven characteristics (and your password/ID/etc) and you only need change potential performance enhancing fields.

15.2.Data Files

InJoy saves your ISP profile (host) information into the following two files:

- DEFAULT.DAT
- ISP.DAT

The default host is saved into the default.dat file, while the rest of the ISP host definitions are saved into ISP.DAT.

16 Dialing

16.1.How InJoy Dials, and Why

InJoy was designed for two kinds of dialing. The easiest dialing mode is to let InJoy do the dialing and let PAP/CHAP take care of the ISP log in.

InJoy dialing

If you enable InJoy dialing (enabling "Let InJoy make the call" on the Communications setup page - refer to communication setup), InJoy will initialize the modem and then dial your host's number. To do that InJoy uses a special script with the following cycle:

- Try to initialize modem using initialization string 1 (if available)

Wait for a maximum # of seconds as specified by dial timeout.

- Try to initialize modem using initialization string 2 (if available)

Wait for a maximum # of seconds as specified by dial timeout.

- Try to dial the number (using primary phone number and dial prefix)

Wait for a maximum # of seconds as specified by dial timeout for any of these responses: CONNECT, ERROR, NO DIAL TONE, NO CARRIER, NO ANSWER, BUSY, FAIL, or OK.

These are the basics of the connect script, but InJoy also supports redialing, re-connecting and auto-dialing.

If dialing results in anything other than a CONNECT, InJoy checks the redial flag (found under communication setup) and proceeds with the selected phone numbers in the phone number list.

The modem is reset in between each redial attempt.

As dialing and scripting is somewhat connected, you will find that the timer found on the script setup page is also used for dialing. This timer specifies for how long InJoy will wait between executing each line of a script. In general it should be safe to have this timer set very low, as the scripts normally waits for something (e.g. an OK response from the modem) before continuing.

Terminal Mode dialing

Doing your call using Terminal mode is very simple. As with any other program providing a Terminal Mode, you issue AT commands directly to the modem.

When InJoy detects a connection (DCD – Data Carrier Detect), it will pop up a small window notifying you that you can press ESC to start PPP packet mode.

As with InJoy dialing, you can store the commands you give in a script, but the difference is that while using Terminal Mode you would normally prefer for your script to execute at the point of host selection (refer to script setup to see how that is done).

If you do not want to edit an auto-learned script, or if you want to overwrite a previous script, you can use ALT-L to start the auto-learning of a new script. When auto-learning a script, follow the instructions on the screen.

If you plan to use a NULL-MODEM for connection to a host, you will find Terminal Mode to be very useful as well.

General for both types of dialing methods

Regardless of how you choose to dial, you have the possibility of combining your dialing with the re-connect and auto-connect functions.

Re-connect hasn't got much to do with the dialing itself, it simply re-SELECTS your active host right after being disconnected (in an unprovoked manner, such as carrier drop, ISP dead, etc, etc).

Auto-dial hasn't got much to do with dialing either. It simply means that a special host should be auto-selected at start-up

When using either type of dialing, if InJoy is unable to open the port (for instance if the modem is in use by a fax or other comm program) it will return the message "Port open fail, retrying in 5 secs..." When the other program releases the modem, InJoy will dial.

Also, remember to check the latest InJoy FAQ for questions regarding dialing!

17 Connect.txt

17.1.Your IP Address, Instantly

When InJoy has established a successful connection, it immediately creates a file named CONNECT.TXT

This file includes characteristics about your current connection. The following is an example of the contents of a typical CONNECT.TXT file:

```
194.234.160.52
194.234.160.8
Host..........: AT&T
Modem connect.: CONNECT 57600
Line speed....: 57600 bps
```

This file reflects the current/latest InJoy Internet connection information.

YOUR local IP address and the GATEWAY IP address makes up the first two lines.

CONNECT.TXT is not a semaphore file, which means that it can't be reliably used to determine if you are connected at any moment. Other means are available for verifying the connection at any instant

18 Hanging Up

18.1.Several Ways to Say Good-bye

Normally, you should disconnect InJoy with either of these two ways:

- Click on the [Hang Up] button (or key ALT-H,) will drop DTR on the modem and thereby force a carrier drop. However, if you have disconnect troubles using this procedure, the following could be a problem solver for you:
- You can provoke a "graceful" PPP log off by pressing ALT-T (T to Terminate the session). Using the graceful logoff at any hangup attempt is also a toggle in the general setup.

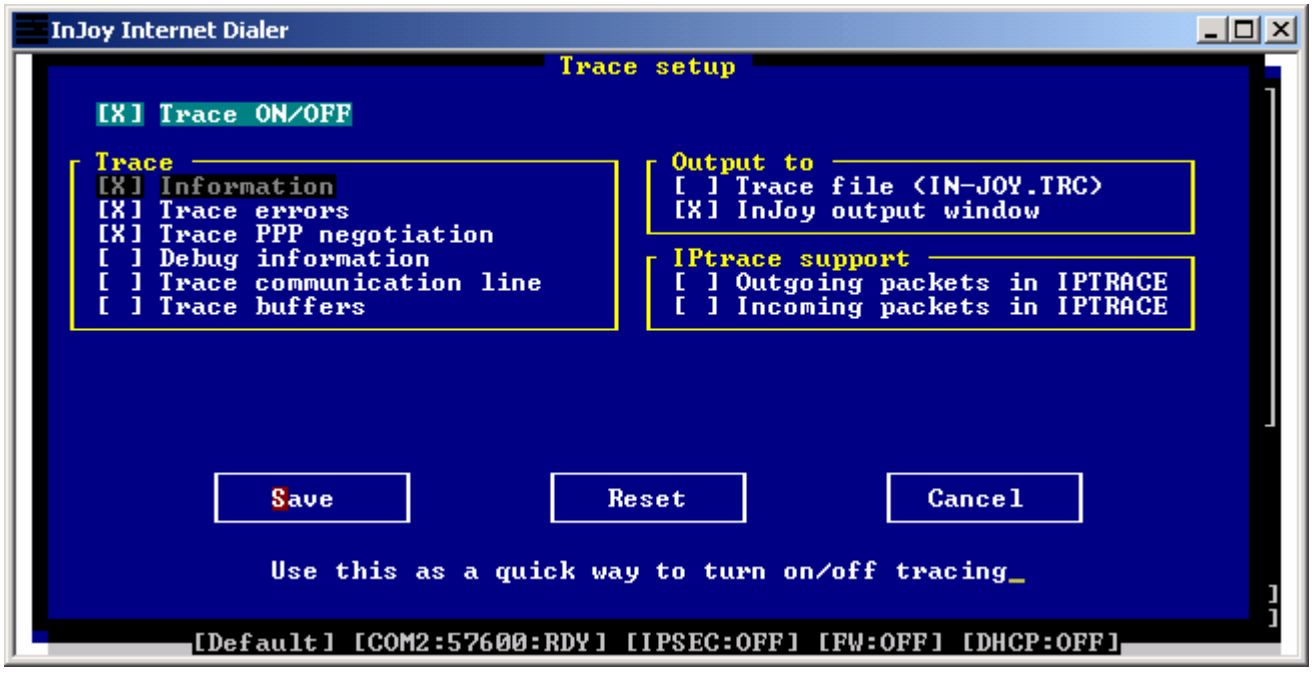
When necessary InJoy may also be forced to break the connection by running KillJoy (see below for more details) or by pressing CTRL-C / CTRL-BREAK.

After hanging up (with any of those methods), InJoy updates the connection log for the appropriate host. Even when the InJoy connection is terminated using KillJoy (see below) or CTRL-C / CTRL-BREAK, you should still get an entry in the connection log!

19 Tracing

19.1.Capturing Tech Data

To trace and monitor line activity, use the trace function. To setup tracing click on the [Settings] button on InJoy's opening screen, then click on the [Trace configuration] button, to reveal this screen:



Trace typically captures what you see in the output screen of InJoy to a file named in-joy.trc. Careful: Too much tracing will slow down InJoy considerably, and too little could keep important information from reaching your sharp eye!

Disabling the "output to->InJoy output window" allows trace data to be captured to file without the time/resource penalty of sending the same data to the screen.

When running in a stable environment, it is recommended to turn ON only "Trace PPP negotiation" and "Trace errors". at the most. For some users, even that will be an unneeded speed drain (however slight).

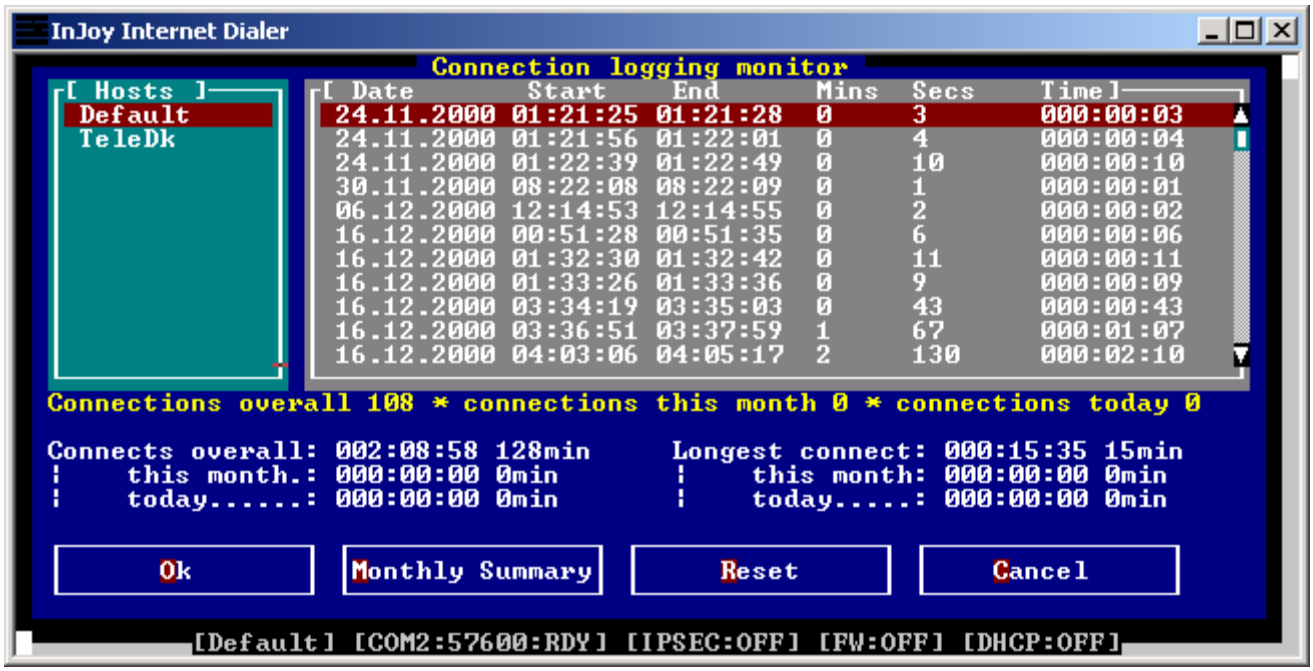
Note: The [Reset] button deletes the trace file!

20 Connection Log

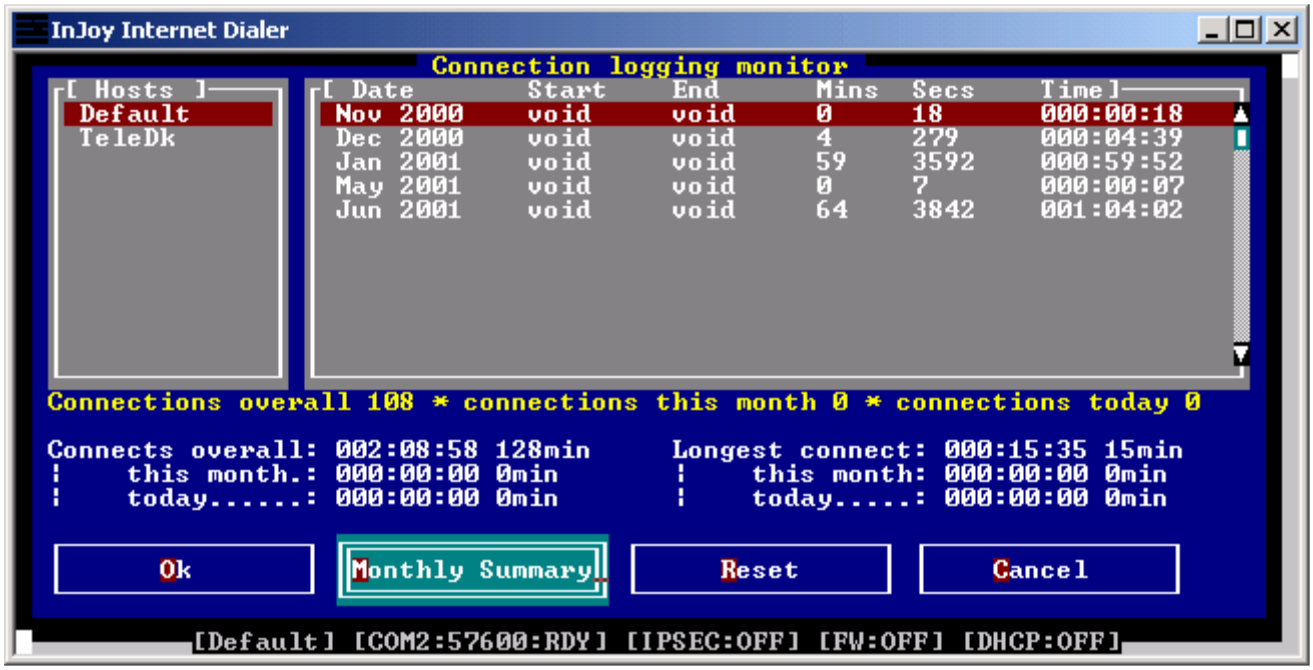
20.1.Statistics for the Connections

The connection log saves information on the connections you have had and how long they lasted.

Control and view the connection log by clicking on the [Settings] button on InJoy's opening screen, then click on the [Connection log] button. Finally, select the host whose log you wish to view and you will see the date, connection start and end time, whole number of minutes connected, total amount of seconds connected and in the last column the connection time in HHH:MM:SS notation.



InJoy will sum up the monthly connection time, when you click on the [Monthly Summary] button. Below you can see how each month for the selected host is displayed, with connection statistics.



To reset the connection log for the selected host, click on the [Reset] button. Note: The [Reset] button deletes the log file. If you need to save the data for any purpose (for example, business expense records) you must archive prior to using InJoy's reset feature.

At the bottom of the connection log screen the following is displayed:

Connections overall 61 * connections this month 61 * connections today 5

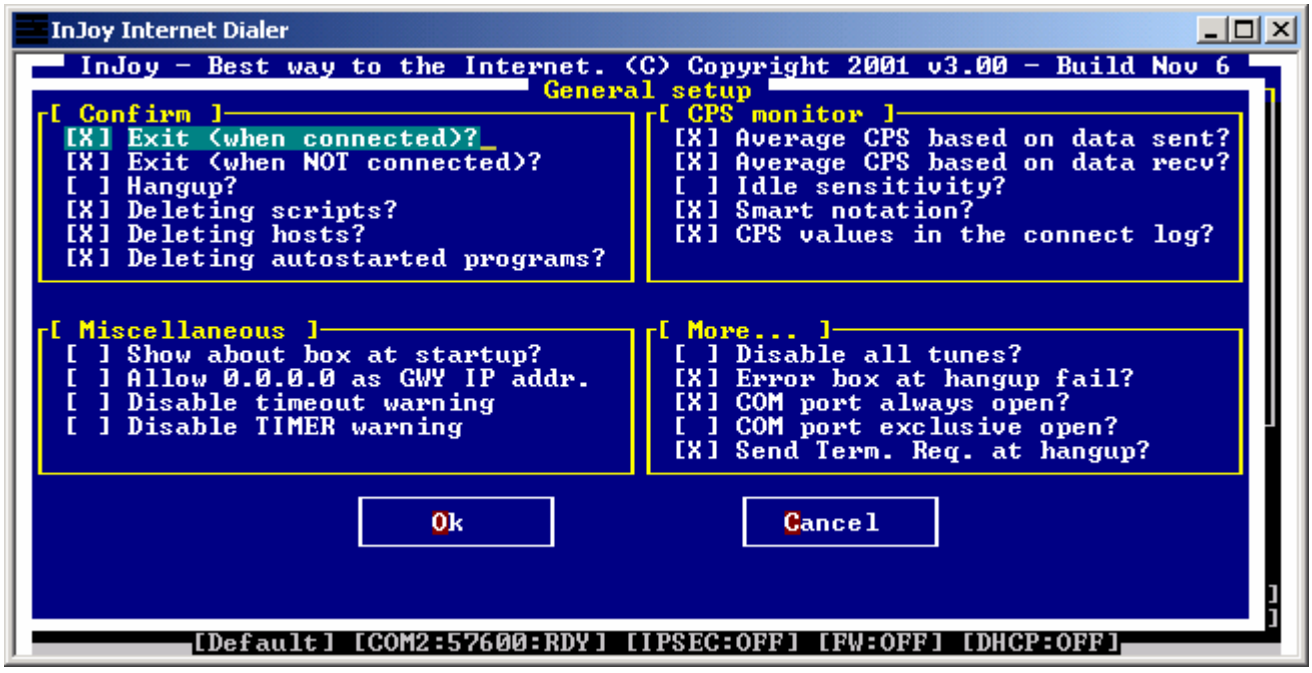
Followed by statistics showing the overall connect time, connect time this current month and connect time for the current day. The statistics conclude by presenting you the longest connections overall, for this month and today.

The displayed connection log can be viewed as a file. The files are in the InJoy directory and named “xxxxxxxx.log”, where “xxxxxxxx” will be some variation on a host name.

21 General Options

21.1.Flexibility

The general setup screen includes options for the general behavior of InJoy. Access it by clicking on the [Settings] on InJoy's opening screen, then click on the [General options] button.



Confirmation options

Flag the options to specify what actions you would like to confirm before being performed by InJoy.

Notice that regarding InJoy exit, the confirmation option here only has effect if you actually selected the [Exit] button, i.e not by pressing the ESC button!

Miscellaneous

Show about box at start-up
With the 'Show about box at startup' option you can select whether the about box with register and contact information should be shown at start-up.

Allow 0.0.0.0 as gateway IP address.

If enabled, will allow your ISP to the use of 0.0.0.0 as a gateway address.

In general this use is incorrect, but as the gateway address is generally not important for the routing, InJoy has this feature to let it pass.

Disable timeout/timer warning
Disabling the timeout and/or timer warnings will make sure that you are not disturbed with warnings in a scenario where you'd rather not see them. Use of Dial On Demand is a situation where timeout warnings can be a pain. Turning off the warnings silences warning sounds as well.

CPS monitor

Average CPS based on data sent?
Should outgoing data be included in the average CPS calculation?
If yes, enable this option.

Average CPS based on data received?
Should incoming data be included in the average CPS calculation?
If yes, enable this option.

Idle sensitivity?
Should line idle seconds have influence on the average CPS calculation?
If yes, enable this option.

Smart notation?
Will go from CPS (Characters Per Second) to thousands of CPS when number of characters go beyond 1K, and InJoy will continue to show MB CPS when number of bytes is above 1000K.

CPS values in the connect log?
Select this option to have the CPS statistics saved in the connection log for later viewing.

More . . .

Disable all tunes?
Checking this option kills all sounds during timeout warnings.

Error box at hang-up fail?
Enable this toggle to get an error-box if InJoy fails to hang-up the connection. If you experience that all the time, then it might be a good idea to turn of the warning.

Leased line will normally uses modems that keep the DCD high at all times. This means that InJoy will never be able to hang up such a line and that will give warnings when trying. Turning off the warning will help you avoid getting these warnings, stressing again, that InJoy is the perfect choice for almost any communication setup.

COM port always open?
This setting determines when the com port is opened and closed. Click the option to have the com port opened at startup and closed when InJoy terminates. The alternative is to open the com port only when needed.

If using Peer Triggered Actions or PPP dial-in, you must leave the COM port open.

COM port exclusive open?
A COM port may be shared, like a file, but not if it is opened in exclusive mode.

Send Termination Request at hangup
Prior to hanging up (by dropping DTR), InJoy can send a PPP protocol block to let the other end know of our intention to hang up. Using this approach is recommended.

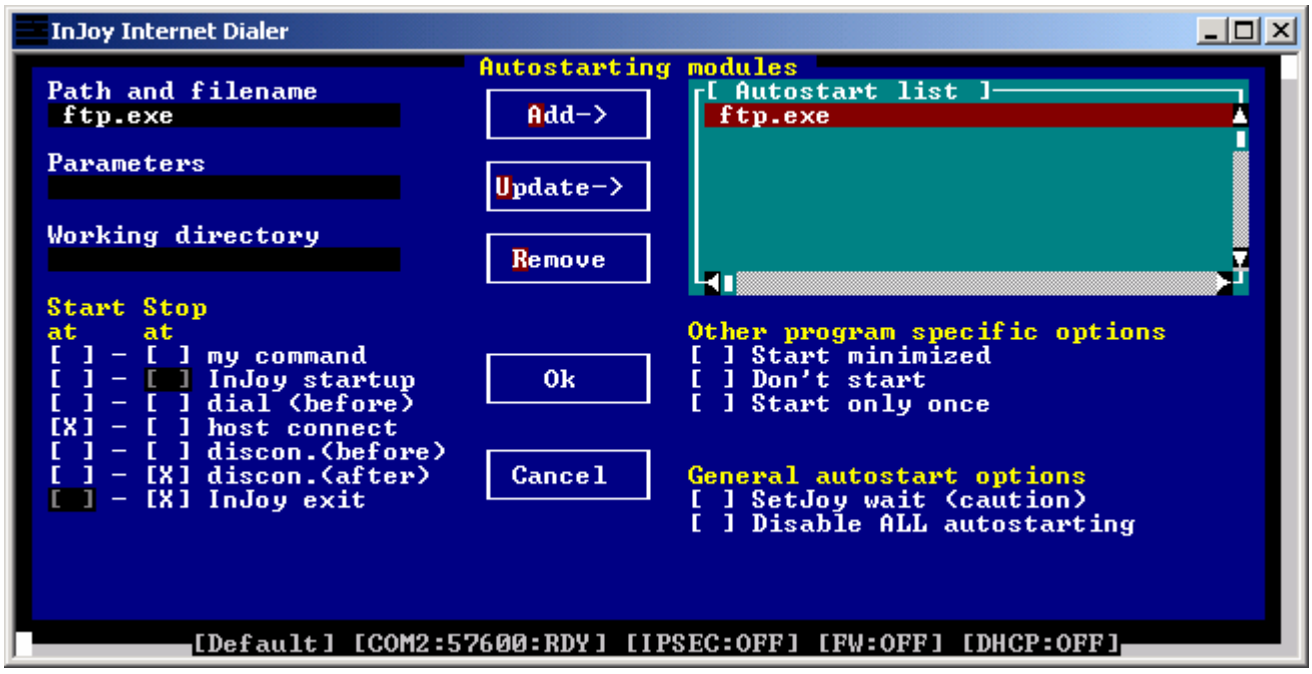
22 Autostarting Modules

22.1.Start and/or Stop

Auto-starting automatically starts or shutdowns applications, scripts or batch files at any of these times: InJoy startup/exit, dial, connection established/disconnected, or pressing F9/F10 keys.

NOTE: You may setup InJoy to autostart in two different ways by using the setup screens in two different places in InJoy. Settings accessed through the [Settings] button on the startup/operating screen operate with ALL hosts. Settings placed in the dialog accessed by clicking on the [Autostart per host] button on the Host setup page will operate only with THAT host.

The following screen-shot and instructions apply to autostarting either globally or for one host . . . so carefully choose WHERE you enter the setup dialog.



Path, file name, parameters and working directory must be set up as with any other program object in your Operating System.

The check boxes in the bottom half of the screen allow you to start or stop the applications listed in the 'Autostart list' in many different ways.

Most settings and uses are self-explanatory or fully covered by the on screen 'hints'. A few things that may need additional information are:

- If you do not need to start a listed program for some time, you don't have to delete it, just mark the "Don't start" check box.
- Starting programs minimized may not be possible for certain applications on certain platforms.
- For InJoy to be able to stop an auto-started program at any time, it must be able to stop it at InJoy's close. Therefore, to select program closure at my command, dial, connect OR disconnect the 'Stop at InJoy exit' block must be checked. For example: To auto-stop a program at host connect, you must place an X in BOTH the 'Stop at host connect' AND 'Stop at InJoy exit' blocks.
- To change the settings of any single application you MUST press the [Update->] button while the desired parameters are displayed for THAT item, prior to pressing the Ok button to close the dialog.

Use CAUTION when setting up a program to autostart with 'SetJoy wait'. 'SetJoy wait' causes InJoy to PAUSE until it receives a SetJoy proceed signal. Use this feature AT YOUR OWN RISK, incorrect set up may cause a connection to continue long after it should have ended.

However risky it might be, it is also a powerful and useful feature -- when used correctly: 'SetJoy wait' should ONLY be enabled when you want to autostart a program, script or batch file and have InJoy NOT continue and dial, or disconnect until allowed by running SetJoy with the /C switch. You may run the program from a command prompt, batch file or script in this format:

```
setjoy /C
```

23 Command Line Options

23.1.Customized Starts

To avoid creation of the default route when connecting InJoy, you will find the /D parameter useful - as below.

```
in-joy -D
```

You may launch InJoy and cause it to dial any predefined host simply by using that host's name as a command line argument. For example:

```
in-joy HostName
```

NOTE: The host name used IS case sensitive. You must enter it exactly as recorded in InJoy's [Host] listing.

Tip: You can use this technique in icon definitions and have several hosts you can 'click' to life from your desktop.

```
In-joy -X
```

Force InJoy to not update the title-bar. Updating the title bar on OS/2 requires that the PM workplace shell is used.

24 SetJoy

24.1.Connected Changes

SetJoy is a utility to change InJoy's operating characteristics while InJoy is loaded and running. SetJoy is used during specific autostart options to control shutdown timing (see "Auto-starting modules" section of this document for details). Additionally, SetJoy may be used to set the idle timeout and timer or force a disconnect.

SetJoy MUST be executed in the same directory as InJoy's executable. That means if you are running SetJoy from a script or .cmd file the script MUST change directory to the InJoy directory prior to calling or running SetJoy.

USAGE: SetJoy [<option>]

Where <option> is:

```
/H, /h or /?  - Display help

/C - for use with specific auto-starting options, see details in the 'Auto-
starting modules' section of this document.

/D - Disconnect the current connection, immediately

/O:<host name>  - Changes, and saves the /T or /I setting for the named host.
NOTE: The /O option (when used) must precede /T and /I

/O:* - modify every host and save the setting (default)
/O:# - modify the current host, and NOT save the change

/T:nnn (or t) - Set the Idle Timeout from 0 to 999 seconds

/I:nnn (or i) - Set the Timer from 0 to 999 minutes

/P:passw.     - Set the Password of host (use with /O param)

/U:userid.    - Set the Userid of host (use with /O param)

/CONNECT      - Connect InJoy (use with /O to cause a dial)
```

NOTE: Setting zero for either the Idle Timeout or Timer turns that feature off.

EXAMPLES:

```
setjoy /O:* /T:999
Sets and saves Idle Timeout of all host to 999 seconds


setjoy /I:120
Sets and saves Timer of all host to 120 minutes


setjoy /O:# /T:90
Sets the current active host's Idle Timeout to 90 seconds, for this session only.


setjoy /O:"TeleDK account" /T:30
Set and save the Idle Timeout of the host named <TeleDK account> to 30 seconds.
NOTE the " around host names which include spaces.


setjoy /O:Vestnet /I:0 /T:0
Turn off the Timer and Idle Timeout for the host named <Vestnet>, and save those
settings.


setjoy /O:Default /P:secret /U:me /CONNECT
Causes InJoy to dial and connect to the <Default> host passing a user ID of "me"
and a password of "secret"
```

25 KillJoy

25.1.The Ultimate Ending

KillJoy is a small utility program that will allow you to kill InJoy from the command line.

Killjoy may be run without parameters causing InJoy to die instantly (and thereby drop the possible modem connection.)

or

It can be run with the '-' parameter which causes it kill InJoy as soon as the modem connection is gone.

Refer to the disconnect actions for other means to disconnect InJoy.