



Printing with the EPL-N2000 for the Network Administrator

For Printing on the Multiprotocol Network:

- DOS Using Novell® NetWare® 2.x, 3.1x, and 4.x Print Server or Remote Printer**
- Windows® 3.1 Using Novell® NetWare® 2.x, 3.1x, and 4.x Print Server or Remote Printer**
- Windows® 95 Using MS IPX or MS TCP/IP**
- Windows® NT Using DLC, MS IPX, or TCP/IP**
- Macintosh® Using EtherTalk®**
- UNIX® Using lpd and ftp Commands**
- IBM® OS/2 LAN® Server Using NetBEUI and TCP/IP**

User's Guide

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FCC Compliance Statement For United States Users

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

WARNING

The connection of a non-shielded equipment interface cable to this equipment will invalidate the FCC Certification of this device and may cause interference levels which exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. If this equipment has more than one interface connector, do not leave cables connected to unused interfaces.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

For Canadian Users

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

For European Users

This product conforms to CE marking requirements in accordance with EC Directive 89/336/EEC.

WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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Introduction

The EPL-N2000 printer contains an Ethernet® card for use on your network. This manual covers information only about the Ethernet card that comes installed in the printer and the utility software that configures it for network printing. For information about the printer, see your printer user's guide.

Note:

This manual is written for network administrators, and many of the steps included here require detailed network knowledge and administrator rights.

The Ethernet card can connect directly anywhere on your network using a 10BASE2 or 10BASE-T cable. The card automatically selects the correct interface when it connects to the network. In addition, it supports IEEE 802.2, IEEE 802.3, and Ethernet II network protocols.

Because the Ethernet card supports multiple protocols and automatically detects the protocols on your network, you can print from DOS, Microsoft® Windows®, Apple® Macintosh®, UNIX, and IBM® OS/2 applications.

Use EPSON Net!, the utility software provided with your printer, to quickly and easily configure the Ethernet card to use protocols such as Novell® NetWare®, Microsoft IPX/SPX, Microsoft TCP/IP, EtherTalk®, and NetBIOS and TCP/IP for OS/2 Warp and Warp Connect.

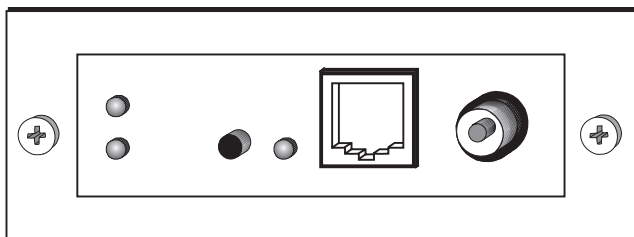
Note:

The EPSON Net! utility software only configures the Ethernet card to work with the protocols that exist on your network. This does not imply that you can use all of the above mentioned protocols in your network or operating system. The protocols that the Ethernet card can use may vary depending on the operating systems used and network configuration.

No special utility software is needed for the DLC transport protocol of Windows NT and the protocol of UNIX network. You can use OS-standard utility software tools.

Ethernet Card Hardware

The Ethernet card comes pre-installed in your printer. It has connectors for either an Ethernet Thin Coaxial (10BASE2) or an Ethernet Twisted-Pair (10BASE-T) network connection. The lights and buttons are provided to help you monitor and operate the Ethernet card. For more information about the hardware aspects of the card, see Chapter 1.



Ethernet Card Software

The utility software that comes with your printer includes the following programs used to configure the Ethernet card on a network:

- ❑ EPSON Net! for NetWare DOS is an easy-to-use, menu-driven utility program that runs in DOS. Use it to configure the Ethernet card for NetWare in DOS.
- ❑ EPSON Net! for Windows and EPSON Net! for Macintosh are easy-to-use, menu-driven utility programs that run in Windows and Macintosh respectively. Use the appropriate one to configure the Ethernet card for NetWare, TCP/IP (available only for Windows), and AppleTalk.

- ❑ EPSON Net! for OS/2 is a character based utility for installing on an OS/2 NetBIOS network.

Supported Network Protocols and Features

The Ethernet card supports the following network protocols and features. It cannot use protocols that are not available or are not installed in your operating system.

Novell NetWare in DOS, Windows 3.1, Windows 95, and Windows NT

- ❑ Supports IPX, SPX, and NCP protocols that are configured for NetWare 3.x and NetWare 4.x Bindery emulation mode.
- ❑ Uses Microsoft IPX with Windows 95 and Windows NT for NetWare.
- ❑ Provides the same functions as NetWare's PSERVER program in print server mode and RPRINTER in remote printer mode.
- ❑ Services up to 32 print queues on up to eight file servers in print server mode.
- ❑ It is easy to configure the Ethernet card for NetWare using EPSON Net! for NetWare DOS, EPSON Net! for Windows, or EPSON Net! for Macintosh. (EPSON Net! for Macintosh can not edit/configure NetWare print queues.)

TCP/IP in Windows

- ❑ Supports Microsoft TCP/IP in Windows NT.
- ❑ It is easy to configure and change the IP address and other settings with EPSON Net! for Windows.

Windows NT

- ❑ Supports the DLC protocol so that you can use the printer to emulate a Hewlett Packard® network printer.

AppleTalk

- ❑ Supports EtherTalk Phase I and Phase II communication.
- ❑ It is easy to set the AppleTalk zone, rename the printer, and change other settings with EPSON Net! for Macintosh or EPSON Net! for Windows.
- ❑ Works with optionally equipped EPSONScript (PostScript™) printers.

UNIX

- ❑ Supports most major commands, including lpr, ftp, and ping over TCP/IP.
- ❑ Requires no setup utility. The IP address is allocated by sending the arp and ping commands directly from the host computer.

OS/2

- ❑ Supports IBM OS/2 Warp and Warp Connect with or without NetBIOS and NetBIOS over TCP/IP.
- ❑ Provides installation with the EPSON Net! for OS/2 utility.

Operation Modes for Novell NetWare

If you are setting up the Ethernet card for use in a NetWare environment, you will need to determine whether you want to set it up in Print Server mode or Remote Printer mode. For more details, find the appropriate chapter for your operating system and read the NetWare section in that chapter. The factory default operating mode for the card in a NetWare environment is Print Server mode.

Note:

- ❑ *If you use the Ethernet card in a NetWare and WAN (Wide Area Network) environment and connecte it to a general phone line (including ISDN), the card may open the dial-up-router and apckets may be sent to the WAN. To avoid this problem and extra phone fees, mask the vendor code as shown below in the dial-up-router.*

Vendor code 00:00:48:xx:xx:xx

- ❑ *The factory default NetWare condition of the Ethernet card is disabled. You must configure the card with EPSON Net! to work on a NetWare network.*

Print Server mode

In Print Server mode, the Ethernet card performs all print server functions and can service up to 32 queues and eight file servers. No VAP (Value-Added Process) or NLM (NetWare Loadable Module[®]) is required. When you send a print job from your application, the file server assigns the print job to a print queue. When the corresponding printer is ready, the print server sends the print job to the printer.

The Ethernet card operates like any Novell NetWare print server, servicing the assigned queues in a round robin fashion. In queues of the same priority, the Ethernet card services the first job in a queue before those in a lower priority queue. The Ethernet card also supports encrypted passwords.

This mode provides the highest printing speed while retaining the control, security, and convenience of a NetWare print server.

Remote Printer mode

As a remote printer, the Ethernet card emulates a workstation running Novell's RPRINTER program, and operates under the control of a Novell NetWare print server. The print server can be either a dedicated workstation running PSERVER or a file server.

At power-up, the interface will attempt to attach to a print server (elsewhere on the network) and act as a particular printer of that print server. To do this, it needs to know which print server to attach to, and which printer of that print server to use. This is similar to the need to specify these parameters in the RPRINTER command line (or to interactively choose them from the RPRINTER program).

You can set up these parameters on the Ethernet card with the EPSON Net! utility. Once the Ethernet card is set up, it will store these settings, which means that you will normally only need to do this once at the time of installation. However, as with all Novell remote printers, the Ethernet card's print speed is slower in Remote Printer mode than in Print Server mode.

The main advantage of Remote Printer mode is that connection to a file server is not required, making this mode desirable in installations with limited available file server connections. Each NetWare print server can support up to 16 printers and requires only one file server connection.

About This Manual

This manual describes how to use EPSON Net!, the utility software provided with your printer, to configure the Ethernet card for network printing. You can also find instructions on using many operating system dependent utilities to configure the card.

The Introduction and Chapter 1 should be read first. Read these sections to get overall information about the Ethernet card hardware and software. The Appendix is for your reference.

For information about how to use the utility software in your operating system, refer to the appropriate chapter as follows:

- ❑ DOS: see Chapter 2 for information on EPSON Net! for NetWare DOS. This chapter describes how to configure the Ethernet card in DOS for Novell NetWare.
- ❑ Windows 3.1, Windows 95, and Windows NT: see Chapter 3 for information on EPSON Net! for Windows and configuration in Windows NT with DLC support. This chapter describes how to configure the Ethernet card in Windows to work with Novell NetWare, TCP/IP, and AppleTalk protocols.
- ❑ Macintosh: see Chapter 4 for information on EPSON Net! for Macintosh. This chapter describes how to configure the Ethernet card with a Macintosh to work with AppleTalk, TCP/IP, and Novell NetWare protocols.
- ❑ UNIX: see Chapter 5 for details about using several variations of UNIX. This chapter includes information about using UNIX with TCP/IP.
- ❑ OS/2: see Chapter 6 for details on using an OS/2 system and installing extra software.
- ❑ EPSON Status Monitor: Chapter 7 contains details on installing and using the EPSON Status Monitor utility. This utility is available for use on a network and requires Windows 95 or Windows NT 3.51.

Terms and Concepts

The following terms and concepts help you understand this manual.

A *configuration* is a prepared or set up condition of a device for proper operation. *Configuring* the Ethernet card is to set it up to work with protocols available on a network.

A *node address* is a set of numbers that gives a unique identity to any piece of equipment connected to a network.

A *file server* stores data required for the Ethernet card to operate as a print server.

A *print queue* is an area where a print job is stored as a file, until the print server sends the job to the assigned printer.

A *print server* moves jobs from print queues to printers.

A *remote printer* is a shared printer connected elsewhere on the network, but under the control of a NetWare print server. Traditionally, a remote printer is connected to a network workstation running NetWare's RPRINTER, but the Ethernet card can also function as a remote printer.

A *status sheet* prints each time the status sheet button of the Ethernet card is pushed. If the card is installed as a print server, the status sheet lists the configurations of the Ethernet card on each network.

EtherTalk is AppleTalk's communication protocol governing Ethernet transmissions.

A *print spooler* is an application that places print jobs or requests in a queue.

A *protocol* is a rule that controls how data or information is exchanged through a network. There are many different layers of protocols for different aspects of hardware and software operation. Computers and software cannot communicate with each other using different protocols.

TCP/IP (Transmission Control Protocol/Internet Protocol) is a layer of protocols that provides communications between nodes on a network.

ftp is a TCP/IP application protocol for file transfer.

lpd is a TCP/IP remote printing protocol application.

This chapter explains how to connect the Ethernet card to the network and how to operate the card.

Connecting the Ethernet Card to the Network

You must physically connect the Ethernet card to the network using either a 10BASE-T or 10BASE2 network cable.

You should leave the printer or leaving the printer set to auto interface mode (default), which automatically switches modes to match the type of interface being used.

Initialization of the Ethernet Card

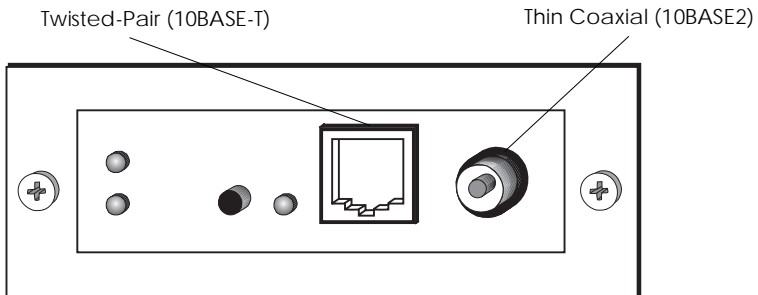
The first time you use the Ethernet card, turn on the printer while pressing and holding down the status sheet button for about three seconds. The Ethernet card initialize. For the location of the status sheet button, refer to the page 1-3.

Connecting via the Ethernet interface

Attach the network cable to the appropriate connector on the Ethernet card interface as shown in the diagram below. Your printer package contains a coaxial Y-connector for a 10BASE2 network interface connection. You must connect the Ethernet card in your printer to the network and select the Ethernet interface for network connection.

Note:

The Ethernet card plate, shown below, is located on the back of your printer.



Caution:

Do not attach more than one cable at a time.

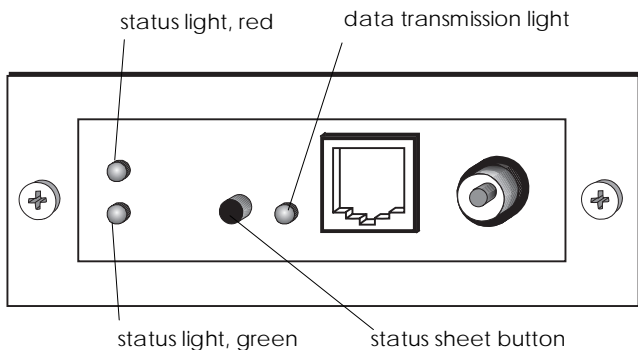
Making the interface connection setting

Because your printer is set to the auto interface mode by default, you do not have to make the interface connection setting. This allows you to connect the Ethernet card to the network using either a 10BASE-T or 10BASE2 network cable.

To learn more about the interface connection setting, see the section on SelecType settings in your printer user's guide.

Ethernet Card Operation

The LED lights and the button can provide you with important information about the operation and configuration of the Ethernet card.



Lights

The Ethernet card has three LEDs (1 red and 2 green) that indicate the current operating status of the Ethernet card when you first turn on the printer, during normal operation, and when errors occur.

Status lights

Here is a brief explanation of the two status lights:

Red	Green	Status
Blink simultaneously		Initializing status at power on or reset
Blink alternately		Recognizing the network at connection
Off	On	Normal ready status
On	On	Error status

Data transmission light

When the Ethernet card receives a data packet, it automatically recognizes the protocol of the packet and switches to that protocol mode. When the card sends data, the green data transmission light blinks.

Printing status sheets

Before you start configuring the Ethernet card, be sure to press the status sheet button on the Ethernet card to print important information such as current configuration, serial number, and the address of the Ethernet card. You will need this information to configure the Ethernet card.

You can print a status sheet after the printer is turned on and has completed its initialization. The status sheet will not print when the printer has started printing, when it is off line, or when it is not ready to print.

Note:

If the printer does not print the status sheet, first make sure that the printer is on line and no print jobs are processing, then wait one minute. If it still does not print the status sheet, turn it off, wait at least five seconds, and then turn it on again.



Caution:

After turning off the power, wait at least five seconds before turning it back on; otherwise you may damage the printer.

Resetting the Ethernet card

When you turn on the printer, the Ethernet card initializes automatically. If an error occurs with the Ethernet card, reset it. You can reset the Ethernet card in the following ways:

- Switching the Ethernet card-equipped printer off and back on again.



Caution:

After turning off the power, wait at least five seconds before turning it back on; otherwise you may damage the printer.

- Using the reset function or buffer clearing operation from the control panel of your printer.

If you turn on the printer while pressing the status sheet button on the card, all configuration settings are reset to the factory default settings.

Note:

If your printer has an EPSONScript (PostScript) level 2 module installed, allow a minute for the printer to initialize before trying to configure the Ethernet card on the network. The Ethernet card may not respond if initialization has not been completed.

Chapter 2

Using DOS

This chapter describes how to configure the Ethernet card with EPSON Net! for NetWare DOS to operate with Novell NetWare. If you use DOS as your operating system, you need to use this utility program to configure the card.

Before configuring the Ethernet card, make sure of the following points:

- ❑ Has Novell NetWare been set up to provide print services on the network? For details about setup, see your Novell NetWare documentation.
- ❑ Will you use the card as a dedicated print server, remote printer, or mix of these two modes using the Ethernet card's Auto Print Server/Remote Printer mode? See the appropriate section in this chapter for more information.
- ❑ Has the printer been set up with the Ethernet card connected to the network, and has it been turned on? For details, see Chapter 1 in this manual and your printer user's guide.

Installing EPSON Net! for NetWare DOS

EPSON Net! for NetWare DOS is EPSON's proprietary network printer management utility program. Follow these steps to install it.

1. At a workstation with a high-density disk drive, insert the EPSON Net! for NetWare DOS disk in drive A (or B).
2. Use the DOS COPY command (*copy a:filename.**) to copy the following files to a network directory or to your hard drive:

EPNWDE.EXE
EPNWDE.DAT

Note:

- To configure the Ethernet card with EPSON Net! for NetWare DOS, you must first log in to the NetWare network with supervisor privileges.*
- This utility requires a minimum of 480 KB of conventional memory.*

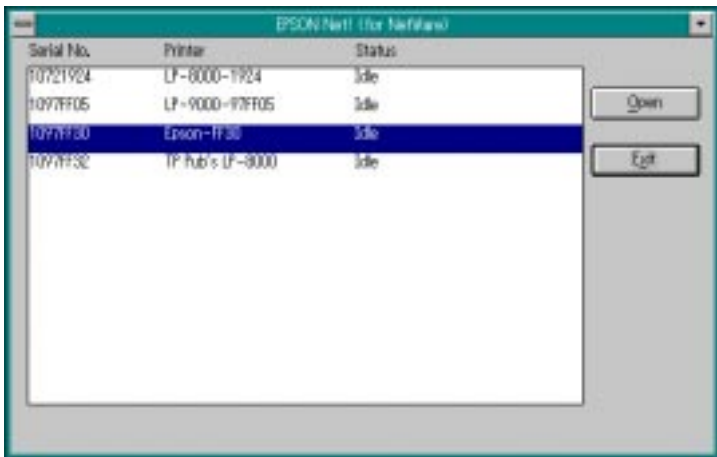
Using the Ethernet Card in Print Server Mode

The Ethernet card is set to Print Server mode by default, so you don't have to make any special settings to use it in this mode. However, you must assign print queues on a file server or multiple file servers to the Ethernet card. See the following sections for instructions.

Assigning print queues on a file server

To set up queues on a file server while the card is in print server mode, follow the steps below:

1. Log in to the network with supervisor privileges.
2. Run EPSON Net! for NetWare DOS.
3. After searching the network, the following dialog box appears. Highlight the printer you want to configure from the list and then click Open.



4. In the NetWare Status dialog box, click Edit to configure the printer.

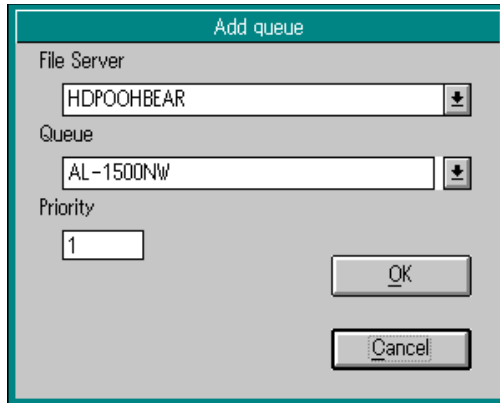


5. The NetWare config dialog box appears. Make sure the Print Server radio button is selected as shown below.



6. The default printer name appears in the Print Server name box. If you want to rename the printer, simply type the new name into the box.

7. To assign a print queue to your print server, click Add. The Add queue dialog box appears and shows the queues that are available to the file server.



Note:

If you want to set up queues on multiple file servers, see the next section.

8. Select a print queue from the Queue drop-down list, or create a new queue by typing its name in the Queue box.
9. Set the priority level from the Priority box. The available options are from 1 to 10, with 1 having the highest priority.
10. Click OK.
11. Repeat steps 7 through 10 if you want to add additional print queues to the print server.
12. To save your settings, click Save.



Caution:

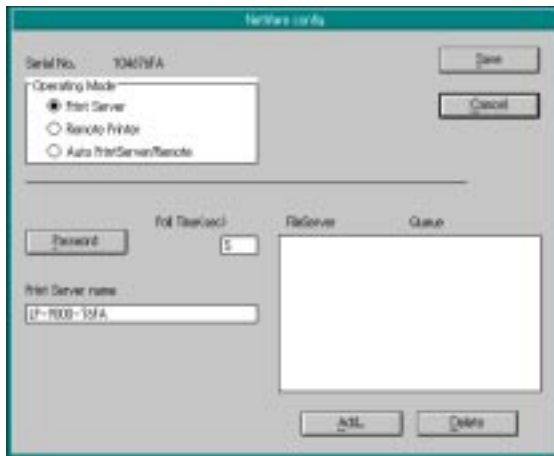
Once you make changes to the Ethernet card, you must wait for at least five minutes before turning off or rebooting your printer.

Assigning print queues on multiple file servers

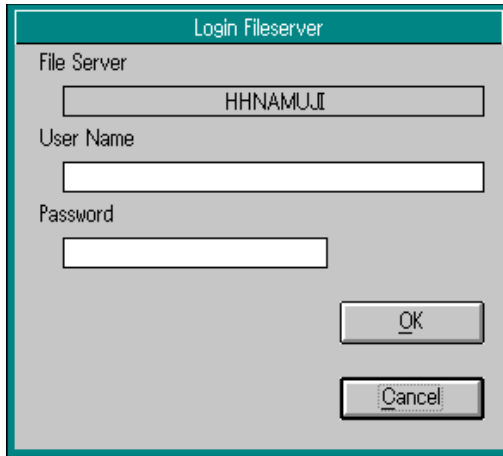
The Ethernet card can service up to 32 queues and eight file servers in print server mode. The EPSON Net! for NetWare DOS utility allows you to configure print queues on multiple file servers. However, you must have supervisor privileges and the correct password for each file server.

Follow these steps to configure multiple file servers:

1. Access the NetWare config dialog box, and click Add.



2. Select the file server you want to attach to the printer from the File Server list. If you have not already logged in to the selected file server, the Login Fileserver dialog box appears.



The image shows a dialog box titled "Login Fileserver". It has a light gray background and a dark teal border. Inside the dialog, there are three input fields stacked vertically. The first field is labeled "File Server" and contains the text "HHNAMUJI". The second field is labeled "User Name" and is empty. The third field is labeled "Password" and is empty. At the bottom right of the dialog, there are two buttons: "OK" and "Cancel".

3. Type a user name with supervisor privileges and the password; then click OK.
4. Select the file server you want to attach to the printer and then select a print queue from the Queue list box, or create a new queue by typing a name in the box. Next, click OK.
5. Repeat steps 1 through 4 if you wish to attach additional file servers to the printer.
6. To save your settings and exit EPSON Net! for NetWare DOS, click OK and then click Save in the NetWare config dialog box.
7. To delete a queue, highlight the queue in the NetWare config dialog box and then press Delete. At the prompt, click OK.

Changing the configuration in Print Server mode

In Print Server mode, you can use EPSON Net! for NetWare DOS to do the following:

- Rename the print server
- Set a password
- Set the queue polling time

Before editing the Ethernet card configuration, you must first log in to the network with supervisor privileges.

Renaming the print server

Always use EPSON Net! for NetWare DOS to rename the print servername in the Ethernet card. PCONSOLE can not change the print server name in the Ethernet card.

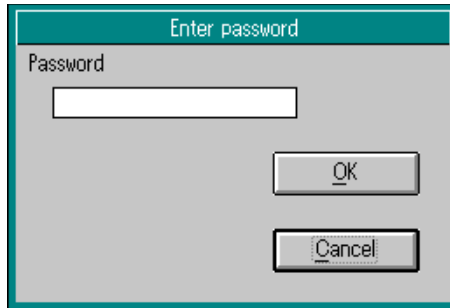
1. Access the NetWare config dialog box, and type the new print server name in the Print Server name box. You can type up to 32 characters. The following characters are not allowed: Ctrl / \ ; , * | + = [] " and space. A period (.) is allowed if it is not the first character.
2. Click Save.

Setting the password

A password is required to connect to a restricted file server, EPSON Net! for NetWare DOS can set the password, also make the encrypted password.

To make the password, follow these steps:

1. From the NetWare config dialog box, click Password. The following dialog box appears:



2. Type the same password that you used to log in to the file server and click OK.



Caution:

Once you make changes to the Ethernet card, you must wait for at least five minutes before turning off or rebooting your printer.

Setting the queue polling time interval

Use EPSON Net! for NetWare DOS to change the interval at which the parallel port(s) check queues for waiting print jobs. To reduce network traffic, you can change the polling interval from 1 second up to 90 seconds. The factory default setting is 5 seconds.

1. From the NetWare config dialog, enter a value in seconds, from 1 to 90 in the Poll Time (sec) box.
2. Click Save to save your setting changes.



Caution:

Once you make changes to the Ethernet card, you must wait for at least five minutes before turning off or rebooting your printer.

Using the Ethernet Card in Remote Printer Mode

Before using an Ethernet card as a remote printer, you must define it using PCONSOLE on any Novell print server. When defined, the remote printer may have its printer port defined, such as LPT1 or COM2. However, to maintain compatibility, you should define a remote printer as LPT1.

Defining the Ethernet card in NetWare

Before using EPSON Net! for NetWare DOS to install the Ethernet card as a remote printer, you must do the following:

1. From any NetWare workstation, log in to the network with supervisor privileges.

Note:

If you use NetWare 4.x, menu screens will differ slightly and Bindery Emulation has to be selected. Press F4 to switch between Directory Services and Bindery Emulation.

2. Type PCONSOLE at the DOS prompt.
3. From the Available Options screen, select Print Server Information. Next, select the print server name from the Print Servers list and press Enter.
4. From the Print Server Information list, select Print Server Configuration and press Enter.
5. Select Printer Configuration from the menu and then press Enter.

6. From the Configured Printers list, highlight a port number and press Enter.
7. From the Printer Configuration screen, select the name of your printer. Then, highlight the Printer Type and select Remote LPT1.
8. Press Esc; then press Enter to save changes.
9. Select Queues Serviced by Printer from the Print Server Configuration menu and assign a queue to the print server port from the Available Queues list.
10. Press Esc to exit.

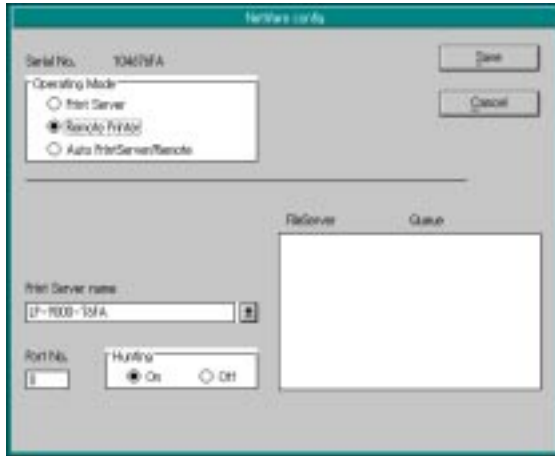
Configuring the Ethernet card as a remote printer

Once you change the Operating Mode option to Remote Printer mode, you can also change the printer port assignment in Remote Printer mode using EPSON Net! for NetWare DOS.

To change the Operating mode to Remote Printer and select a printer to configure, read the following:

1. Run EPSON Net! for NetWare DOS.
2. Select the printer you wish to configure, and click Open.
3. Click Edit to open the NetWare config dialog box.

4. Make sure the Operating Mode is set to Remote Printer.



5. Click on the printer you want to configure from the Print Server name drop-down list or type a new name for the printer.
6. Click Save to save your changes.

See the next sections to change the port number and enable or disable Hunting.

Changing the port number

Use EPSON Net! for NetWare DOS to change the parallel port number for the remote printer as follows:

1. In the NetWare config dialog, type number for any available port in the Port No. box. The available settings for Novell NetWare versions 3.x and below are from 0 to 15. For NetWare 4.x and higher, the available settings are from 0 to 254.
2. Click Save to save the port setting.

Enabling/disabling Hunting

You can use EPSON Net! for NetWare DOS to turn the Ethernet card's Hunting feature on or off. When Hunting is on, the interface card connects to the first available unassigned active port. This feature is useful if the Novell print server has many printer ports. To change this setting, follow these steps:

1. In the NetWare config dialog, click **On** under **Hunting** to enable the function. The default setting is **Off**.
2. Click **Save** to save the setting.

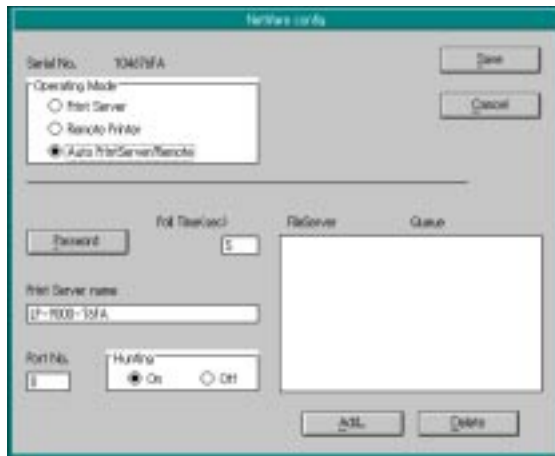
Using the Ethernet Card in Auto Print Server/Remote Printer Mode

When you use EPSON Net! for NetWare DOS, you can configure the Ethernet card to use Auto Print Server/Remote Printer mode. In this mode, the Ethernet card provides automatic switching between print server and remote printer operation, depending on network conditions.

If the Ethernet card is in Auto Print Server/Remote Printer mode and has the same name as the main Novell print server on your network, it detects the presence of the print server and operates as a remote printer. This way if your primary print server becomes unavailable, the Ethernet card automatically switches modes to provide print server backup.

To use the Ethernet card in Auto Print Server/Remote Printer mode, you must configure it for both print server and remote printer operation. For information on changing the various print server and remote printer settings, see the appropriate sections earlier in this chapter. To select the Auto Print Server/Remote Printer mode, follow these steps:

1. First make sure the host printer is turned on and the interface is connected to the network.
2. Log in to the selected file server with supervisor privileges.
3. Run EPSON Net! for NetWare DOS.
4. Select the printer you wish to configure and click Open.
5. Click Edit to open the NetWare config dialog box.
6. Click the Auto PrintServer/Remote option button under Operating Mode to select auto switching mode.



Using Windows

This chapter describes how to configure the Ethernet card with EPSON Net! for Windows to operate with the multiple protocols on the network. It also describes printing in Windows NT with DLC support.

EPSON Net! for Windows can configure the card for NetWare, AppleTalk, or TCP/IP. Also you can use NetWare and TCP/IP in Windows to configure the Ethernet card.

Note:

The EPSON Net! utility software only configures the Ethernet card to work with specific protocols that may exist on your network. This does not imply that you can use all of the above mentioned protocols in your network or operating system. The protocols that the Ethernet card can use may vary depending on the operating systems used and network configuration.

Before you start configuring the Ethernet card, make sure of the following points:

- ❑ To use Novell NetWare for Windows 3.1, Windows 95, or Windows NT, you must set up print services on the network. For details about setup, see the Novell NetWare documentation.
- ❑ Decide whether you want to use the Ethernet card as a dedicated print server or remote printer under Novell NetWare. See the appropriate section in this chapter.

- ❑ To use TCP/IP with Windows NT, you must install TCP/IP on the network. For details, see your operating system documentation.
- ❑ If you use Windows NT, decide whether you want to use the Ethernet card with DLC support. For details, see the appropriate section in this chapter.

Installing EPSON Net! for Windows

To install EPSON Net! for Windows, follow these steps:

1. Make sure Windows is running, the Ethernet card is connected to the network, and the printer is turned on.
2. Insert the EPSON Net! for Windows disk in drive A (or B).
3. Choose Run from the File menu in Windows 3.1 or Windows NT, or choose Run from the Start menu in Windows 95.
4. Type a:install.exe (or b:install.exe) and click OK.
5. Follow the instructions on the screen.

After installation is complete, EPSON Net! for Windows appears in the EPSON Net! group or folder.

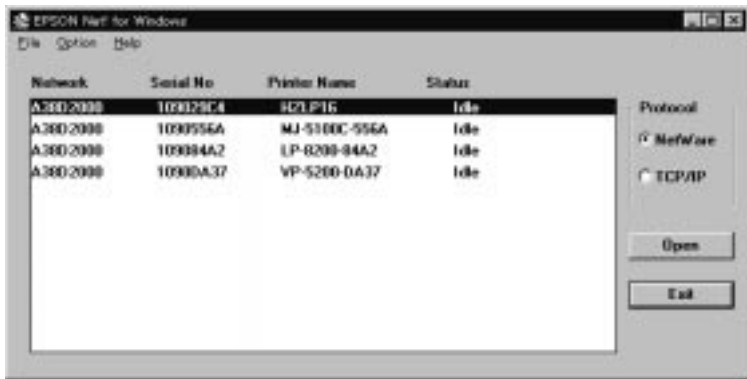
Monitoring the Printers on Your Network

You can monitor the printers connected to your network according to the protocol they use, and you can also check their status.

Selecting the network protocol via the Summary dialog box

Follow these steps to open the Summary dialog box and check the available printers and their status:

1. Open the EPSON Net! for Windows folder or program group and double-click the EPSON Net! icon. The following screen appears:



2. Click NetWare or TCP/IP in the Summary dialog box.

Note:

- Some buttons may be dimmed, meaning they are disabled, because EPSON Net! for Windows can not use those protocols with your system.*
- If you are using Windows 3.1, you can only click NetWare.*

The list that appears shows the printers on the network that use the selected protocol, the serial number of all Ethernet cards, the printer names, and the current status of the printers.

3. To exit EPSON Net! for Windows, click Exit.

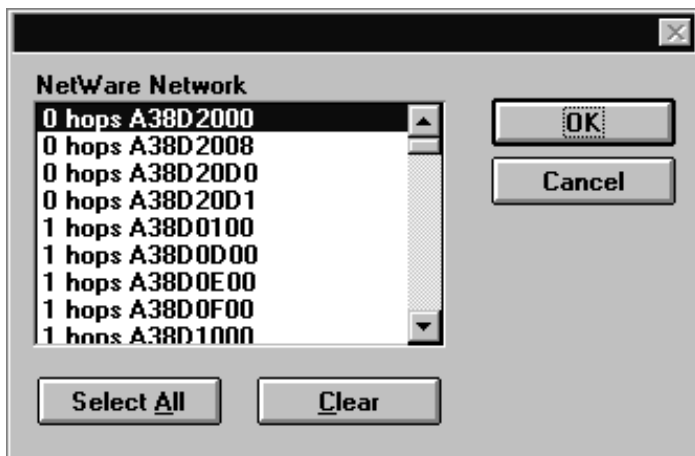
Checking printer status

To check a printer's status, you need to open the Summary dialog box in EPSON Net! and select a network protocol as described in the previous section. Then select Network from the Option menu.

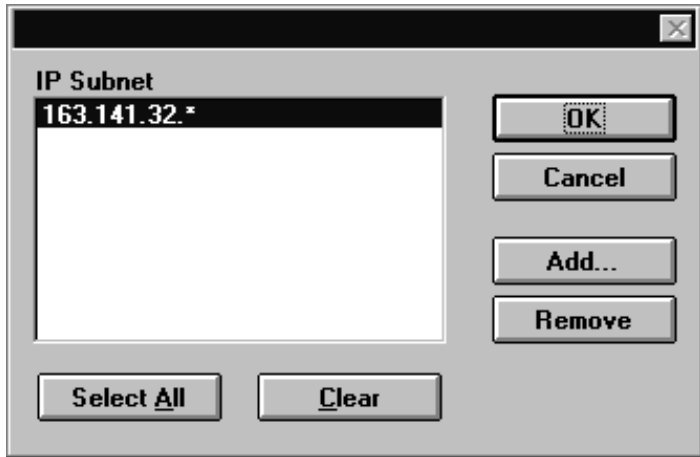
Note:

You need to select the address for the EPL-N2000 in the Summary dialog box to find and configure the Ethernet card.

- ❑ If you selected NetWare as the protocol in the previous section, EPSON Net! for Windows searches up to seven hops for available NetWare addresses.



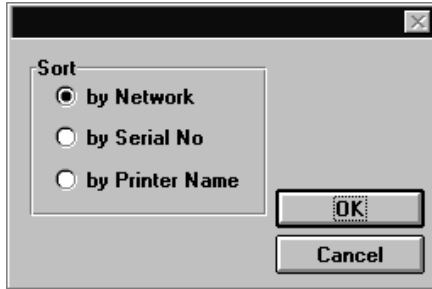
- ❑ If you selected TCP/IP as the protocol in the previous section, EPSON Net! for Windows searches the network for all IP subnet addresses.



Click any address or click **Select All** and click **OK**. EPSON Net! for Windows sends a find packet to all selected addresses and detects the current status of those items. If open, the Summary dialog box will show the latest information about the printers connected at the selected addresses.

Sorting the printers

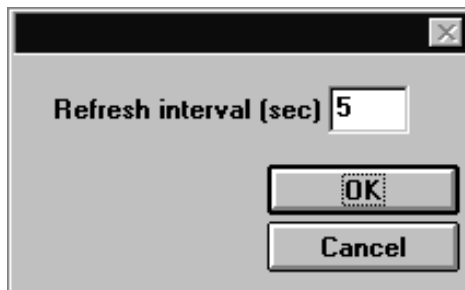
If you need to sort the printers listed in the Summary dialog box, choose Sort from the Option menu.



Click any of the sort options and click OK. The Summary dialog box shows the printers sorted by the selected option.

Setting the refresh interval

You can set the refresh interval (factory default 5 seconds) for the Summary dialog box. The Summary dialog box monitors the printers by polling the network at the specified intervals. Choose Preferences from the Option menu and type any value from 1 to 99 (seconds) in the box, and then click OK. Monitoring the printer may increase network traffic. The default value or more higher is recommended.



Configuring the Ethernet Card for Novell NetWare

To use the printer on a Novell NetWare network, you need to configure the Ethernet card for NetWare.

With EPSON Net! for Windows, you can configure the Ethernet card in one of two operating modes, Print Server or Remote Printer. See the appropriate section below that fits your needs.

Using the Ethernet card in Print Server mode

See the following sections to configure the Ethernet card in Print Server or Auto Print Server/Remote Printer mode.

Logging in to file servers

To configure the Ethernet card in Print Server mode, you must have supervisor privileges.

1. Open the EPSON Net! folder or program group and double-click the EPSON Net! for Windows icon.
2. Click NetWare in the Summary dialog box.
3. Highlight the printer you want to configure from the list.

Note:

If you have connected more than one printer with the same type of Ethernet card to the network, you can distinguish which card is which using the card's unique serial numbers. Press the status sheet button on the Ethernet card plate to print a status sheet for each printer and check the serial numbers.

4. Click Open in the Summary dialog box.

Note:

If you have already logged in with supervisor privileges before starting EPSON Net! for Windows, skip to "Setting up Print Server mode," the next section.

5. Click F/S Login in the message dialog box.
6. Highlight the file server you want to login from.
7. Click Login to open the Login dialog box.
8. Type your username and password, and then click OK.

Note:

You must have supervisor privileges to add or remove print queues in Print Server mode.

If you want to log in to more file servers, repeat steps 6 through 8. You can attach up to eight file servers and add up to 32 print queues to an Ethernet card.

9. Click Close to return to the NetWare Config dialog box.

To configure the Ethernet card as a print server, see the following section. To configure it as a remote printer, see page 3-14.

Setting up Print Server mode

Use the NetWare menu of the Config dialog box to configure the Ethernet card in Print Server mode.

1. Click the NetWare tab. Make sure that the Config dialog box shows the correct serial number for the target Ethernet card.

Note:

Press the status sheet button on the Ethernet card plate to confirm the serial number for the printer in question. If a different serial number is shown on the status sheet, click Cancel to return to the Summary dialog box and select the correct one.

2. Click Print Server in the Mode box.
3. The default printer name appears in the Print Server Name box. If you want to rename the printer, simply type any new name (up to 47 characters) in the box.

Note:

- All your typed characters will automatically change to upper case, spaces will change to underscores, and plus sign (+) will change to letter P. Also, the character disabling to use to the Print Server Name will be ignored automatically.*
 - If you want to set up the Ethernet card to serve a print queue in one file server, input the file server name in the File Server #1 box. If you want to set up the card to serve print queues in multiple file servers, leave the File Server #1 box blank.*
4. Set the polling time from 5 (factory default) to 90 seconds. The print server searches print queues (in file servers) for print jobs at the specified polling intervals.

Adding or creating print queues in a print server

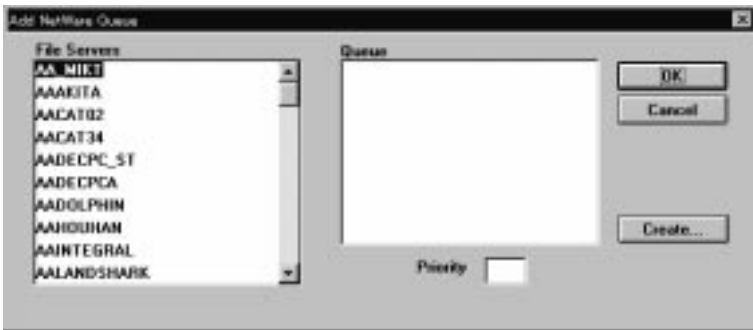
You can attach up to 32 print queues on eight file servers to the Ethernet print server.

1. Open EPSON Net! for Windows.
2. Select NetWare or TCP/IP, and click Open.

Note:

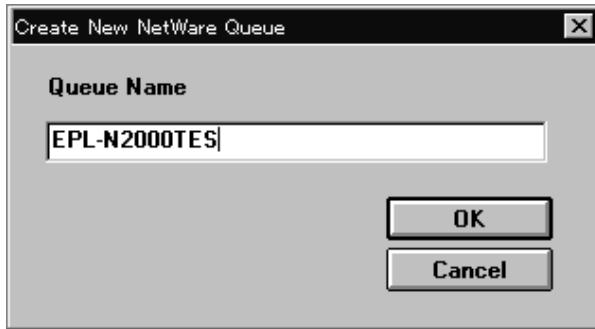
If you have not logged in to some file servers, click F/S Login in the NetWare menu. The NetWare dialog box appears allowing you to add unlogged file servers.

3. Click Add on the NetWare menu. The Add NetWare dialog box appears and shows the queues that are available for the file servers that you have logged in to.



4. Click a file server in the File Servers list.

5. Click an existing print queue in the Queue list. Or, to add a new print queue, click Create and type a new queue name in the Queue Name box and click OK.



6. Set the priority level for the selected print queue in the Priority box. The available options are from 1 to 10, with 1 having the highest priority.
7. Click OK to return to the NetWare menu.
8. Repeat the above steps if you want to add more print queues to the print server.

Removing print queues from the print server

To delete unwanted print queues, follow these steps:

1. Access the Add NetWare Queue dialog box as described above, and select the queue you want to delete.
2. Click Remove.
3. Click OK to complete deletion.

Saving your settings

When finished making settings in the Config dialog box, follow these steps:

1. Click OK to return to the Summary dialog box. Or, click Update to send the new settings to the Ethernet card without closing the Config dialog box.



Caution:

Once you make changes to the Ethernet card, you must wait for at least five minutes before turning off or rebooting your printer.

2. Click Exit to exit EPSON Net! for Windows.

After configuring the Ethernet card to work as a print server, be sure to set up NetWare to use the configured print server. For more information, see your NetWare documentation.

If you plan to use the printer in Remote Printer mode, also see the page 3-14.

If you can not log in to the file server or can not set the print queue, make changes to one or more of the following settings and try again: Print Server Name, File Server #1, and Polling Time. Then save these settings, and set the queue by using PCONSOLE as described in "Creating a print server by PCONSOLE," below. In step 3 of that section, if you can not find the name of your print server in the Print Server Name list, press the Insert key on your keyboard and input the File Server name.

Creating a print server by PCONSOLE

1. From any NetWare workstation, log in to the network with supervisor privileges.

Note:

If you use NetWare 4.x, menu screens will differ slightly and Bindery Emulation has to be selected. Press F4 to switch between Directory Services and Bindery Emulation.

2. Type PCONSOLE at the DOS prompt.
3. From the Available Options screen, select Print Server Information and press Enter. Next, select the print server name from the Print Servers list and press Enter.
4. From the Print Server Information list, select Print Server Configuration and press Enter.
5. Select Printer Configuration from the menu and then press Enter.
6. From the Configured Printers list, select a port number and press Enter.
7. From the Printer configuration screen, type the printer name. Next, highlight the Type and press Enter. Select Remote LPT1.
8. Press Esc; then press Enter to save changes.
9. Select Queues Served by Printer from the Print Server Configuration menu and assign a queue to the print server port from the Available Queues list.
10. Press Esc to exit.

Using the Ethernet card in Remote Printer mode

See the following sections to use the Ethernet card in Remote Printer or Auto Print Server/Remote Printer mode.

Attaching to a print server

To set up the Ethernet card in Remote Printer mode, you must assign a print server and print queue to the Ethernet card. If you have not set up a print server and print queue, you can do so using PCONSOLE or the NetWare Administrator utility in DOS or Windows. For more information, see your NetWare documentation.

It is a good idea to write down the print server name and the printer port number to which you will assign the Ethernet card. They will be required in the steps below.

The following steps explain how to assign a print server and print queue to an Ethernet card functioning in Remote Printer mode:

1. From any NetWare workstation, log in to the network with supervisor privileges.

Note:

If you use NetWare 4.x, menu screens will differ slightly and Bindery Emulation has to be selected. Press F4 to switch between Directory Services and Bindery Emulation.

2. Type PCONSOLE at the DOS prompt.
3. From the Available Options screen, select Print Server Information and press Enter. Next, select the print server name from the Print Servers list and press Enter.
4. From the Print Server Information list, select Print Server Configuration and press Enter.

5. Select Printer Configuration from the menu and then press Enter.
6. From the Configured Printers list, select a port number and press Enter.
7. From the Printer configuration screen, type the printer name. Next, highlight the Type and press Enter. Select Remote LPT1.
8. Press Esc; then press Enter to save changes.
9. Select Queues Served by Printer from the Print Server Configuration menu and assign a queue to the print server port from the Available Queues list.
10. Press Esc to exit.

Configuring the Ethernet card as a remote printer

After setting up the NetWare print server, follow these steps to configure the Ethernet card in Remote Printer mode:

1. Start EPSON! Net for Windows.
2. Click NetWare in the Summary dialog box.
3. Highlight the printer you want to configure from the list.

Note:

If you have connected more than one printer with the same type of Ethernet card to the network, you can distinguish which card is which using the card's unique serial numbers. Press the status sheet button on the Ethernet card plate to print a status sheet for each printer and check the serial numbers.

4. Click Open.

5. Click the NetWare tab, if necessary. Make sure that the correct serial number for the target Ethernet card is shown.

Note:

*Press the status button on the Ethernet card plate to confirm the serial number for the printer in question. If a different serial number is shown on the status sheet, click *Cancel* to return to the Summary dialog box and select the correct one.*

6. Click Remote Printer in the Mode box.
7. Type the name of the print server you want to attach the printer to in the Print Server name box. It must be the same that you use in NetWare.
8. Type the port number in the Port number box. It must be the same port number you use in the NetWare print server and print queue.
9. Click OK to return to the Summary dialog box. Or, click Update to send the new settings to the Ethernet card without closing the Config dialog box.



Caution:

Once you make changes to the Ethernet card, you must wait for at least five minutes before turning off or rebooting your printer.

10. Click Exit to exit EPSON Net! for Windows.

After configuring the Ethernet card in Remote Printer mode, make sure that the remote printer can work correctly. For more information, see your NetWare documentation.

Configuring the Ethernet Card for TCP/IP

To use the printer on a TCP/IP network, you need to configure the Ethernet card for TCP/IP.

Before using the Ethernet card with TCP/IP, you need to install the standard TCP/IP software in Windows NT.

Note:

In most cases, Windows 3.1 can't use TCP/IP to share network printers.

Installing LPR software in Windows NT

Follow the steps below to install LPR software in Windows NT. If you have already installed the TCP/IP Network Print Service from TCP/IP Protocol and Related Components, you can skip these steps.

1. Open the Control Panel.
2. Double-click the Network icon.
3. After the Network settings dialog box appears, look for Microsoft TCP/IP Printing in the Installed Software list box. If the option is listed, it is already installed, and you can skip to the next section. If the TCP/IP printing option is not listed, click Add Software.
4. After the Add Network Software dialog appears, choose TCP/IP Protocol and Related Components from the Network Software list box; then click OK.

5. In the Windows NT TCP/IP Installation Options dialog box, select TCP/IP Network Printing Support, and click Continue. If you cannot select this option, cancel the operation, and proceed to “Setting up your printer in Windows NT” on page 3-22.
6. The next dialog box will ask for the setup disk for Windows NT. Insert the appropriate disk, and follow the instructions on the screen.
7. After setup is finished, the Network Setting dialog box appears again. Make sure that Microsoft TCP/IP Printing appears in the Installed Network Software list box; then click OK.
8. When the TCP/IP Components dialog box appears, set the IP address and the subnet mask of the Windows NT server or workstation. If you want to use the gateway (router), set the IP address of the nearest gateway as the default gateway. If you do not use the gateway, do not set the default gateway.
9. When the Network Settings dialog box appears, click Restart Now.

For more information, see your Windows NT documentation.

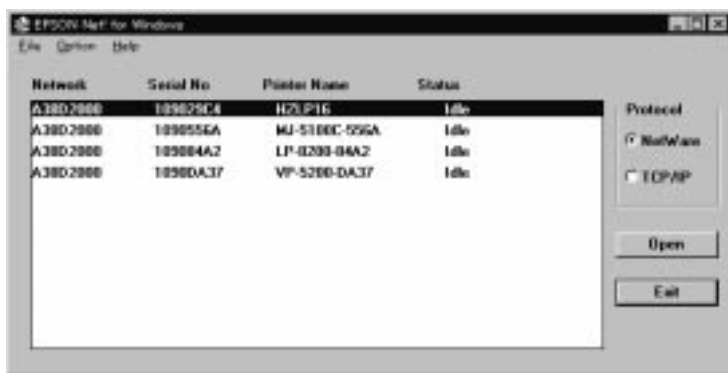
Configuring the Ethernet card

To use TCP/IP on the network, you can set the IP address for the Ethernet card using EPSON Net! for Windows. Follow these steps in Windows NT:

1. Start EPSON! Net for Windows.
2. Click TCP/IP in the Protocol dialog box.

Note:

EPSON Net! for Windows cannot use TCP/IP in Windows 3.1. However to configure the card for TCP/IP, click NetWare, if it is available, and click Open. Then skip to step 5.



3. Highlight the printer you want to configure from the list.

Note:

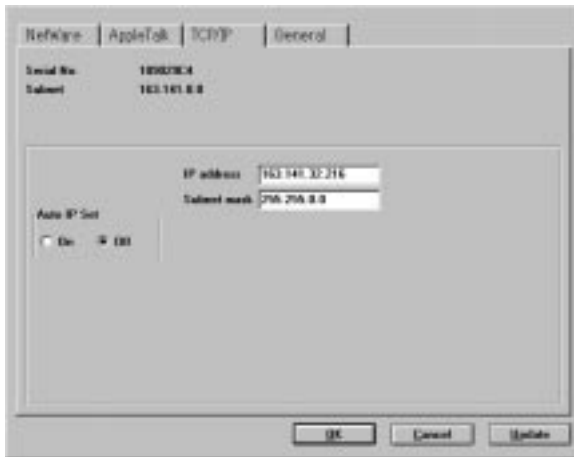
If you have connected more than one printer with the same type of Ethernet card to the network, you can distinguish which card is which using the card's unique serial numbers. Press the status sheet button on the Ethernet card plate to print a status sheet for each printer and check the serial numbers.

4. Click Open.

5. Click the TCP/IP tab. Make sure that the correct serial number for the target Ethernet card is shown.

Note:

Press the status sheet button on the Ethernet card plate to confirm the serial number for the printer in question. If a different serial number is shown on the status sheet, click Cancel to return to the Summary dialog box and select the correct one.



6. Set the following options on TCP/IP menu:
 - IP address: Determine and assign an IP address
 - Subnet mask: Assign the subnet mask
 - Auto IP Set: Click Off.

Note:

The Auto IP Set option is a function designed specifically for UNIX users. Leave it off; otherwise, the assigned IP address might be changed unexpectedly in UNIX.

7. When finished, click OK to return to the Summary dialog box. Or, click Update to send the new settings to the Ethernet card without closing the Config dialog box.



Caution:

Once you make changes to the Ethernet card, you must wait for at least five minutes before turning off or rebooting your printer.

8. Click Exit to exit EPSON Net! for Windows.

After configuring the Ethernet card for TCP/IP, set up your printer in Windows and make sure that the TCP/IP network can work correctly.

Setting up your printer in Windows 95

After configuring the Ethernet card, you need to set up the network printer on each computer. In Windows 95, use the Add Printer wizard as follows:

Note:

Before setting up your printer in Windows 95, you must install the EPSON Status Monitor. For installation instructions, see Chapter 7.

1. Open the Printers folder.
2. Double-click Add Printer.
3. Click Network Printer and click Next.
4. Click Browse; then double-click the EPSON Printer Network icon. If you do not see the EPSON Status Monitor, it has not been installed. See Chapter 7 for installation instructions.
5. Double-click the domain icon that the printer is connected to.
6. Select your printer icon; then click OK.

7. Follow the instruction on the screen. Be sure to select the printer that contains the configured Ethernet card.

You can change the printer driver settings from the Properties dialog box at any time.

Setting up your printer in Windows NT

After configuring the Ethernet card, you need to set up the network printer on each computer. Follow these steps to set up your printer in Windows NT.

1. Click Print Manager in the Main program group.
2. Choose the Create Printer command from the Printer menu.
3. After the Create Printer dialog box appears, enter the name of your printer in the Printer Name text box.
4. Choose your printer driver from the Driver pull-down menu.
5. Choose Other from the Print To pull-down menu.
6. After the Print Destinations dialog box appears on the screen, select LPR Port from the Available Print Monitors list, and click OK.
7. After the Add LPR compatible Printer dialog box appears on the screen, enter the previously specified IP address of the Ethernet card in the first text box.
8. Type an appropriate printer name in the Name of the printer on that machine text box, and click OK.
9. Verify that all your settings and are correct in the Create Printer dialog box. Make changes if necessary, and click OK.

You can change the printer driver settings from the Create Printer dialog box at any time.

Configuring the Ethernet Card for AppleTalk

To use the printer on an AppleTalk network, you need to configure the Ethernet card for AppleTalk.

When using EPSON Net! for Windows to configure the Ethernet card for AppleTalk, use either NetWare or TCP/IP because EPSON Net! for Windows can not use AppleTalk for configuration.

Note:

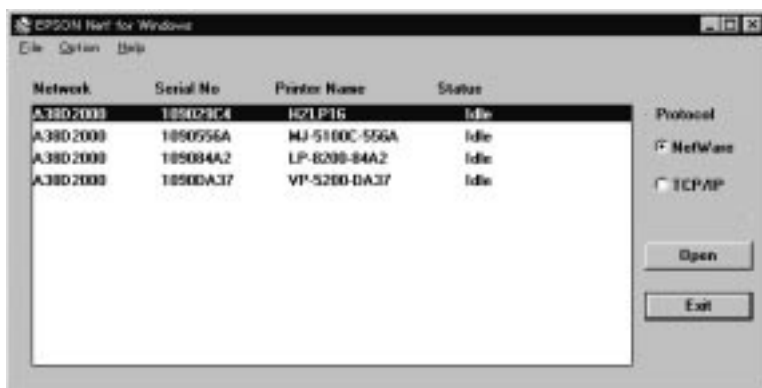
If you cannot use NetWare or TCP/IP in Windows, use EPSON Net! for Macintosh to configure the Ethernet card for AppleTalk.

Follow these steps in Windows NT:

1. Start EPSON! Net for Windows.
2. Click NetWare or TCP/IP in the Summary dialog box.

Note:

EPSON Net! for Windows cannot use TCP/IP in Windows 3.1. However to configure the card for TCP/IP, click NetWare, if it is available, and click Open. Then skip to step 5.



3. Highlight the printer you want to configure from the list.

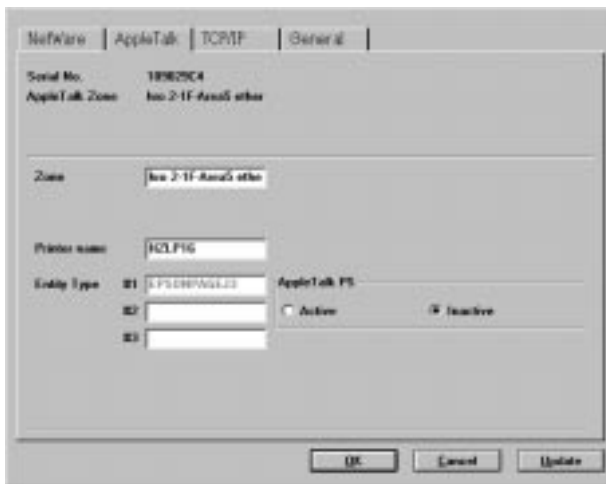
Note:

If you have connected more than one printer with the same type of Ethernet card to the network, you can distinguish which card is which using the card's unique serial numbers. Press the status sheet button on the Ethernet card plate to print a status sheet for each printer and check the serial numbers.

4. Click Open.
5. Click the AppleTalk tab. Make sure that the correct serial number of the target Ethernet card is shown.

Note:

Press the status sheet button on the Ethernet card plate to confirm the serial number for the printer in question. If a different serial number is shown on the status sheet, click Cancel to return to the Summary dialog box and select the correct one.



6. Set the following options on the AppleTalk menu:
 - Zone: Keep the current configuration or type the name of the AppleTalk zone you want the printer to appear in.
 - Printer name: The default printer name appears. You can rename it. If the same type of printers are connected to the same network, be sure to give them unique names.

Note:

You can also rename the printer with EPSON Namer.

- Entity Type #1, #2, and #3: You don't have to set these options. EPSON Net! just shows the printer's Entity types on an AppleTalk network.
 - Network No.: Always click Auto.
 - AppleTalk PS: You don't have to set this option if it is dimmed. This option is available only if an EPSON PostScript printer can not make AppleTalk active or inactive automatically.
7. Click OK to return to the Summary dialog box. Or, click Update, to send the new settings to the Ethernet card without closing the Config dialog box.



Caution:

Once you make changes to the Ethernet card, you must wait for at least five minutes before turning off or rebooting your printer.

8. Click Exit to exit EPSON Net! for Windows.

Using the DLC Support in Windows NT

The Ethernet card can work with the DLC support in Windows NT. You don't need to use EPSON Net! for Windows to use the DLC support.

Installing DLC in Windows NT

To use the Ethernet card with the DLC support provided in Windows NT, make sure that Windows NT has been set up with the DLC protocol. To install DLC support, follow these steps:

1. Run Windows NT.
2. Double-click on the Control Panel icon.
3. Double-click on the Network icon.
4. Click on the Add Software button.
5. Select DLC Transport protocol from the Network Software list, and click Continue.
6. Follow the directions on screen and reboot your system for the installation to take effect.

Note:

To verify that the DLC protocol is installed correctly, check the list of installed Network Software in the Networks dialog box.

Configuring the printer

Follow these steps to configure the printer:

1. Select Print Manager from the Main group.
2. Choose Create Printer from the Printer menu at the top of the screen. The Create Printer dialog box appears.
3. Type a name for the printer in the Printer Name field.
4. Select the printer driver from the Driver pull-down menu.
5. Select Other from the Print To pull-down menu. The Print Destinations dialog box appears.
6. Choose [HP Network Port] from the Available Print Destinations list. The Add an HP Network Peripheral Port dialog box appears.

Note:

If HP Network Port does not appear as a choice in the dialog box, then the DLC transport protocol and driver are not installed. Go to the "Installing DLC in Windows NT" section above for installation instructions.

7. Type a name for the port in the Name box.

Note:

The name must not be identical to an existing port, such as LPT1, or any other existing DOS device.

8. Select LAN Hardware Address (Node Address) from the card Address list. This address matches the one listed under Node Number on the status sheet.
9. Click the Timer button and select the Job Oriented option. Then click OK.

10. Click OK to exit the Add a Network Peripheral Port dialog box.

Note:

You may share the new printer if you wish. To do so, click the Share the Printer on the Network box. The share name defaults to the printer name and can be changed if necessary.

11. Click OK to exit the Create Printer dialog box. A dialog box from the selected model's device driver appears.
12. Set any printer-specific options, and click OK.

You are now ready to print.

Using Macintosh

This chapter describes how to configure the Ethernet card with EPSON Net! for Macintosh. If you use AppleTalk, you can use the EPSON Net! utility program to configure the Ethernet card.

Note:

The EPSON Net! utility software only configures the Ethernet card to work with specific protocols that may exist on your network. It does not imply that you can use all protocols mentioned above in your operating system. Protocols the Ethernet card can really use vary depending upon operating systems and network configuration.

Before you start configuring the Ethernet card, make sure of the following points:

- The correct printer driver must be installed in the Macintosh system.
- EPSON Net! for Macintosh can configure the Ethernet card for AppleTalk, NetWare, and TCP/IP.
- The configurations about Novell NetWare File Server, print queue and others are required to use PCONSOLE.EXE after configuring the NetWare part of the Ethernet card.

Before continuing, be sure to connect the Ethernet card to the network and turn on the printer. For details, see Chapter 1 in this manual and the user's guide of your printer.

Installing EPSON Net! for Macintosh

To install EPSON Net! for Macintosh, follow these steps:

1. Turn on your Macintosh.
2. Create a folder for EPSON Net! for Macintosh.
3. Insert the EPSON Net! for Macintosh disk in the drive.
4. Copy programs from the disk to the folder.

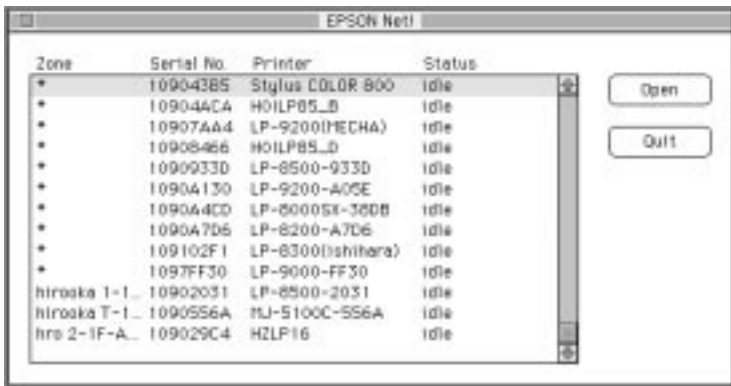
Monitoring the Printers on Your Network

You can monitor and check the status of the printers connected to your network according to the protocol you use.

Checking the printer via the Summary dialog box

To check the status of all printers that are turned on and enabled for a certain protocol, follow the steps below.

1. Open the EPSON Net! folder and double-click the EPSON Net! for Macintosh icon. The following screen appears:



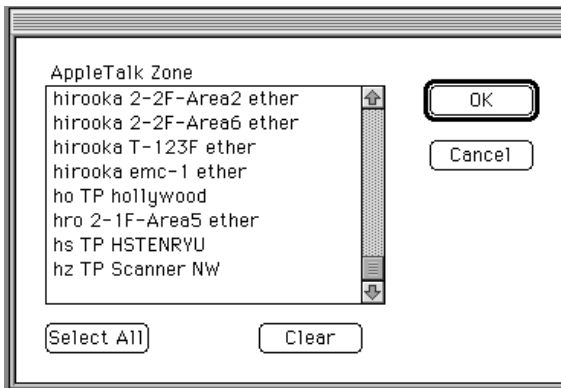
2. To exit EPSON Net! for Macintosh, click Quit.

Selecting the zone

You can select the network printers to monitor by their zone or address. Choose Zone from the Options menu in the Summary dialog box.

Note:

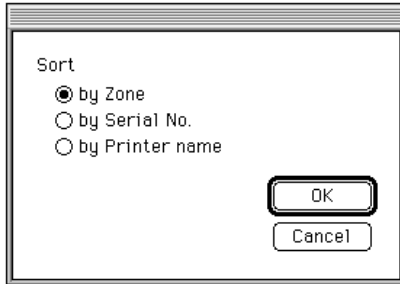
You need to select the zone to configure the Ethernet card in the Configuration dialog box.



Click a zone to select it, or press and hold the Shift key while clicking multiple zones to select them, or click Select All. Then click OK. EPSON Net! sends a find packet to the selected zone(s) and detects the current printer's status. The Summary dialog box can show the latest information about the printers located in that zone.

Sorting the printers

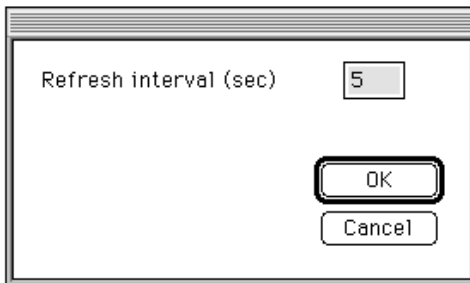
You can sort the printers in the Summary dialog box. Choose Sort from the Options menu.



Click any of the sort options and click OK. The Summary dialog box shows the printers sorting them by the selected sort option.

Setting the refresh interval

You can set the refresh interval (factory default 5 seconds) for the Summary dialog box. Choose Preferences from the Options menu.



Type any value from 1 to 99 in seconds and click OK. The Summary dialog box monitors the printers, polling the network at the specified intervals.

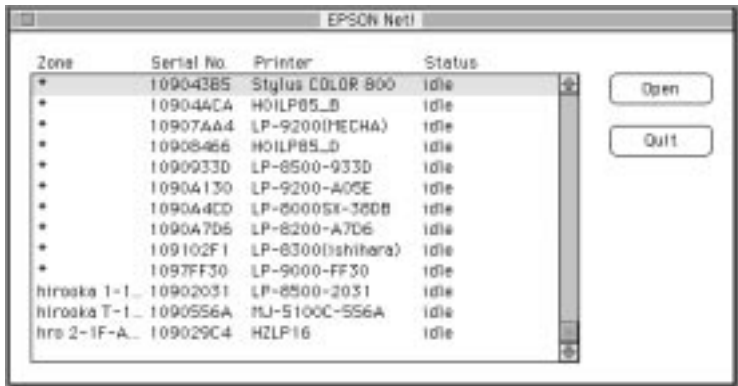
Configuring the Ethernet Card for AppleTalk

If you want to use the printer on an AppleTalk network, you must configure the card for AppleTalk.

Configuring the card

Use EPSON Net! for Macintosh to configure the Ethernet card for AppleTalk, and choose AppleTalk depending on your system.

1. Open the EPSON Net! folder and double-click the EPSON Net! for Macintosh icon.



2. Highlight the printer you want to configure from the list.

Note:

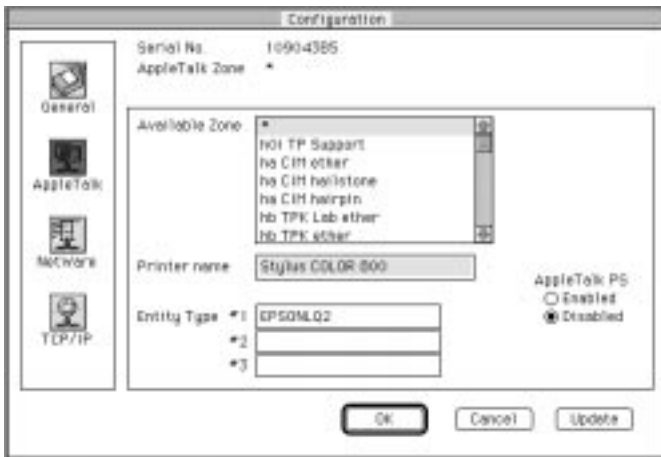
If you have connected more than one printer with the same type of Ethernet card to the network, you can distinguish them with the Ethernet card's unique serial numbers. Print a status sheet for each printer and check the serial number.

3. Click Open in the Summary dialog box.

4. Click the AppleTalk config icon. Make sure that the Configuration dialog box shows the correct serial number of the target Ethernet card.

Note:

*You can confirm the serial number by pressing the status sheet button on the Ethernet card plate and printing out a status sheet for the printer in question. If a different serial number is shown on the status sheet, click *Cancel* to return to the Summary dialog box and select the correct one.*



5. Set the following options in the AppleTalk Configuration dialog box:
 - Available Zone: Select the network zone that you want the printer to appear in.
 - Printer name: The default printer name appears. You can rename it. If the same type of printers are connected to the same network, be sure to give them unique names.

- ❑ Entity Type #1, #2, and #3: You don't have to set these options. EPSON Net! just shows the printer's Entity types on an AppleTalk network.
 - ❑ AppleTalk PS: You don't have to set this option usually. It is available only when an EPSON PostScript printer that is connected to the network cannot make AppleTalk active or inactive automatically.
6. Click OK to return to the Summary dialog box. Click Update to send the new settings to the Ethernet card without closing the Configuration dialog box.



Caution:

Once you make changes to the Ethernet card, you must wait for at least five minutes before turning off or rebooting your printer.

7. Click Exit to exit EPSON Net! for Macintosh.

Choosing the printer on Macintosh

To print to the new printer, use Chooser to select your printer. Select the options you have specified with EPSON Net! for Macintosh.

1. Open Chooser from the Apple menu.
2. Click your printer driver icon.
3. Click the AppleTalk zone that contains the printer.
4. Click the printer name.
5. Make sure AppleTalk is active.
6. Close Chooser.

Configuring the Ethernet Card for Novell NetWare

To use the printer on a Novell NetWare network, you must configure the Ethernet card especially for NetWare.

If you use EPSON Net! for Macintosh, you can configure the Ethernet card in one of two operating modes, Print Server or Remote Printer. See the appropriate section that matches your needs.

Note:

EPSON Net! for Macintosh can only use AppleTalk to configure the Ethernet card for NetWare. So you need to use PCONSOLE from DOS, as shown on page 4-10, to configure Print Server mode and/or attach a print queue to the NetWare file server you want to use.

Using the Ethernet card in Print Server mode

See the following sections to configure the Ethernet card in Print Server mode.

Setting up Print Server mode

Use the NetWare config icon of the Configuration dialog box to configure the Ethernet card in Print Server mode.

1. Click the NetWare icon. Make sure the correct serial number for the target Ethernet card is shown.

Note:

Press the status sheet button on the Ethernet card plate to confirm the serial number for the printer in question. If a different serial number is shown on the status sheet, click Cancel to return to the Summary dialog box and select the correct one.

2. Click Print Server.
3. The default printer name appears in the Print Server name box. If you want to rename the printer, simply type any new name (up to 47 characters) in the box.

Note:

- If you want to set up the Ethernet card to serve a print queue in one file server, input the file server name in the File Server #1 box. If you want to set up the card to serve print queues in multiple file servers leave the File Server #1 box blank.*
 - If you can not log in to the file server or can not set the print queue, make changes to one or more of the following settings and try again; Print Server Name, File Server #1, and Polling Time. Then save these settings, and set the queue by using PCONSOLE as described in "Creating a print server by PCONSOLE," below. In step 3 of that section, if you can not find the name of your print server in the Print Server Name list, press the Insert key on your keyboard and input the File Server name.*
4. Set the polling time from 5 (factory default) to 90 seconds. The print server searches print queues (in files servers) for print jobs at the specified polling intervals.

Creating a print server by PCONSOLE

1. From any NetWare workstation, log in to the network with supervisor privileges.

Note:

If you use NetWare 4.x, menu screens will differ slightly and Bindery Emulation has to be selected. Press F4 to switch between Directory Services and Bindery Emulation.

2. Type PCONSOLE at the DOS prompt.
3. From the Available Options screen, select Print Server Information and press Enter. Next, select the print server name from the Print Servers list and press Enter.
4. From the Print Server Information list, select Print Server Configuration and press Enter.
5. Select Printer Configuration from the menu and then press Enter.
6. From the Configured Printers list, select a port number and press Enter.
7. From the Printer configuration screen, type the printer name. Next, highlight the Type and press Enter. Select Remote LPT1.
8. Press Esc; then press Enter to save changes.
9. Select Queues Served by Printer from the Print Server Configuration menu and assign a queue to the print server port from the Available Queues list.
10. Press Esc to exit.

Finishing the configuration

When finished with the NetWare Configuration dialog box, follow these steps:

1. Click OK to return to the Summary dialog box. When you click Update, only the new settings are sent to the Ethernet card without closing the Config dialog box.



Caution:

Once you make changes to the Ethernet card, you must wait for at least five minutes before turning off or rebooting your printer.

2. Click Exit to exit EPSON Net! for Macintosh.

After configuring the Ethernet card in Print Server mode, be sure to set up Novell NetWare to use the configured print server. For more information, see your NetWare documentation.

Using the Ethernet card in Remote Printer mode

See the following sections to use the Ethernet card as a remote printer.

Defining the Ethernet card in NetWare

Before configuring the Ethernet card in Remote Printer mode, you must set up a print server and print queue using PCONSOLE or the NetWare Administrator utility in DOS or Windows. For more information, see your NetWare documentation.

When setting up the printer for NetWare, remember the print server name and the printer port number to which you will assign the Ethernet card. They are important for a remote printer.

The following steps explain using PCONSOLE in DOS:

1. From any NetWare workstation, log in to the network with supervisor privileges.

Note:

If you use NetWare 4.x, menu screens will differ slightly and Bindery Emulation has to be selected. Press F4 to switch between Directory Services and Bindery Emulation.

2. Type PCONSOLE at the DOS prompt.
3. From the Available Options screen, select Print Server Information. Next, select the print server name from the Print Servers list and press Enter.
4. From the Print Server Information list, select Print Server Configuration and press Enter.
5. Select Printer Configuration from the menu and then press Enter.
6. From the Configured Printers list, highlight a port number and press Enter.
7. From the Printer Configuration screen, type the printer name. Next, highlight the Printer Type and select Remote LPT1.
8. Press Esc; then press Enter to save changes.
9. Select Queues Serviced by Printer from the Print Server Configuration menu and assign a queue to the print server port from the Available Queues list.
10. Press Esc to exit.

Configuring the Ethernet card as a remote printer

After setting up the NetWare print server, follow these steps to configure the Ethernet card in Remote Printer mode:

1. Start EPSON! Net for Macintosh.
2. Highlight the printer you want to configure from the list.
3. Click Open in the Summary dialog box.
4. Click the NetWare icon. Make sure the correct serial number of the target Ethernet card is shown.

Note:

Press the status sheet button on the Ethernet card plate to confirm the serial number for the printer in question. If a different serial number is shown on the status sheet, click Cancel to return to the Summary dialog box and select the correct one.

5. Click Remote Printer.
6. Type the printer server name in the Print Server name box. It must be the same as the one you have set up for NetWare.
7. Type the port number in the Port number box. It must be the same as the one you have set up for the NetWare print server and print queue.
8. Click OK to return to the Summary dialog box. When you click Update, only the new settings are sent to the Ethernet card without closing the Config dialog box.



Caution:

Once you make changes to the Ethernet card, you must wait for at least five minutes before turning off or rebooting your printer.

9. Click **Exit** to exit EPSON Net! for Macintosh.

After configuring the Ethernet card in Remote Printer mode, make sure that the remote printer can work correctly. For more information, see your NetWare documentation.

The Ethernet card supports many standard UNIX commands and can be configured from a host computer without using a special setup utility.

Installing and Printing with the Ethernet Card

See the following sections for general information concerning setting up (with TCP/IP) and printing.

The Ethernet card is able to function as a remote printer on systems using TCP/IP Ethernet transfer with Berkeley's popular lpr remote printing protocol, or standard ftp (file transfer protocol).

Setting up the card

All devices operating with TCP/IP have to be assigned a unique "IP Address node." This address must be different from that assigned to any other device to which your network is capable of communicating. This unique address acts like a telephone number, enabling all other devices on the network to be able to "dial up" and "talk to" the Ethernet card, as long as they know its number.

There are conventions surrounding how to make up an IP address, which are discussed later. In the most complex case, where a network is capable of communicating with other networks worldwide, it is necessary to have some of the numbers assigned by an international body that coordinates the numbering.

Unless the network is not yet in existence, an address will already have been given to the network section that the Ethernet card is to be plugged into. You need to give the interface card an address that has the same first three sets of numbers as the other devices in that network section, and you need to give it a unique last (4th set) number. The network supervisor should be able to determine what addresses are in use at the site.

How to input the IP address

Use arp or ping to set the IP address for the Ethernet card, as described below:

1. Print the Network Status Sheet in SelecType Test Menu to see a report that includes the node address.
2. Enter the arp command: arp-s (IP address) (node address).
For example:

```
arp -s 133.200.3.181 00:00:48:92:da:35
```

or

Ping the new IP address. For example:

```
ping 133.200.3.181
```

The Ethernet card will be set to this IP address.



Caution:

Two different Ethernet cards should not be active on the same network until their addresses have been set, otherwise they will both have the same address (which will confuse the network).

Updating the Hosts file

Once the IP address is defined, the `/etc/hosts` file needs to have this IP address and host name added. For example:

```
132.147.69.4 allison
```

Testing the connection

Use `ping` to test if the Ethernet card is responding. For example, send the following command:

```
ping allison
```

or

```
ping 132.147.69.4
```

If the card responds, you are ready to print. If it doesn't respond, print a network status sheet and check the IP address, also check the information contained in the `/etc/hosts` file.

Printing via lpr

Once you have assigned an internet address to the Ethernet card, you need to add its address to all the “telephone directories” of all the host computers that will be sending print jobs to it. The method for doing this differs from system to system, so you should refer to your network operating system documentation for details.

Be sure to give each Ethernet card a unique name, and each name and IP address. It does not matter what name is given to the Ethernet card. The name, which is easier to remember than the IP address, is used thereafter to refer to the Ethernet card printer device.

After setting up the card as a valid network device, you need to make a few remote printer settings. The `lpr` protocol program is given the name of a remote printer, and a host name on which it resides. It is looking for three names to link together:

- ❑ The name of the local printer which will now be redirected to the Ethernet card. The default printer name is often used here (for example, 'lp').
- ❑ The name of the remote printer. This may be any name, as the Ethernet card will always honor a print request. The name given here will appear in printer status displays.
- ❑ The host name for the card. This must be the name assigned to the Ethernet card (above).

Printcap file

Typically, the above information is stored in the `/etc/Printcap` file, examples of which are shown below:

```
printer1:\n\n: lp= : rm = allison : rp = lpb : sd = /vor/spool/printer1:
```

For UNIX systems without `Printcap` files, see the section on scripts at the end of the chapter.

Operation

After setting up the card, you can use the `lpr` command from any host to direct a print file to the Ethernet card. The card does not have to interpret any of the incoming print data, allowing binary image files, font download files, as well as ASCII text to be printed transparently.

The interface card can handle many separate communication channels simultaneously. Unless coupled with a compatible spooling unit, the Ethernet card will not have any disk-spooling capability, so incoming print requests from other hosts when the card is already servicing a print job are “stacked,” and serviced in rotation.

The Ethernet card will respond to an `lpq` print query by sending back details of the current print job, as well as all stacked prints. If a connection request is received after all available connections are taken up, the card will not respond to the connection attempt.

Note:

An `lpq` enquiry may show “missing” stack entries; for example, only jobs 2, 5, and 7 appear. The missing entries (1, 3, 4, and 6) will be print jobs sent by a different protocol, such as Novell or EtherTalk.

Printing a file

At the prompt, type (example):

```
lpr -pallison filename or lp - d allison
```

Technical

For programmers' information, the Ethernet card TCP/IP mode responds only to arp packets and to TCP/IP connections made to socket number 0x0203 and the ftp socket. You must use lpr protocol to send data to socket 0x0203. Also, connection attempts to other sockets will meet with no response.

Instead of lpr, which may strip control characters, (use -l to avoid this), ftp may be used to print. Enter ftp, then open the Ethernet card by entering its host name (for example, "open allison"). A file may be printed simply by sending it ("send filename"). You can use console commands or Scripts to automate this process, and create ftp spool queues.

ftp (Line ending)

As a default, ftp runs with binary file transfer. This may be changed to ASCII file transfer by simply entering the command "ASCII" on the ftp command line. When in ASCII mode, the Ethernet card will convert incoming UNIX line-ends to include a carriage return. To change back to BINARY mode, enter the command "BINARY" on the ftp command line.

ftp (Form feed)

The Ethernet card will append a form feed to the end of the print job if the destination file is given the name of "FEED" or "feed." For example, to send a text file called "txtfile" to the Ethernet card in ASCII mode and append a formfeed, use the following ftp commands:

```
ascii
send txtfile feed
```

lpr filters

Filters for *lpr* are controlled by the name given to the remote printer. When setting up an *lpr* printer entry, a name is entered for:

- the local printer name to be redirected
- the host name of the station to which the print is sent
- the remote printer name (name of the printer port on the remote station).

It is this last name that the Ethernet card uses to determine which filters to use.

Many different remote printer names may be set up, all directed to the same Ethernet card remote host, and each is given a different local printer name to be redirected. Different types of print jobs may thus be sent to different printer names, which will then all print out on the same printer, through the same Ethernet card interface, but using different filters.

The remote printer name options used to invoke the different filters are as follows:

lpb	Binary files (no filters)
lpa	ASCII files (carriage returns at line ends)
lpbf	Binary file with form feed at file end
lpaf	ASCII file with form feed at file end

All other remote printer name options will be treated the same as lpb.

Note:

Some versions of lpr strip out all control characters and carriage return characters from a file before it is sent, making it unsuitable for bit-image files or font download files. In many cases the “-l” option may be used on the lpr command line to prevent this happening (worth trying even if this option is not documented).

The following is an example of sending a text file, “txtfile,” via lpr with a form feed appended:

```
% lpr -plpaf txtfile
```


Chapter 6

Using OS/2

This chapter explains how to configure and use the Ethernet card with an IBM OS/2 System. See Chapter 1 for information on hardware installation.

Note:

- ❑ *If the Ethernet card's firmware version is 4.00 or below, it does not support NetBIOS over TCP/IP protocol. Therefore use the NetBIOS protocol provided by OS/2 Warp or OS/2 Warp Connect.*

- ❑ *The following programs are not supported in the NetBIOS over TCP/IP protocol:
RPRINT, RSTAT - LPT redirection
REMPRT, REMSTAT - pipe support*

Installing on an OS/2 System

Before you set up the software, you must connect the card to the network, and turn on the printer. EPSON Net! for OS/2 provides the following programs:

TCP/IP

RPRINT, RSTAT—LPT redirection

REMPRT, REMSTAT—pipe support

Requirements

OS/2 Warp Connect must be installed with NetBIOS over TCP/IP protocol.

Installing Redirection Software

Follow these steps to install the redirection software:

1. Place the EPSON Net! for OS/2 Installation disk in drive A (or B) of your PC.
2. Open an OS/2 full screen command session.
3. Open the OS2 directory on drive A (or B) and select the PIPE\REDIRECT directory. For example, type CD TCPIP\REDIRECT\PIPE and press the Enter key.
4. Copy the driver software files RPRINT.EXE and RSTAT.EXE to the root directory of the LAN Server file server.

```
COPY A:*. * C:\
```

5. Edit the file STARTUP.CMD in the file server root directory and insert the following command as the last line:

```
RPRINT <serial number> [/portname]
```

Note:

Print a status sheet for each printer to check for the serial number.

The optional [/portname] designates the port that will be redirecting to the remote printer. If no optional port name is defined, the program assumes LPT1 as the port.

The following are examples of commands that can be added to the STARTUP.CMD:

RPRINT 10900416 /LPT1	Causes print files directed to LPT1 to be received by an interface with the serial number 10900416.
RPRINT 10900701 /LPT2	Causes print files directed to LPT2 to be received by an interface with the serial number 10900701.

RPRINT 1090328F /LPT3	Causes print files directed to LPT3 to be received by an interface with the serial number 1090328F.
RPRINT 10903605	Causes print files directed to LPT1 to be received by an interface with the serial number 10903605.

6. Re-boot the LAN Server file server and make sure the driver starts successfully.

All printed output spooled to this file server will be redirected to the remote printer interface specified above. Also after typing “RPRINT <serial number> (/portname)” at the OS/2 command prompt, this redirection will be worked immediately.

Getting printer driver status information

To make sure the printer driver is working, type RSTAT at the OS/2 command prompt. RSTAT will return a one line status report for each printer driver served. For example:

ITC Remote Print Servers active for LPT1—Printer Ready

or, if the printer driver in use, it returns the following if only one port is selected:

ITC Remote Print Servers active for LPT1—Printer Busy

If several ports are redirected, RSTAT returns a message similar to the following:

ITC Remote Print Servers active for LPT1—Printer Busy
ITC Remote Print Servers active for LPT2—Printer Ready
ITC Remote Print Servers active for LPT3—Printer Ready

Printing through Pipes

This section describes how to install the software necessary for printing through named pipes.

Installing the software

1. Place the EPSON Net! for OS/2 Installation disk in drive A (or B) of your PC.
2. Open an OS/2 full screen command session and create a directory for Remote Print Services on your hard disk.

```
MD C:\EPNET
```

3. Open the OS2 directory on drive A (or B) and select the NETBEUI directory. For example, type CD NETBEUI and then type CD PIPES to select the pipes directory.
4. Copy all files to the new directory from the installation disk in drive A.

```
COPY A:*.* C:\EPNET
```

Software components

You should now have the following list of files in the C:\EPNET directory:

ADDPOR.COM	Command to add ports on the server
DELPOR.COM	Command to remove ports from the server
PORTCHG.EXE	Program used by the above commands
REMPRT.EXE	Remote Print Service program
REMDRV.EXE	Remote Print Service driver
REMSTAT.EXE	Printer status program

Configuring New Printers

This section explains how to configure new printers on a LAN Server for use with remote print service.

Note:

You must have supervisor rights on the server to configure printers and queues.

1. Open an OS/2 full screen command session from your server.
2. Change to the remote print service directory:

```
CD \EPNET
```

3. Create ports for your new printers using the ADDPORT command. Choose names that will help to identify the printers, using up to a maximum of 7 characters for each name (for example, EPLASER or PUBSPRT). However, do not use the following characters when assigning a name to the printer:

```
/ \ . [ ] ; | > < + = ? * $"
```

4. See your OS/2 documentation for instructions on installing printers and creating queues attached to the server.

Note:

- To set up and use the card through a shared OS/2 print queue(s) that will receive print jobs from other workstations, you must install and select either the IBMNULL or MSNULL printer driver. For the DEVICE to connect to, choose a port name from those added in step 3 above (for example, EPLASER).*
- To connect the card directly to a workstation(s), you must install the proprietary OS/2 printer driver.*

5. In the EPNET remote print service directory, create an initialization file called REMPRT.INI at the same time directory of existing REMPRT.EXE. This file is used by the remote print service at start-up and assigns the remote printer names to the device port names. The format of the file is as follows:

<serial number> <device port>

Example:

```
10900701 EPLASER
10900416 PUBSPRT
```

6. Edit your STARTUP.COM file and add the following line at the end:

```
\EPNET\REMPRT @REMPRT.INI
```

This line ensures that the remote print service is initialized each time you start the server. If you wish to start the print service manually, you can execute the REMPRT.EXE file from the OS/2 command prompt.

7. Use the LAN Server Administration facility (NET ADMIN) to add newly created printers to the list of shared resources.
8. To obtain printer driver status information on the REMPRT process, type REMSTAT. The following are examples of information returned by this command:

ITC Remote Print Servers active for PUBSPRT—Printer Ready

ITC Remote Print Servers active for EPLASER—Printer Busy

Sharing the Board among Multiple Workstations

If two or more OS/2 Warp Connect with LAN Server workstations will be printing to the Ethernet card, use the Pipes method instead of the Redirect method and configure a unique port name for each workstation. For example, if one Ethernet card will be used by three OS/2 Warp Connect workstations, the cards serial number is 10900416 and the workstations should be configured as PortA, PortB, and PortC (or any other unique port names).

First workstation:

```
ADDPORT    PORTA
REMPRT     10900416 PORTA
```

Second workstation:

```
ADDPORT    PORTB
REMPRT     10900416 PORTB
```

Third workstation:

```
ADDPORT    PORTC
REMPRT     10900416 PORTC
```

See “Configuring New Printers” on page 6-5 for more information.

Chapter 7

Using the EPSON Status Monitor

EPSON Status Monitor Utility

The EPSON Status Monitor utility is available for use on a network and requires Windows 95 or Windows NT 3.51.

This utility shows your printer status and allows you to change printer settings, such as print density.

System Requirement

To use the EPSON Status Monitor, make sure your network configuration is as follows. The Status Monitor does not work correctly if the configuration is incorrect.

For Windows 95

- ODI driver is not selected as Network card driver.
- Microsoft DLC is not installed.

For Windows NT 3.51

AppleTalk is installed.

Installing the Status Monitor Utility

1. Make sure Windows is running.
2. Insert the EPSON Status Monitor disk into drive A (or B).
3. For Windows 95 users: click Start, then choose Run.
For Windows NT users: make sure the Program Manager window is open; then choose Run on the File menu.
4. Type A:\SETUP (or B:\SETUP); then click OK. The utility is installed automatically.
5. When installation is complete, click OK.

The Status Monitor utility is now installed on your computer.

Accessing the Status Monitor

For Windows 95

1. Click Start, then point to Programs.
2. Point to EPSON Status Monitor, then click EPSON Status Monitor. The Status Monitor appears.

To close the Status Monitor, click the close button at the top right of the Status Monitor dialog box or right-click the EPSON Status Monitor icon in the tray icon area on the taskbar, then click Exit in the dialog box that appears.

For Windows NT 3.51

1. Make sure Windows is running, and the Program Manager window is open.
2. Double-click the EPSON Status Monitor folder.
3. Double-click the EPSON Status Monitor icon. The Status Monitor appears.

To close the Status Monitor, click the Control-menu box to the left of the EPSON Status Monitor title bar, then choose the Close. Click Exit in the dialog box that appears.

Accessing Online Help

For detailed information about the Status Monitor, refer to online help. To access online help, follow one of the procedures below.

- Click the ? button at the top right of the EPSON Status Monitor window, and the pointer will become a ?. Then move the ? over the term that you want to know more about and click.
- For Windows 95 users: Click the close button at the top right of the EPSON Status Monitor window, then click Help in the dialog box that appears.
For Windows NT Users: Click the Control-menu box to the left of the EPSON Status Monitor title bar, then choose Close. Click Help in the dialog box that appears.

Setting up the EPL-N2000 on a Network

Note:

- ❑ *Before reading this section, make sure the EPL-N2000 is physically connected to the network.*

- ❑ *To use your printer as a network printer, install both the printer driver and the EPSON Status Monitor utility in your computer. Read the previous section to install the utility. For instructions on how to install the printer driver, see “Installing the Printer Driver” in your Getting Ready! guide.*

To set up your printer as a network printer, follow these steps:

For Windows 95

1. Double-click the My Computer icon.
2. Double-click the Printers folder.
3. Right-click the EPSON EPL-N2000 icon, and click Properties. Be sure to right-click.
4. Click the Details tab.
5. Click the Add Port button.
6. Choose the Network radio button; then click Browse.
7. Double-click the EPSON Printer Network icon.
8. Double-click the domain icon that the printer is connected to.
9. Select your printer icon.
10. Click OK in all open dialog boxes to set up your printer on the network.

Now you can print using your EPL-N2000 printer over a network.

For Windows NT 3.51

1. In the Main program group, double-click the Print Manager icon.
2. Select the EPSON EPL-N2000 (or the name you have defined for this printer) icon.
3. From the Printer menu, choose Properties.
4. Verify that the correct printer name and driver are selected.
5. Click anywhere in the Print to dialog box and then choose Other at the bottom of the list.
6. In the Available Print Monitors list, select EPSON Printer Network; then click OK.
7. Double-click the domain icon that the printer is connected to.
8. Double-click the printer that you want to use, or select it and then click OK.
9. Click OK to set up your printer on the network.

Now you can print using your EPL-N2000 printer over a network.

Appendix

Specifications

Environmental

Operating temp.:	5° to 35°C (41° to 95°F)
Storage temp.:	0° to 70°C (32° to 158°F)
Operating humidity:	20% to 80%
Storage humidity:	5% to 95%

Network Software

Novell NetWare 2.1x, 3.x, or 4.0 (Bindery Emulation Mode)
EtherTalk (AppleTalk)
DLC
lpr,ftp over TCP/IP protocol
NetBEUI
NetBIOS over TCP/IP protocol

Ethernet Network Hardware Connectors

IEEE 802.3 10BASE2 RG-58A/U coaxial cable via BNC connector or
IEEE 802.3 10BASE-T straight-through twisted pair modular cable via RJ45
connector



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IMPORTANT NOTICE

*Using the LocalTalk Interface
with EPL-N2000PS Version Printers*

The EPL-N2000PS is supplied with interfaces for connection to either EtherNet or LocalTalk Networks.

As shipped, the EPL-N2000PS has the EtherNet interface installed. Should you wish to connect to a LocalTalk network, the EtherNet interface **MUST** be removed prior to installation of the LocalTalk interface.

To remove the EtherNet interface and install the LocalTalk interface please follow the instructions in your printer reference guide pages 3-23 to 3-24.

Note:

Please keep this sheet with your reference manual.