NPS-520

MFP Print Server

User's Guide

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ZyXEL

www.zyxel.com

About This User's Guide

Intended Audience

This manual is intended for people who want to configure the NPS-520 using the ZyXEL utility or the web configurator. You should have at least a basic knowledge of TCP/IP networking concepts and topology.

Related Documentation

- Quick Start Guide

  The Quick Start Guide is designed to help you get up and running right away. It contains information on setting up your network and configuring for Internet access.
- Online Help

  Embedded web help for descriptions of individual screens and supplementary information.
- Supporting Disk

  Refer to the included CD for support documents.
- ZyXEL Web Site

  Please refer to www.zyxel.com for additional support documentation and product certifications.

User Guide Feedback

Help us help you. Send all User Guide-related comments, questions or suggestions for improvement to the following address, or use e-mail instead. Thank you!

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Document Conventions

Warnings and Notes

These are how warnings and notes are shown in this User's Guide.

Warnings tell you about things that could harm you or your device.

Notes tell you other important information (for example, other things you may need to configure or helpful tips) or recommendations.

Syntax Conventions

- The NPS-520 may be referred to as the "NPS-520" or the "print server" in this User's Guide.
- Product labels, screen names, field labels and field choices are all in **bold** font.
- A key stroke is denoted by square brackets and uppercase text, for example, [ENTER] means the "enter" or "return" key on your keyboard.
- "Enter" means for you to type one or more characters and then press the [ENTER] key. "Select" or "choose" means for you to use one of the predefined choices.
- A right angle bracket (>) within a screen name denotes a mouse click. For example, **Maintenance > Log > Log Setting** means you first click **Maintenance** in the navigation panel, then the **Log** sub menu and finally the **Log Setting** tab to get to that screen.
- Units of measurement may denote the "metric" value or the "scientific" value. For example, "k" for kilo may denote "1000" or "1024", "M" for mega may denote "1000000" or "1048576" and so on.
- "e.g.," is a shorthand for "for instance", and "i.e.," means "that is" or "in other words".

Icons Used in Figures

Figures in this User's Guide may use the following generic icons. The NPS-520 icon is not an exact representation of your device.

NPS-520	Computer	Notebook computer
Server	Modem or Router	Printer

Safety Warnings

For your safety, be sure to read and follow all warning notices and instructions.

- Do NOT use this product near water, for example, in a wet basement or near a swimming pool.
- Do NOT expose your device to dampness, dust or corrosive liquids.
- Do NOT store things on the device.
- Do NOT install, use, or service this device during a thunderstorm. There is a remote risk of electric shock from lightning.
- Connect ONLY suitable accessories to the device.
- Do NOT open the device or unit. Opening or removing covers can expose you to dangerous high voltage points or other risks. ONLY qualified service personnel should service or disassemble this device. Please contact your vendor for further information.
- Make sure to connect the cables to the correct ports.
- Place connecting cables carefully so that no one will step on them or stumble over them.
- Always disconnect all cables from this device before servicing or disassembling.
- Use ONLY an appropriate power adaptor or cord for your device.
- Connect the power adaptor or cord to the right supply voltage (for example, 110V AC in North America or 230V AC in Europe).
- Do NOT allow anything to rest on the power adaptor or cord and do NOT place the product where anyone can walk on the power adaptor or cord.
- Do NOT use the device if the power adaptor or cord is damaged as it might cause electrocution.
- If the power adaptor or cord is damaged, remove it from the power outlet.
- Do NOT attempt to repair the power adaptor or cord. Contact your local vendor to order a new one.
- Do not use the device outside, and make sure all the connections are indoors. There is a remote risk of electric shock from lightning.

This product is recyclable. Dispose of it properly.

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1

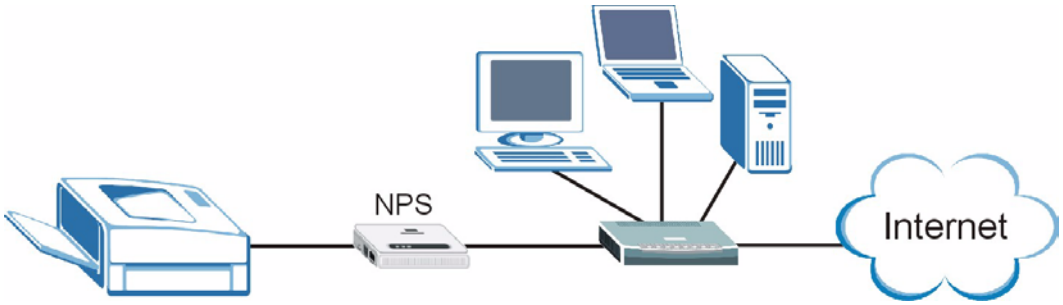
Introducing the NPS-520

This chapter introduces the main applications of the NPS-520. It also introduces the ways you can manage the NPS-520.

1.1 Overview

The NPS-520 (labeled **NPS** in the following graphic) is a print server that allows the computers in a network to share a printer, especially a multi-function printer (MFP). A MFP is a printer that can also work as a scanner, fax machine, copy machine, card reader and so on. The NPS-520 has one USB port and one Ethernet port. If a MFP comes with a USB port but no Ethernet port, the NPS-520 allows you to connect the MFP to your network and provides users on the network with shared access to the printer.

Figure 1 Application Overview



Windows 2000 SP4 and later computers connected to the NPS-520 can use all features available on an MFP, such as copying, printing, scanning and so on. They should also support LPR (Line Printer Remote) or IPP (Internet Printing Protocol). Other computers connected to the NPS-520 can only use the printer to print. Computers must take turns using the printer.

1.2 Ways to Manage the NPS-520

Use any of the following methods to manage the NPS-520.

- ZyXEL Utility. The utility is a tool that helps you configure the NPS-520 in a Windows computer.
- Web Configurator. You must use the web configurator if your are using a Linux/UNIX or Macintosh computer.

1.3 Good Habits for Managing the NPS-520

Do the following things regularly to make the NPS-520 more secure and to manage the NPS-520 more effectively.

- Change the password. Use a password that's not easy to guess and that consists of different types of characters, such as numbers and letters.
- Write down the password and put it in a safe place. If you forget your password, you will have to reset the NPS-520 to its factory default settings.

1.4 Hardware and Utility Installation

Follow the instructions in the Quick Start Guide to make hardware connections and install the ZyXEL utility.

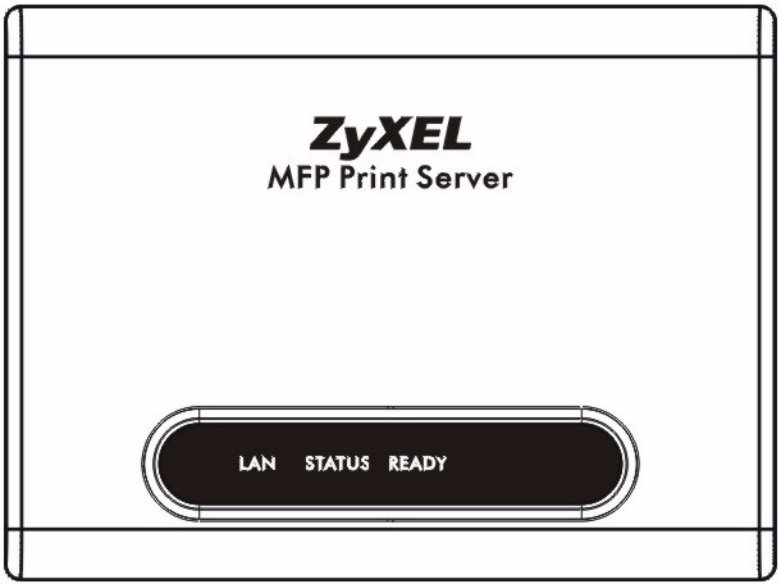
1.5 The Reset Button

If you forget the password and cannot access the ZyXEL utility's **TCP/IP Setting** and **System Setting** screens or the web configurator, you will need to use the **Reset** button on the side of the NPS-520. This means you will lose all configurations that you had previously. The password will be reset to 1234 and the IP address will be reset to 192.168.1.6.

1. Make sure the **Ready** LED on the NPS-520's panel is on (not blinking).
2. Press the **Reset** button for more than five seconds and then release it.
3. The **Ready** LED is off when you press the button. Then the **Ready** and **Status** LEDs flash once.
4. When the **Ready** LED turns steady on, the defaults have been restored and the NPS-520 is ready.

1.6 LEDs

Figure 2 LEDs



The following table describes the lights (LEDs) on the NPS-520.

Table 1 LEDs

LED	COLOR	STATUS	DESCRIPTION
LAN	Blue	On	The NPS-520 has a successful connection on this port.
		Blinking	The NPS-520 is sending/receiving data on this port.
		Off	The NPS-520 does not have a connection on this port.
STATUS	Blue	On	Firmware upload is in progress or the printer has a paper jam or is out of paper.
		Blinking	The NPS-520 is connected to a printer or sending a print job to a printer.
		Off	The NPS-520 is not connected to a printer or receives no print jobs.
READY	Blue	On	The system is ready.
		Off	The NPS-520 is not receiving power or failed to restart or firmware upload was not successful.

2

ZyXEL Utility

This chapter shows you how to use the ZyXEL utility to configure your NPS-520.

2.1 Accessing the ZyXEL Utility

To open the ZyXEL utility, double-click the ZyXEL utility icon ( ) in the system tray or click **Start > (All) Programs > ZyXEL NPS-520 Utility > NPS-520 Utility**.

Click the help icon ( ) (located in the top right corner) to display the online help window.

2.2 ZyXEL Utility Icon

After you install and start the ZyXEL utility, an icon for the ZyXEL utility appears in the system tray.

Figure 3 ZyXEL Utility: System Tray Icon

The ZyXEL utility system tray icon indicates the status of the NPS-520. Refer to the following table for details.

Table 2 ZyXEL Utility: System Tray Icon

ICON	DESCRIPTION
	The NPS-520 is not powered on or not connected to your computer or network.
	The NPS-520 is not connected to a printer or other client computer is using the printer connected to the NPS-520.
	The NPS-520 is powered on and connected to a printer.

2.3 ZyXEL Utility Screen Summary

This section describes the ZyXEL utility screens.

Figure 4 ZyXEL Utility Menu Summary

The following table describes the menus.

Table 3 ZyXEL Utility Menu Summary

TAB	DESCRIPTION
Status	Use this screen to • scan for a print server in your network. • associate with a printer that is connected to the NPS-520. • view your current connection status.
General Setting	Use this screen to configure if you want to open the utility when you start the computer and general settings.
TCP/IP Setting	Use this screen to either manually configure the NPS-520's IP address and subnet mask and a gateway IP address or set the NPS-520 to get the TCP/IP information from a DHCP server.
System Setting	Use this screen to configure the NPS-520's description and password, upload firmware, reset the factory defaults, restart the NPS-520 and drop the connection between the printer and the associated computer.

2.4 The Status Screen

When the ZyXEL utility starts, the **Status** screen displays, showing the current configuration and connection status of the NPS-520.

Figure 5 ZyXEL Utility: Status

The following table describes the labels in this screen.

Table 4 ZyXEL Utility: Status

LABEL	DESCRIPTION
Print Server List	The table below shows you the available print server(s) in your network.
, , or	denotes that a printer is connected to the print server, but your computer is not associated with the printer. denotes that there is no printer connected to the print server. denotes that a printer is connected to the print server, and your computer is also associated with the printer. denotes that the print server is busy and the printer connected is not available.
Name	This field displays the NPS-520's name that you can configure during installing the utility or in the **System Setting** screen.
Connected Printer Model	This field displays the model name of the printer that is currently connected to the NPS-520. This field is blank if there is no printer connected to the NPS-520.

Table 4 ZyXEL Utility: Status (continued)

LABEL	DESCRIPTION
Auto Release	This allows you to configure whether your computer will be disconnected from the printer when there is no request sent to the printer. Note: The **Auto Release** and **Auto Connect** features are not configurable if your computer operating system version is older then Windows 2000 SP4. Select **Disable** to have your computer always connect to the printer even when there is no traffic between the computer and the printer. Note: If you disable **Auto Release**, only your computer can use the printer. Click **Disconnect** to manually drop the connection between your computer and the printer. Select **When idle time** and select a period of idle time (in minutes) that elapses before the NPS-520 drop the connection between the computer and the printer. Note: It's strongly recommended that you enable **Auto Release** and/or **Auto Connect** on all Windows computers. This allows computers in the network take turns to use the printer.
Device Information	Click an entry in the **Print Server List** table to display the information of the selected print server.
MAC Address	This is the MAC address of the print server.
FW Version	This is the version of the current firmware on the print server.
Status	This shows whether your computer is associated with the printer (that is connected to the selected print server) (**Connected**) or not (**Disconnected**).
Computer Name	This is your computer's "Computer Name".
User's Contact	This is your computer's contact information that you configured in the **General Setting** screen.
Description	This is the NPS-520's descriptions that you can configure during installing the utility or in the **System Setting** screen.
Auto Connect	This shows whether the **Auto Connect** feature is active (**Enable**) or not (**Disable**).
Connect	Select an entry in the **Print Server List** table and use this button to associate your computer with the printer which is connected to the print server. If a computer is connected to the printer already, this button is not applicable.
Disconnect	Select an entry in the **Print Server List** table and use this button to drop the connection between your computer and the printer which is connected to the print server. If another computer in your network is connected to the printer, this button is not applicable. Use the **Force Release** button in the **System Setting** screen to disconnect the connection between the printer and another computer.

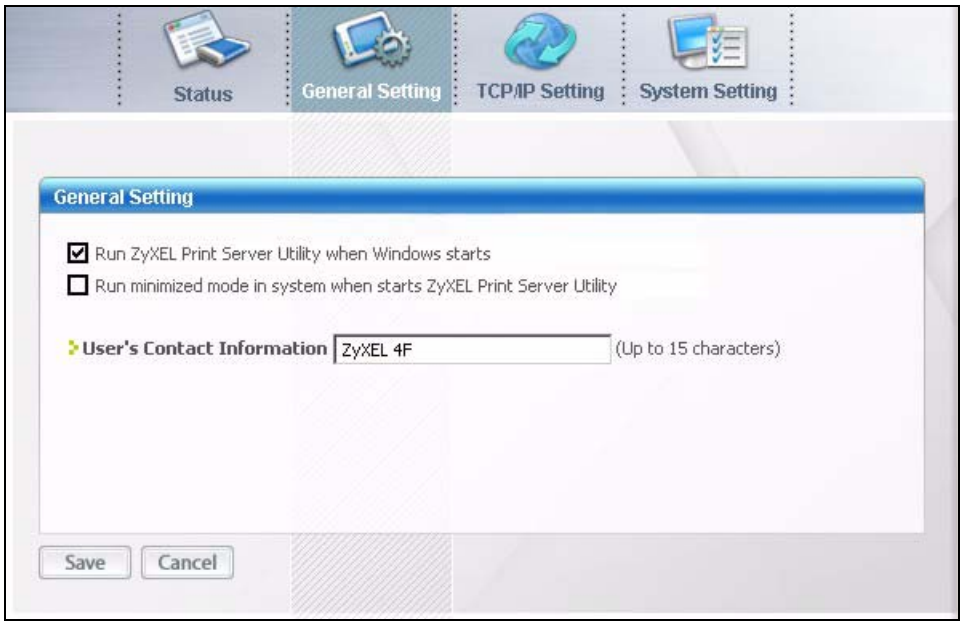
Table 4 ZyXEL Utility: Status (continued)

LABEL	DESCRIPTION
Refresh	Use this button to scan for the available print server(s) in your network again and update the table above.
Auto Connect	Use this button to have the NPS-520 automatically associate your computer with the specified printer when you send out a job and the printer is available. When you click this button, a screen displays. Select a printer which is added to your computer and connected to the NPS-520, and click **OK**. Note: When your print job is done and there is no other request (from your computer) sent to the printer in 20 seconds, the NPS-520 drops the connection between your computer and the printer.

2.5 The General Setting Screen

Use this screen to specify whether you want to open the utility when you start the computer or minimize the utility screen.

Figure 6 ZyXEL Utility: General Setting



The following table describes the labels in this screen.

Table 5 ZyXEL Utility: General Setting

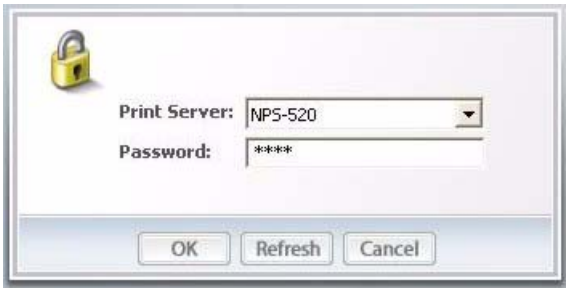
LABEL	DESCRIPTION
General Setting	
Run ZyXEL Print Server Utility when Windows starts	Select this check box to have the ZyXEL utility open automatically each time you start Windows.
Run minimized mode in system when starts ZyXEL Print Server Utility	Select this check box to minimize the ZyXEL utility screen each time you start the utility. To restore it, double-click the utility icon in the system tray.
User's Contact Information	Enter your contact information (of up to 15 printable characters long), such as your location.
Save	Click this button to save your changes to the NPS-520.
Cancel	Click this button to return to the **Status** screen without saving changes.

2.6 The TCP/IP Setting Screen

Use this screen to configure the NPS-520's TCP/IP settings, such as IP address, subnet mask and gateway.

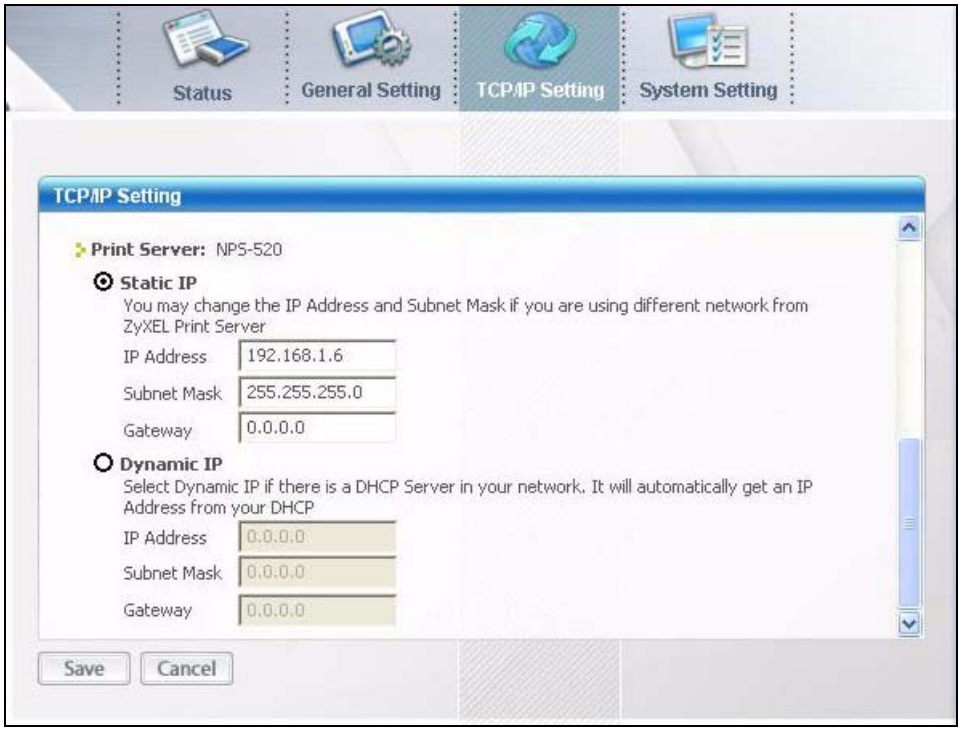
When you click the **TCP/IP Setting** tab, the following login screen displays. Select the name of your NPS-520 and enter the password (1234 by default).

Figure 7 ZyXEL Utility: Login



After you click **OK**, the **TCP/IP Setting** screen appears.

Figure 8 ZyXEL Utility: TCP/IP Setting



The following table describes the labels in this screen.

Table 6 ZyXEL Utility: TCP/IP Setting

LABEL	DESCRIPTION
Print Server	This is the NPS-520's descriptive name you configure in the **System Setting** screen.
Static IP	Select this option if there is not a DHCP server in the network to which the NPS-520 is connected and configure the TCP/IP information in the fields below.
IP Address	Enter the IP address of the NPS-520. The IP address should be in the same subnet of the network to which the NPS-520 is connected. Note: The NPS-520's default IP address is 192.168.1.6.
Subnet Mask	Enter the subnet mask of the NPS-520.
Gateway	Enter the IP address of the default gateway in the network to which the NPS-520 is connected.
Dynamic IP	Select this option to have the DHCP server (in the network to which the NPS-520 is connected) assign the NPS-520 an IP address automatically. The fields below are grayed out when you select this option. Note: We recommend you give the NPS-520 a static IP address or configure your DHCP server to always give it the same IP address (static DHCP). If the NPS-520's IP address changes, you need to uninstall and reinstall the ZyXEL utility on each computer that uses it.

Table 6 ZyXEL Utility: TCP/IP Setting (continued)

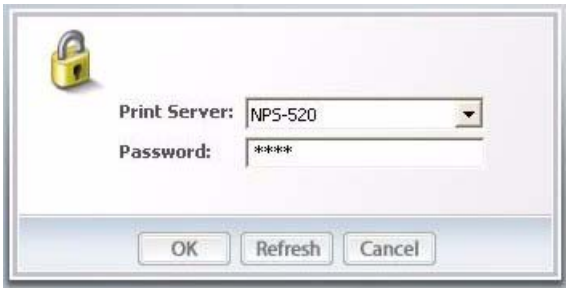
LABEL	DESCRIPTION
Save	Click this button to save your changes to the NPS-520. After you click the **Save** button, the following screen displays showing you the configured TCP/IP information. Click **Reboot Now** to restart the NPS-520 and have your new settings take effect immediately. Otherwise, click **Reboot Later** to restart the NPS-520 after you finish all changes.
Cancel	Click this button to return to the **Status** screen without saving changes.

2.7 The System Setting Screen

This screen allows you to configure the NPS-520's description and password, upload firmware, reset the factory defaults, restart the NPS-520 and drop the connection between the printer and the associated computer.

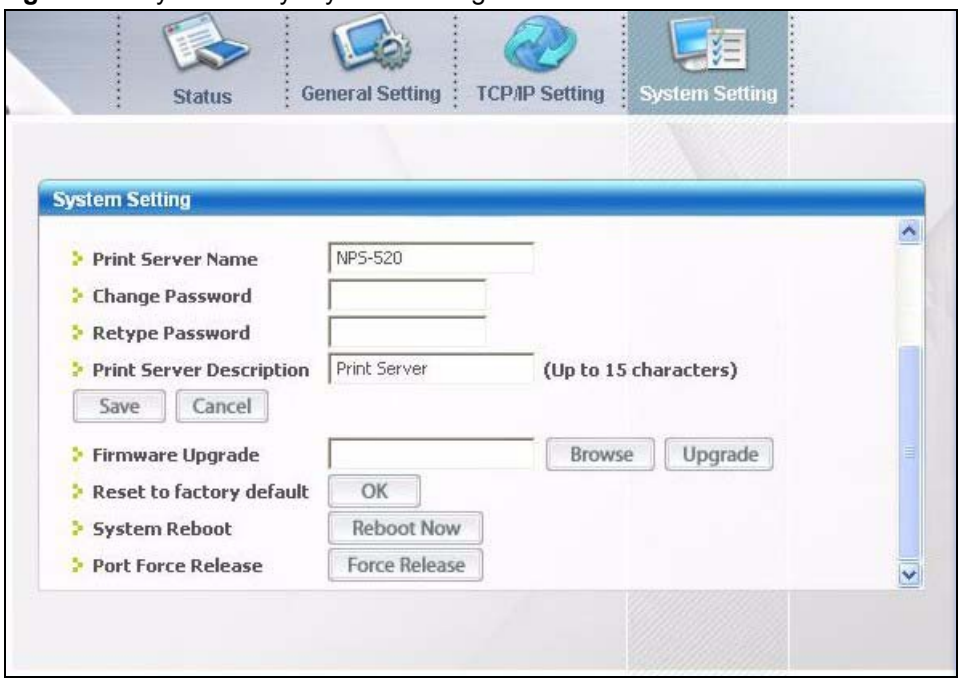
When you click the **System Setting** tab, the following login screen displays. Select the name of your NPS-520 and enter the password (1234 by default).

Figure 9 ZyXEL Utility: Login



After you click **OK**, the **System Setting** screen appears.

Figure 10 ZyXEL Utility: System Setting



The following table describes the labels in this screen.

Table 7 ZyXEL Utility: System Setting

LABEL	DESCRIPTION
System Setting	
Print Server Name	Enter a descriptive name to replace the NPS-520's unique generated device name (the last three characters of the NPS-520's MAC address with the prefix "ZyXEL"). You can enter up to 15 printable characters. Spaces are allowed.
Change Password	Type a new administrator password for configuring the TCP/IP and system settings. You can enter up to seven printable characters. Spaces are allowed. Please note as you type a password, the screen displays a * for each character you type.
Retype Password	Type the new password for confirmation.
Print Server Description	Type additional descriptive text for the NPS-520 if you want. You can enter up to 15 ASCII characters. Spaces are allowed.
Save	Click this button to save your changes to the NPS-520.
Cancel	Click this button to return to the **Status** screen without saving changes.
Firmware Upgrade	Type in the location of the .bin file you want to upload in this field or click **Browse** to find it.
Browse	Click **Browse** to find the .bin file you want to upload. Remember that you must decompress compressed (.zip) files before you can upload them. Find firmware at www.zyxel.com in a file that (usually) uses the system model name with a .bin extension.

Table 7 ZyXEL Utility: System Setting (continued)

LABEL	DESCRIPTION
Upgrade	Click **Upgrade** to begin the upload process. The following screen displays when the upload is successful. Click **OK** to go back to the **System Setting** screen. Note: Only upload firmware for your specific model. Note: Do not turn off the NPS-520 while firmware upload is in process.
Reset to factory default	Click **OK** to clear all user-entered configuration information and return the NPS-520 to its factory defaults. When the following displays, click **OK** to go back to the **System Setting** screen. You can also use the hardware **Reset** button to reset the factory defaults of your NPS-520. See Section 1.5 on page 18 for more information on the **Reset** button.

Table 7 ZyXEL Utility: System Setting (continued)

LABEL	DESCRIPTION
System Reboot	Click **Reboot Now** to restart your NPS-520 without turning the power off. This allows your current new settings to take effect immediately but does not return the NPS-520 to its default configuration. When the NPS-520 finishes rebooting, the following screen displays. Click **OK** to go back to the **System Setting** screen.
Port Force Release	Use the **Force Release** button to drop the connection between the printer and a computer. When a computer is always occupying the connection to the printer without enabling **Auto Release** and/or **Auto Connect**, you can stop that computer's connection to the printer by using this feature from the utility on your computer.

2.8 The About Screen

The **About** screen displays driver and utility version numbers of the NPS-520. To display the screen as shown below, click the about ( ) button.

Figure 11 About

The following table describes the read-only fields in this screen.

Table 8 About

LABEL	DESCRIPTION
Driver version	This field displays the version number of the NPS-520 driver.
Utility version	This field displays the version number of the ZyXEL utility.

2.9 Uninstalling the ZyXEL Utility

You might need to uninstall the utility if you are upgrading to a new utility or re-installing the existing one if there were problems the first time.

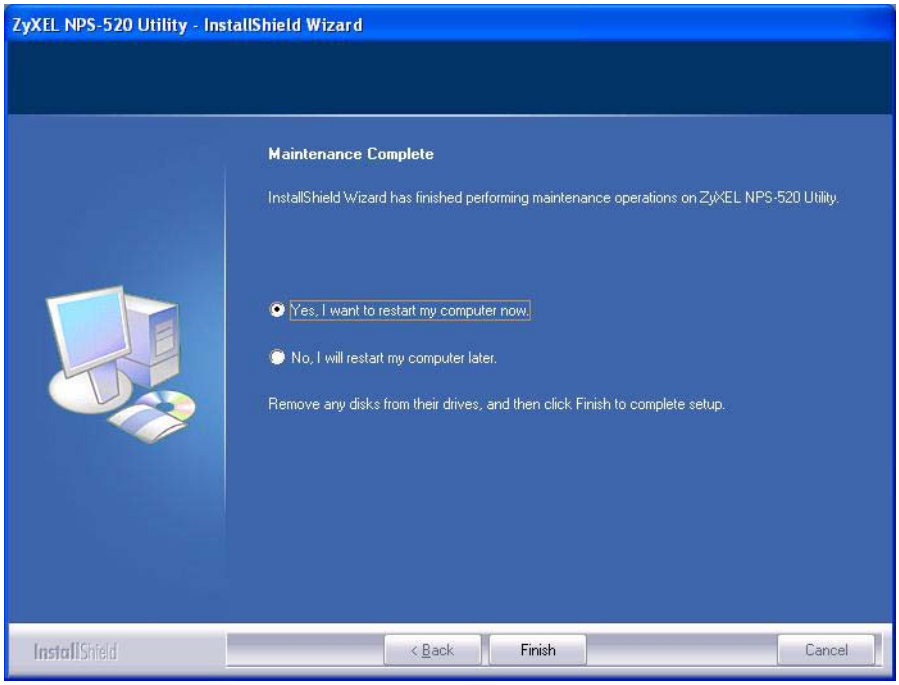
Follow the steps below to remove (or uninstall) the ZyXEL utility from your computer.

1. Click **Start**, **(All) Programs**, **ZyXEL NPS-520 Utility**, **Uninstall**.
2. When prompted, click **Yes** to remove the driver and the utility software.

Figure 12 Uninstall: Confirm

3. Click **Finish** to complete uninstalling the software and restart the computer when prompted.

Figure 13 Uninstall: Finish



2.10 Upgrading the ZyXEL Utility

To perform the upgrade, follow the steps below.

1. Download the latest version of the utility from the ZyXEL web site and save the file on your computer.
2. Follow the steps in Section 2.9 on page 32 to remove the current ZyXEL utility from your computer.
3. Restart your computer when prompted.

4. Double-click on the setup program for the new utility to start the ZyXEL utility installation.
5. Check the version numbers in the **About** screen to make sure the new utility is installed properly.

3

Web Configurator

This chapter describes how to configure the NPS-520 using the web configurator.

3.1 Web Configurator Overview

The web configurator is an HTML-based management interface that allows easy NPS-520 setup and management via Internet browser. Use Internet Explorer 6.0 and later or Netscape Navigator 7.0 and later versions. The recommended screen resolution is 1024 by 768 pixels.

In order to use the web configurator you need to allow:

- Web browser pop-up windows from your device. Web pop-up blocking is enabled by default in Windows XP SP (Service Pack) 2.
- JavaScripts (enabled by default).
- Java permissions (enabled by default).

See Appendix C on page 95 if you want to make sure these functions are allowed in Internet Explorer or Netscape Navigator.

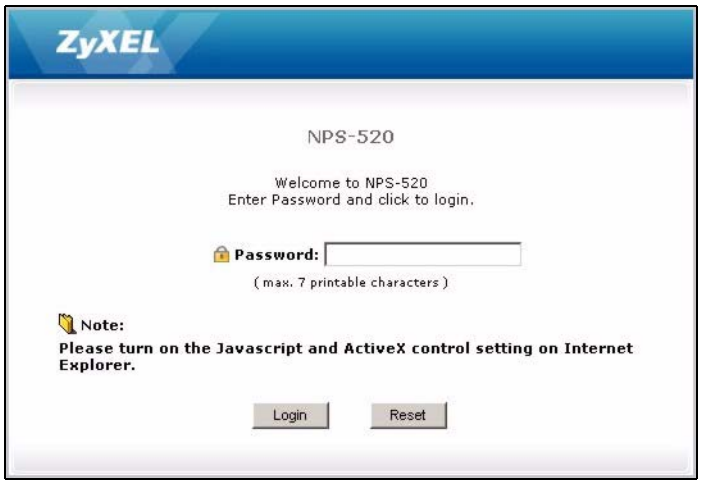
3.2 Accessing the NPS-520 Web Configurator

1. Make sure your NPS-520 hardware is properly connected and prepare your computer/ computer network to connect to the NPS-520 (refer to the Quick Start Guide).
2. Launch your web browser.
3. Type "192.168.1.6" as the URL.

The NPS-520‘s default IP address is 192.168.1.6.

4. Type "1234" (default) as the password and click **Login**. In some versions, the default password appears automatically - if this is the case, click **Login**.

Figure 14 Web Configurator: Login

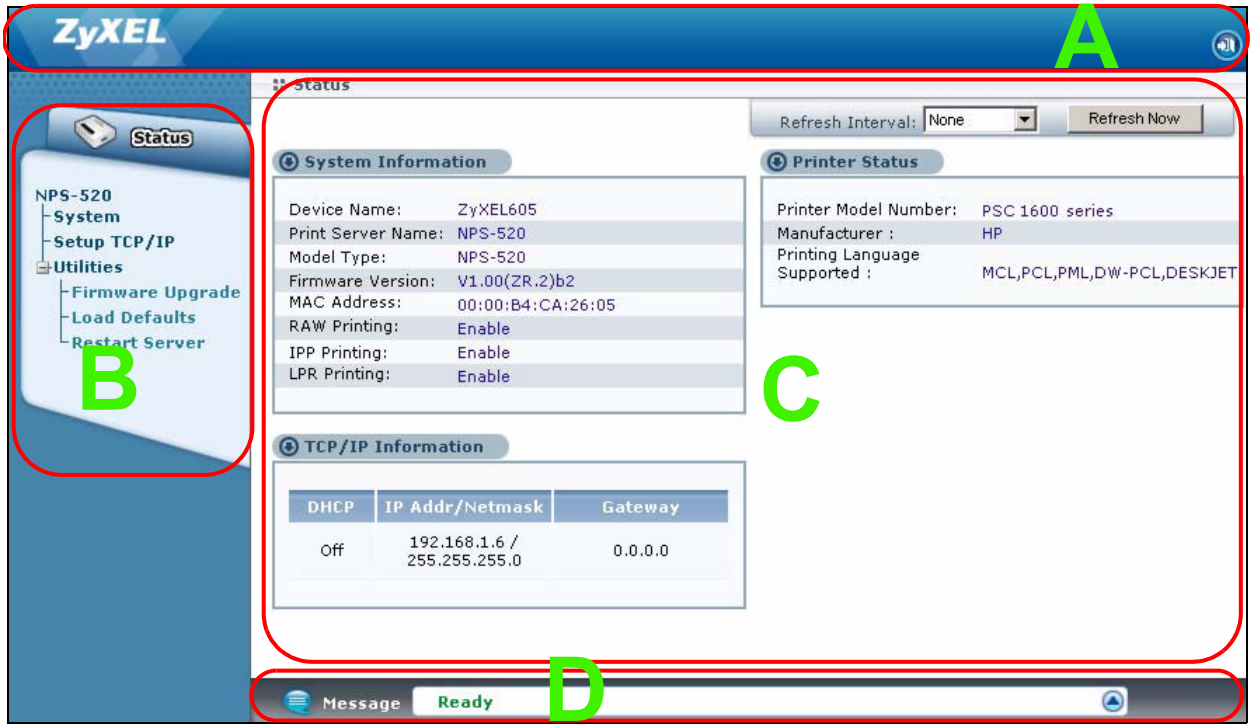


5 You should now see the **Status** screen (see Figure 15 on page 36).

3.3 Navigating the NPS-520 Web Configurator

The following summarizes how to navigate the web configurator from the **Status** screen.

Figure 15 Web Configurator: Main Screen



As illustrated above, the main screen is divided into these parts:

- **A** - title bar
- **B** - navigation panel
- **C** - main window

- **D** - status bar

3.3.1 Title Bar

The title bar provides some icons in the upper right corner.

The icons provide the following functions.

Table 9 Title Bar: Web Configurator Icons

ICON	DESCRIPTION
	Help: Click this icon to open the help page for the current screen.
	About: Click this icon to open the about screen where you can view driver and utility version numbers of the NPS-520.
	Logout: Click this icon to exit the web configurator.

3.3.2 Navigation Panel

After you enter the password, use the menus on the navigation panel to configure NPS-520 features.

The following table describes the menus.

Table 10 Screens Summary

LINK	SUB-MENU	FUNCTION
Status		This screen shows the NPS-520's general device, printer status and TCP/IP information.
System		Use this screen to change your administrative information and system password.
Setup TCP/IP		Use this screen to configure TCP/IP and DHCP settings.
Utilities	Firmware Upgrade	Use this screen to upload firmware to your NPS-520
	Load Defaults	Use this screen to reset the factory defaults (the password is 1234 and the IP address is 192.168.1.6).
	Restart Server	This screen allows you to reboot the NPS-520 without turning the power off.

3.3.3 Main Window

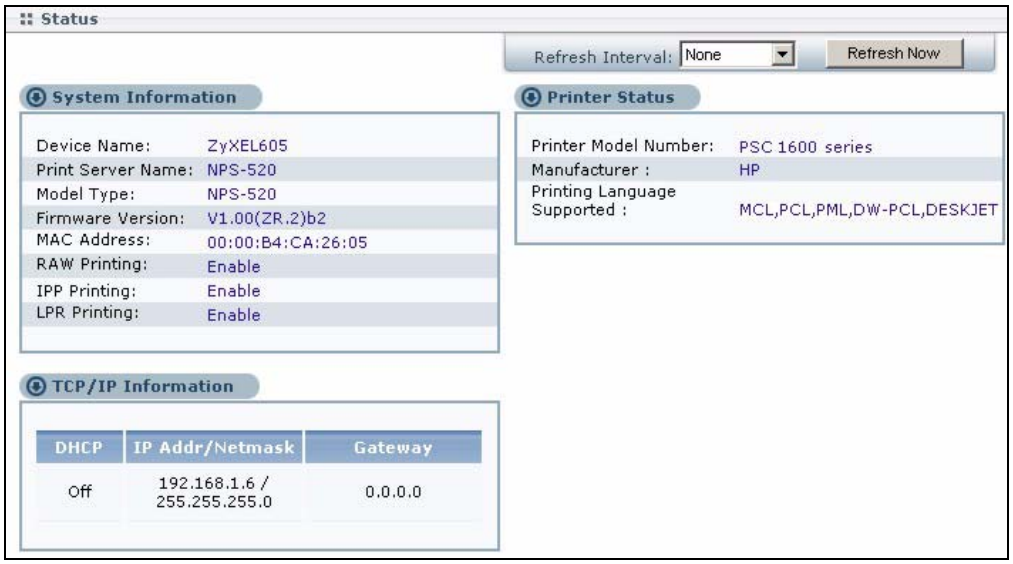
The main window shows the screen you select in the navigation panel. It is discussed in more detail in the rest of this document.

Right after you log in, the **Status** screen is displayed.

3.4 The Status Screen

This screen displays general status information about the NPS-520.

Figure 16 Web Configurator: Status



The following table describes the labels in this screen.

Table 11 Web Configurator: Status

LABEL	DESCRIPTION
Refresh Interval	Select a number of seconds or **None** from the drop-down list box to update all screen statistics automatically at the end of every time interval or to not update the screen statistics.
Refresh	Click this button to update the status screen statistics immediately.
System Information	
Device Name	This is the default name of your NPS-520. It begins with “ZyXEL” and is followed by the last three characters of the NPS-520’s MAC address.
Print Server Name	This is the **Server Name** you enter in the **System** screen. It is for identification purposes.
Model Type	This is the model name of your NPS-520.
Firmware Version	This is the version of the Firmware currently on the NPS-520.
MAC Address	This is the MAC (Media Access Control) address of the NPS-520. Every device that can use a network has a unique identification number, called a MAC address. The MAC address is assigned at the factory and consists of six pairs of hexadecimal characters[A], for example, 00:A0:C5:00:00:02.
RAW Printing	This indicates that the NPS-520 supports the RAW printing protocol (**Enable**).
IPP Printing	This indicates that the NPS-520 supports the IPP printing protocol (**Enable**).
LPR Printing	This indicates that the NPS-520 supports the LPR printing protocol (**Enable**).
TCP/IP Information	
DHCP	If the NPS-520 is set to get its IP address automatically from a DHCP server in the network to which the NPS-520 is connected, this displays **On**. If the NPS-520 is using a manually entered static (fixed) IP address, this displays **Off**.
IP Addr/Netmask	This shows the NPS-520’s IP address and subnet mask.
Gateway	This shows the gateway’s IP address you configured in the **Setup TCP/IP** screen.

Table 11 Web Configurator: Status (continued)

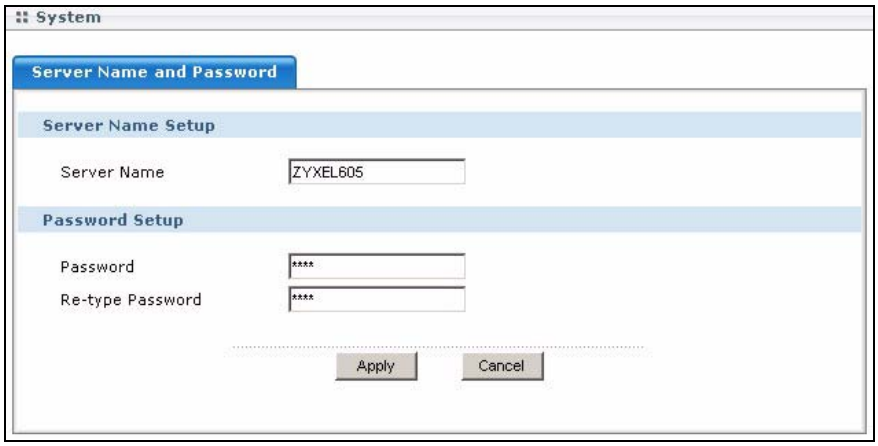
LABEL	DESCRIPTION
Printer Status	These fields are blank if no printer is connected.
Printer Model Number	This displays the model name of the printer currently connected to the NPS-520.
Manufacturer	This displays the manufacturer name of the printer currently connected to the NPS-520.
Printing Language Supported	This displays the printing languages supported by the printer currently connected to the NPS-520.

A. Hexadecimal characters are 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, and F.

3.5 The System Screen

Use this screen to change the NPS-520's system name and management password.

Figure 17 Web Configurator: System



The following table describes the labels in this screen.

Table 12 Web Configurator: System

LABEL	DESCRIPTION
Server Name Setup	
Server Name	Enter a descriptive name for identification purposes. By default, the generated server name begins with "ZyXEL" and is followed by the last three characters of the NPS-520's MAC address. This name can be up to 30 alphanumeric characters long. Spaces are not allowed, but dashes "-" and underscores "_" are accepted.
Password Setup	
Old Password	Type the default password or the existing password you use to access the system in this field. If you forget the password, you may have to use the hardware **RESET** button. This restores the default password of 1234.
Password	Type your new system password (up to 7 printable characters). Note that as you type a password, the screen displays a (*) for each character you type.
Re-type Password	Type the new password again for confirmation.

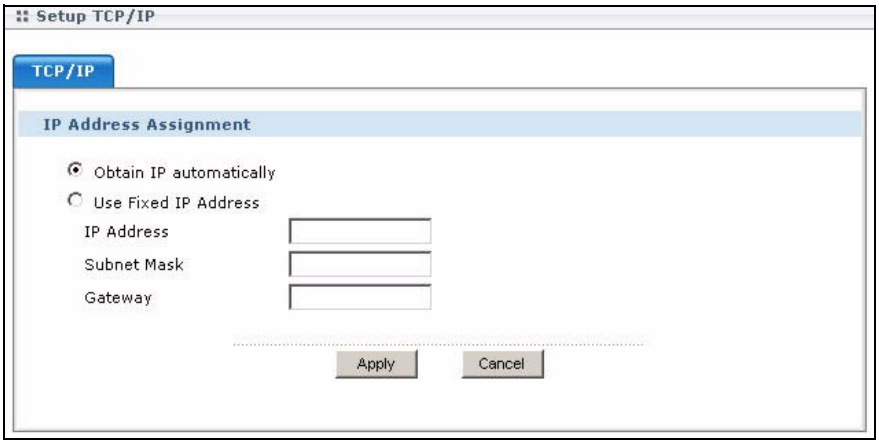
Table 12 Web Configurator: System (continued)

LABEL	DESCRIPTION
Apply	Click **Apply** to save your changes back to the NPS-520.
Cancel	Click **Cancel** to exit this screen without saving and go to the **Status** screen.

3.6 The Setup TCP/IP screen

Use this screen to configure the NPS-520's IP address and other TCP/IP settings.

Figure 18 Web Configurator: TCP/IP



The following table describes the labels in this screen.

Table 13 Web Configurator: TCP/IP

LABEL	DESCRIPTION
IP Address Assignment	Use this section to configure the NPS-520's IP address. Note: If you changed the NPS-520's IP address, use the new IP address to access the web configurator again. If you set the NPS-520's to get an IP address from a DHCP server, check the DHCP server for the NPS-520's new IP address. Note: After you changed the NPS-520's IP address and click **Apply**, make sure you click the **Logout** icon in the upper right corner before you use the new IP address to access the web configurator again.
Obtain IP automatically	Select this option to have the DHCP server assign the NPS-520 an IP address automatically when there is a DHCP server in the network to which the NPS-520 is connected. Note: We recommend you give the NPS-520 a static IP address or configure your DHCP server to always give it the same IP address (static DHCP). If the NPS-520's IP address changes, you need to uninstall and reinstall the ZyXEL utility on each computer that uses it.

Table 13 Web Configurator: TCP/IP (continued)

LABEL	DESCRIPTION
Use Fixed IP Address	Select this option If you want to assign a fixed IP address to the NPS-520 manually. Configure the fields below. Note: The NPS-520's IP address should be in the same subnet as the network to which the NPS-520 is connected.
IP Address	Type the IP address of your NPS-520 in dotted decimal notation. 192.168.1.6 is the factory default.
Subnet Mask	Enter the subnet mask that specifies the network number portion of an IP address.
Gateway	Enter the gateway IP address (if there is one) in this field if you selected **Use Fixed IP Address**.
Apply	Click **Apply** to save your changes back to the NPS-520.
Cancel	Click **Cancel** to exit this screen without saving and go to the **Status** screen.

3.7 The Utilities Screen

The **Utilities** screens can help you upload new firmware, reset the factory defaults and restart your NPS-520.

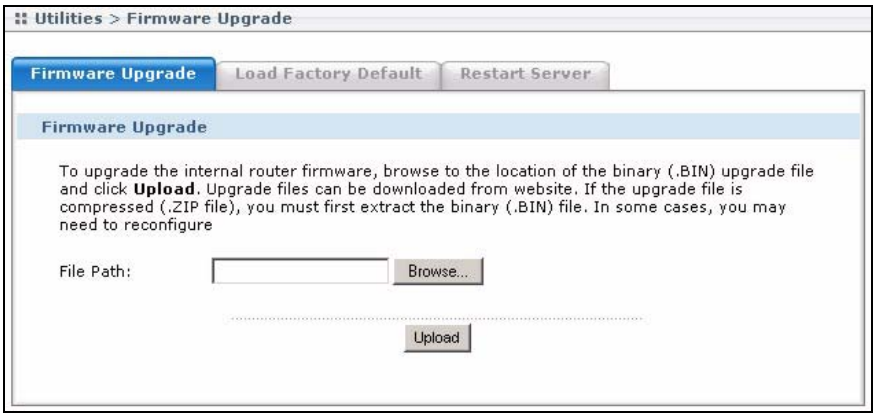
3.7.1 Firmware Upgrade

Find firmware at www.zyxel.com in a file that (usually) uses the system model name with a .bin extension, for example, "NPS-520.bin". The upload process uses HTTP (Hypertext Transfer Protocol) and may take up to two minutes. After a successful upload, the system will reboot.

Click **Utilities** > **Firmware Upgrade**. Follow the instructions in this screen to upload firmware to your NPS-520.

Only upload firmware for your specific model!

Figure 19 Web Configurator: Utilities > Firmware Upgrade



The following table describes the labels in this screen.

Table 14 Web Configurator: Utilities > Firmware Upgrade

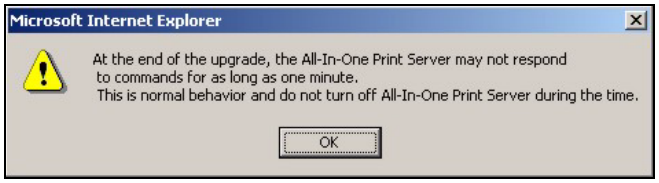
LABEL	DESCRIPTION
File Path	Type in the location of the file you want to upload in this field or click **Browse ...** to find it.
Browse...	Click **Browse...** to find the .bin file you want to upload. Remember that you must decompress compressed (.zip) files before you can upload them.
Upload	Click **Upload** to begin the upload process. This process may take up to two minutes.

Click **OK** when a screen displays asking you to confirm that you want to upload the firmware.

Figure 20 Firmware Upload Confirmation

Click **OK** when a screen displays asking you not to turn off the NPS-520 during firmware upgrade.

Figure 21 Firmware Upload Warning



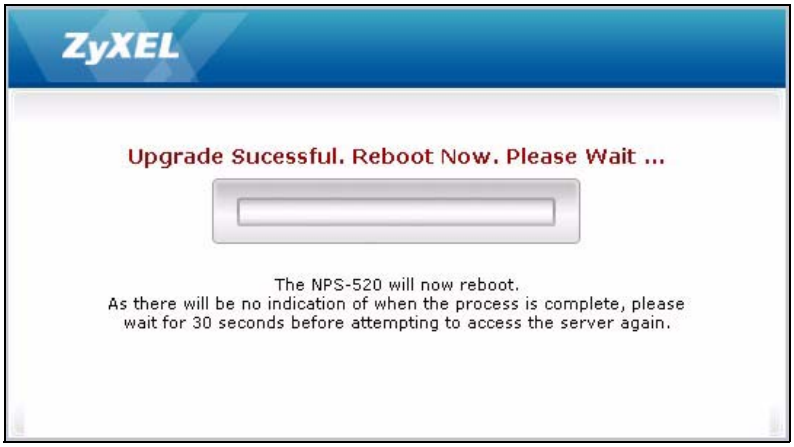
Do not turn off the NPS-520 while firmware upload is in progress!

The NPS-520 automatically restarts in this time causing a temporary network disconnect. In some operating systems, you may see the following icon on your desktop.

Figure 22 Network Temporarily Disconnected

After you see the **Upgrade Successful** screen, wait 30 seconds before logging into the NPS-520 again.

Figure 23 Firmware Upload Successful

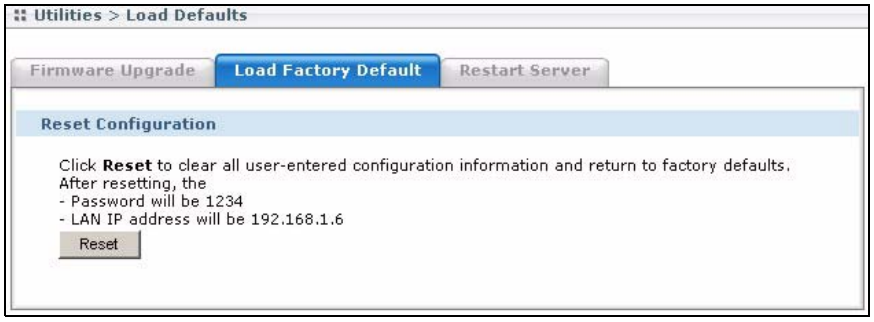


After 30 seconds, log in again and check your new firmware version in the **Status** screen.

3.7.2 Load Defaults

Click **Utilities** > **Load Defaults** to open the following screen. Click the **Reset** button to clear all user-entered configuration information and return the NPS-520 to its factory defaults as shown on the screen.

Figure 24 Web Configurator: Utilities > Load Defaults



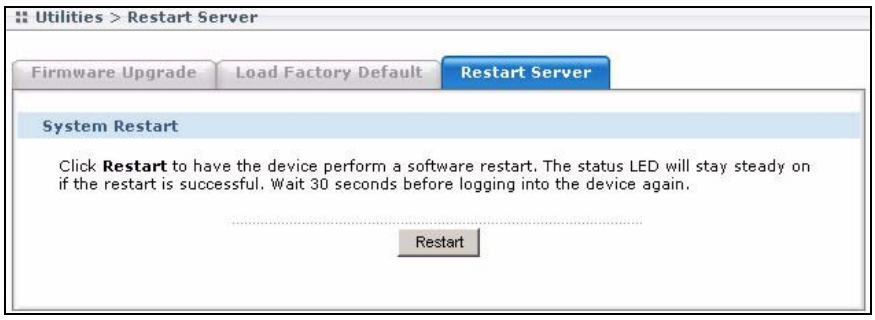
You can also press the hardware **Reset** button to reset the factory defaults of your NPS-520. Refer to Section 1.5 on page 18 for more information on the **Reset** button.

3.7.3 Restart Screen

System restart allows you to reboot the NPS-520 without turning the power off.

Click **Utilities** > **Restart**. Click **Restart** to have the NPS-520 reboot. Restart is different to reset; (see Section 3.7.2 on page 43) reset returns the device to its default configuration.

Figure 25 Web Configurator: Utilities > Restart



4

Adding a Printer on Your Computer

To use a printer, you need to install the printer driver and set up the printer on your computer. In Windows, you can also use the ZyXEL utility to set up a printer and/or associate an existing printer driver with the NPS-520. See your Quick Start Guide for more information.

You must have a printer with a driver and you need to know the IP address of the NPS-520.

4.1 Printing Protocol

Most printers or printing software allow sending or receiving jobs over an Intranet or the Internet. The NPS-520 supports the following printing protocols:

- LPR (Line Printer Remote)
- RAW
- IPP (Internet Printing Protocol)

If you want to use a printer on your local network, use LPR or RAW. If you want to use a printer on a remote network over the Internet, use IPP.

4.1.1 LPR

LPR (Line Printer Remote) is a cross-platform printing protocol that runs on a client computer and uses TCP/IP to establish connections between printers and computers on a network. It sends print jobs to a print server that is running LPD (Line Printer Daemon) protocol.

4.1.2 RAW

This is the data type for print job using languages, such as PCL or PortScript. The RAW protocol is the default printing protocol for most printer. The RAW-formatted job is sent to a print server on TCP port 9100 (standard).

To use RAW in Windows 98 SE, Windows Me or Windows NT, you need to install an additional software to add a network port for your print server.

LPR or RAW is always used when a user wants to use a printer on the local network.

4.1.3 IPP

IPP (Internet Printing Protocol) is used to send print jobs to a remote printer either directly on default IPP port 631 or using HTTP on port 80. This has been implemented in many operating systems, such as Microsoft and Novell. IPP is always used when the client computers send print jobs over the Internet.

If you want to share a printer with users on a remote network, you need to give the print server a public IP address or allows it accessible to the outside network. You also need to make sure your firewall allows IPP services over either port 80 or port 631.

Windows 2000, Windows 2003 and Windows XP support IPP v1.0. To print using IPP in Windows 98 SE or Windows Me, make sure the IPP client is installed on your computer.

4.2 Adding a Printer in Windows

This section shows you how to set up a printer in your Windows computer.

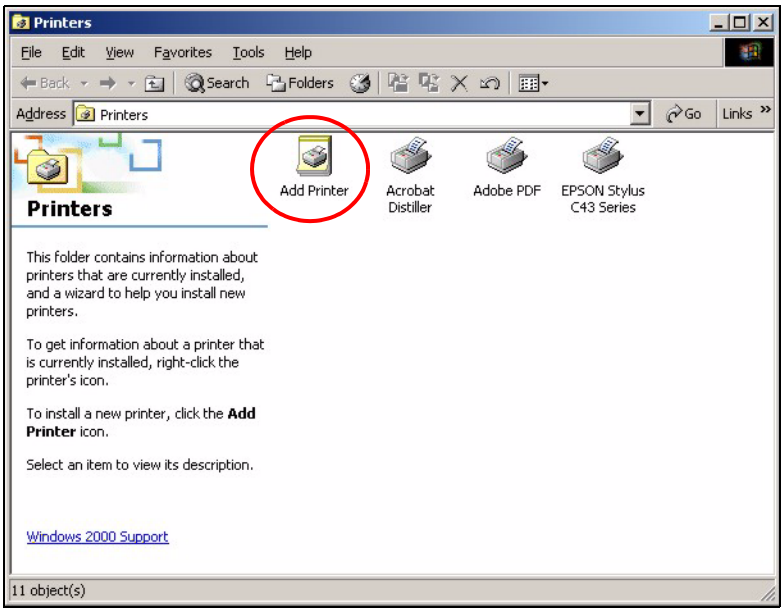
4.2.1 Windows 2000/XP/2003

We use the Windows 2000 screens here as an example. Screens and steps vary slightly for different Windows operating systems.

4.2.1.1 Printer Setup with LPR or RAW

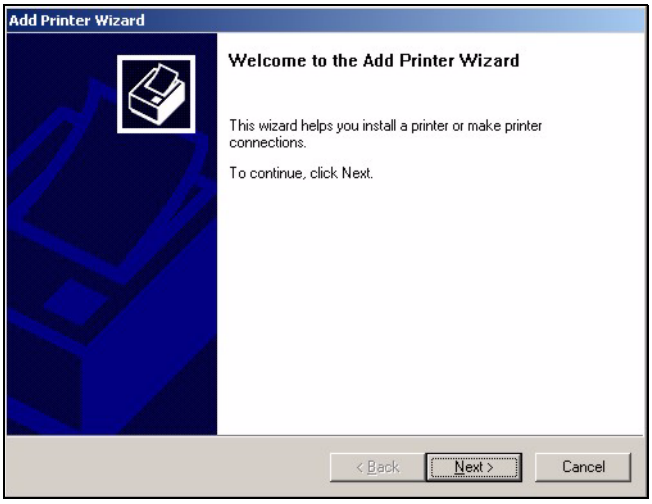
1. Click **Start > Settings > Printers**.
2. Double-click the **Add Printer** icon in the **Printers** screen to start the **Add Printer Wizard**.

Figure 26 Windows 2000: Start > Settings > Printers



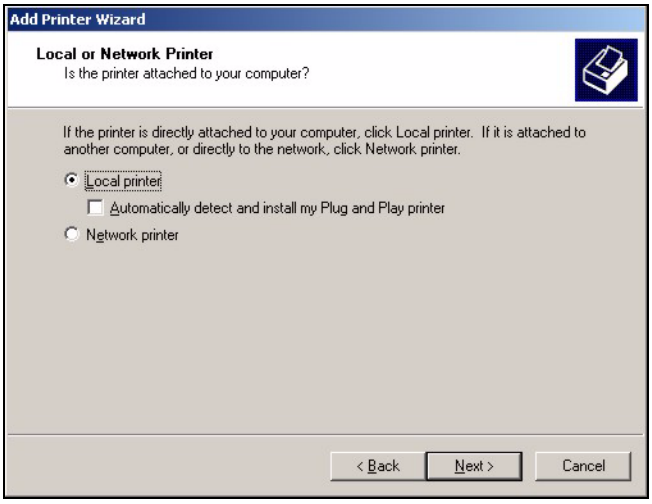
3 The **Add Printer Wizard** screen then displays. Click **Next** in each screen to continue.

Figure 27 Windows 2000: Add Printer Wizard: Welcome



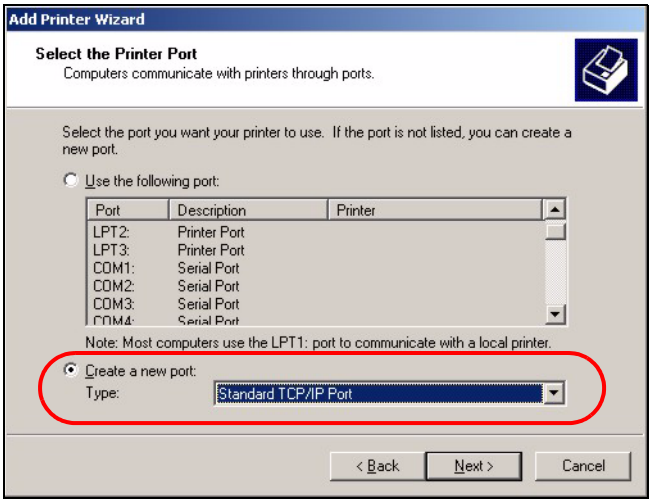
4 Select **Local printer** and click **Next**.

Figure 28 Windows 2000: Add Printer Wizard: Local or Network Printer



5 Select **Create a new port** and then **Standard TCP/IP Port** in the **Type** drop-down list box.

Figure 29 Windows 2000: Add Printer Wizard: Locate Your Printer

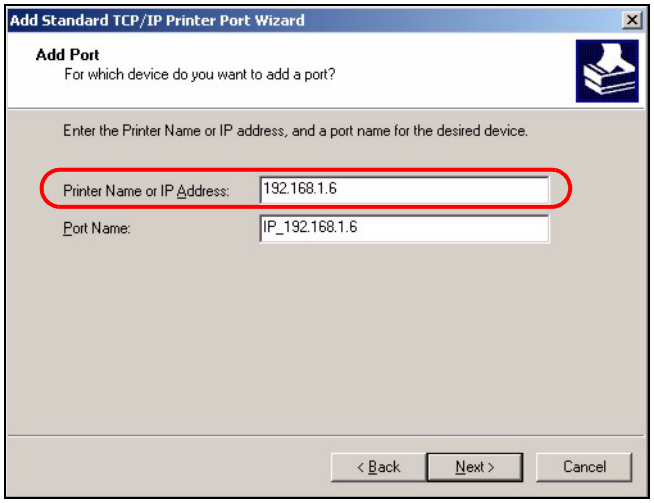


6 Make sure your NPS-520 and printer are already powered on and connected to your network. The first **Add Standard TCP/IP Printer Port Wizard** screen displays.

Figure 30 Windows 2000: Add Standard TCP/IP Printer Port Wizard

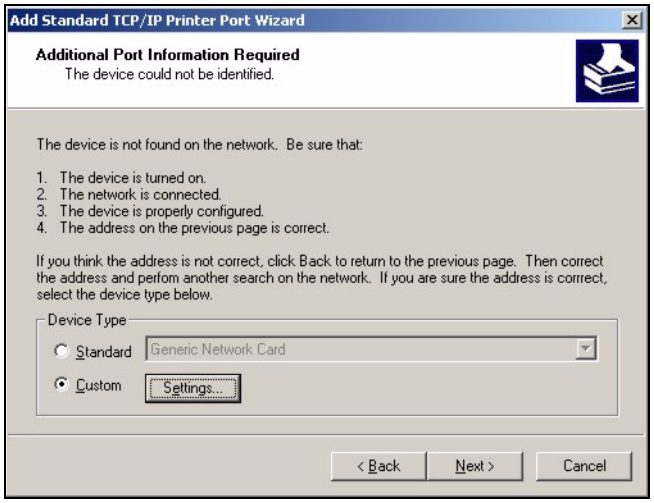
7 Enter the NPS-520's IP address in the **Printer Name or IP Address** field and click **Next**.

Figure 31 Windows 2000: Add Standard TCP/IP Printer Port Wizard: Add Port



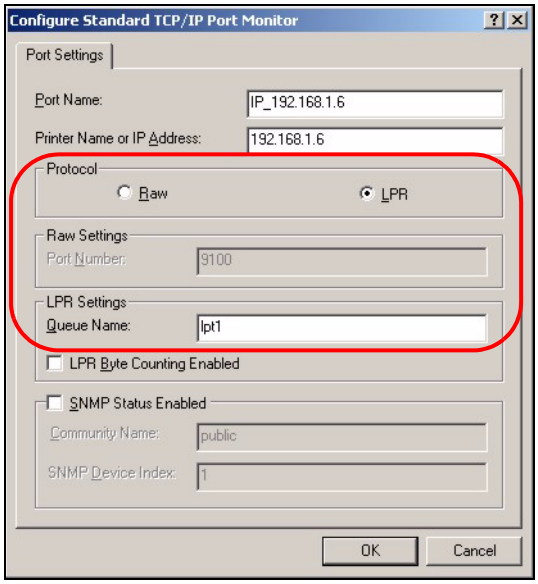
8 Select **Custom** and then click **Settings...** to configure the printing protocol and port settings.

Figure 32 Windows 2000: Add Standard TCP/IP Printer Port Wizard: Port Information



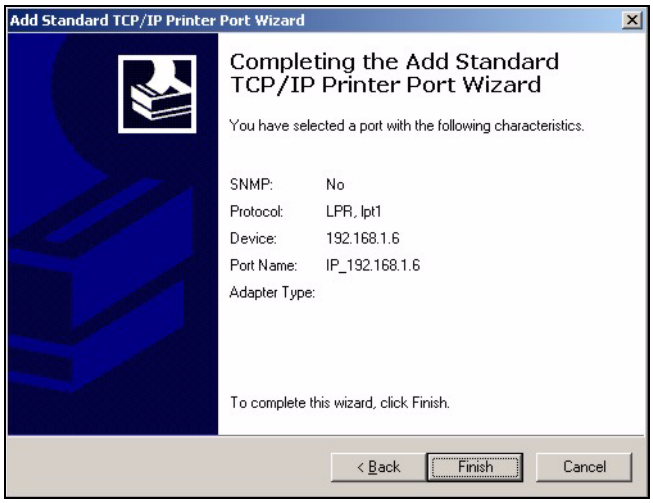
9 Select **LPR** and set **Queue Name** to “lpt1” or select **Raw** and set **Port Number** to “9100”. Click **OK** to go back to the **Add Standard TCP/IP Printer Port Wizard** (see Figure 32 on page 49) and then click **Next**.

Figure 33 Windows 2000: Configure Standard TCP/IP Port Monitor



10 Verify your printer port settings and click **Finish** to go back to the **Add Printer Wizard**.

Figure 34 Windows 2000: Add Standard TCP/IP Printer Port Wizard: Finish



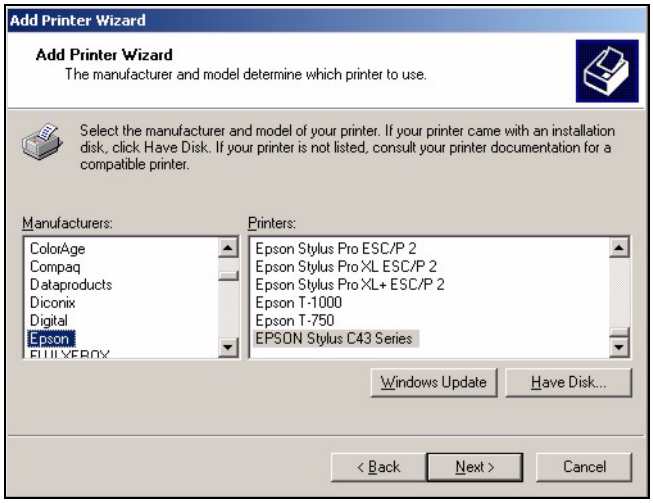
11 Select the make of the printer that you want to connect to the NPS-520 in the **Manufacturers** list.

12 Select the printer model from the list of **Printers**.

13 If your printer is not displayed in the list of **Printers**, you can insert the printer driver installation CD/disk or download the driver file to your computer, click **Have Disk…** and install the new printer driver.

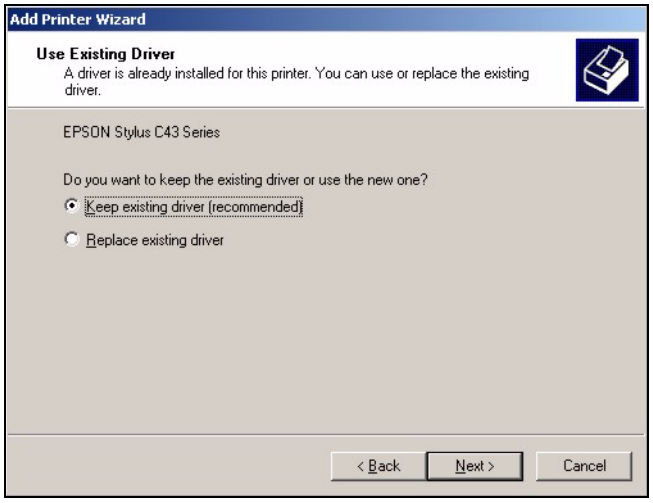
14 Click **Next** to continue.

Figure 35 Windows 2000: Add Printer Wizard: Printer Driver



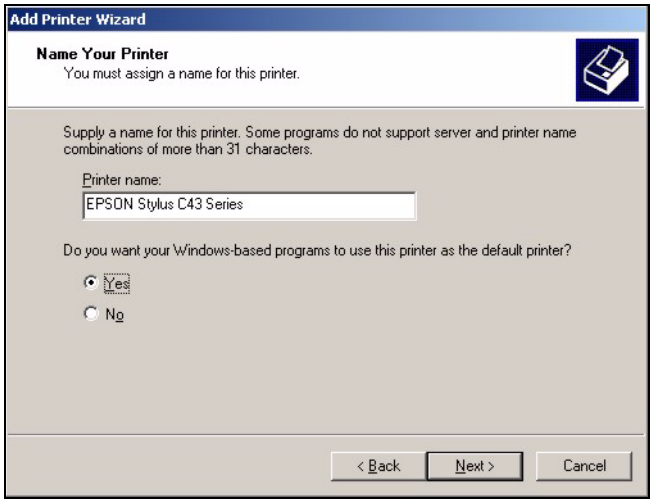
15 If the following screen displays, select **Keep existing driver** and click **Next** if you already have a printer driver installed on your computer and you do not want to change it. Otherwise, select **Replace existing driver** to replace it with the new driver you selected in the previous screen and click **Next**.

Figure 36 Windows 2000: Add Printer Wizard: Use Existing Driver



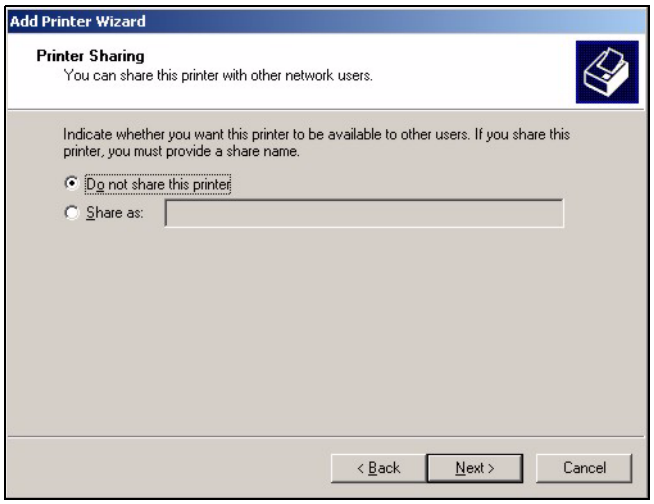
16 Type a name to identify the printer and then click **Next** to continue.

Figure 37 Windows 2000: Add Printer Wizard: Name Your Printer



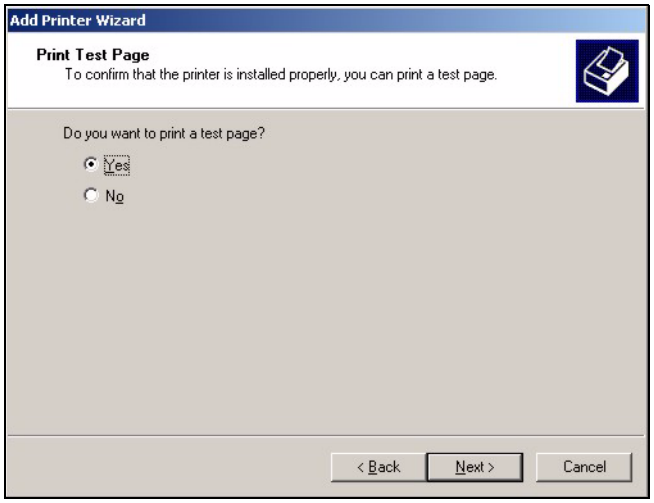
17 The NPS-520 is a print server itself and you do not need to have your computer act as a print server by sharing the printer with other users in the same network; select **Do not share this printer** and click **Next** to proceed to the following screen.

Figure 38 Windows 2000: Add Printer Wizard: Printer Sharing



18 Select **Yes** and then click **Next** if you want to print a test page. A pop-up screen displays to ask if the test page is printed correctly. Otherwise select **No** and then click **Next** to continue.

Figure 39 Windows 2000: Add Printer Wizard: Print Test Page



19 The following screen shows your current printer settings. Select **Finish** to complete printer setup and close the wizard screen.

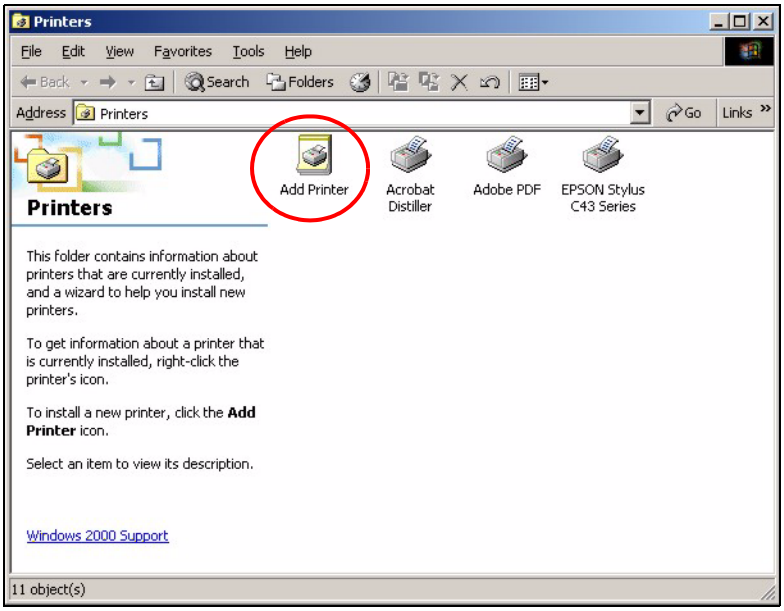
Figure 40 Windows 2000: Add Printer Wizard Complete

4.2.1.2 Printer Setup with IPP

1 Click **Start > Settings > Printers**.

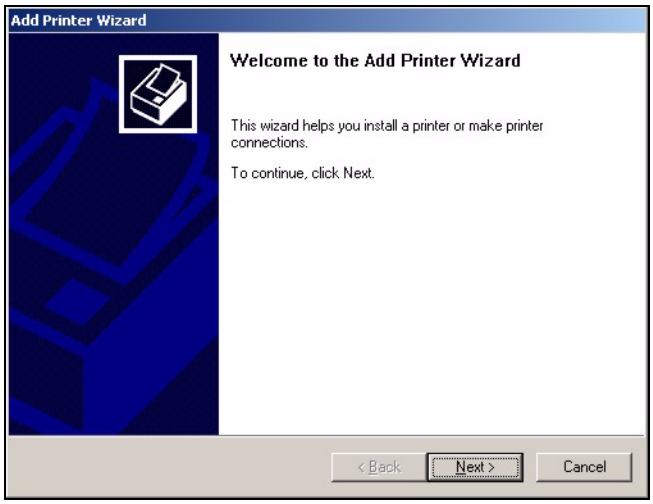
2 Double-click the **Add Printer** icon in the **Printers** screen to start the **Add Printer Wizard**.

Figure 41 Windows 2000: Start > Settings > Printers



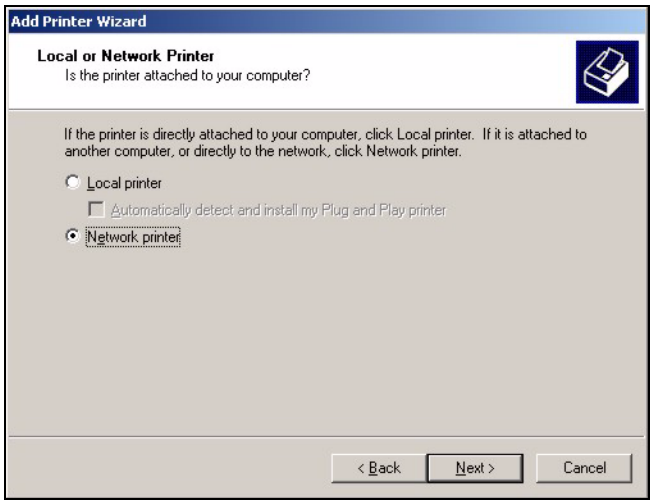
3 The **Add Printer Wizard** screen displays. Click **Next**.

Figure 42 Windows 2000: Add Printer Wizard: Welcome



4 Select **Network printer** and click **Next**.

Figure 43 Windows 2000: Add Printer Wizard: Local or Network Printer

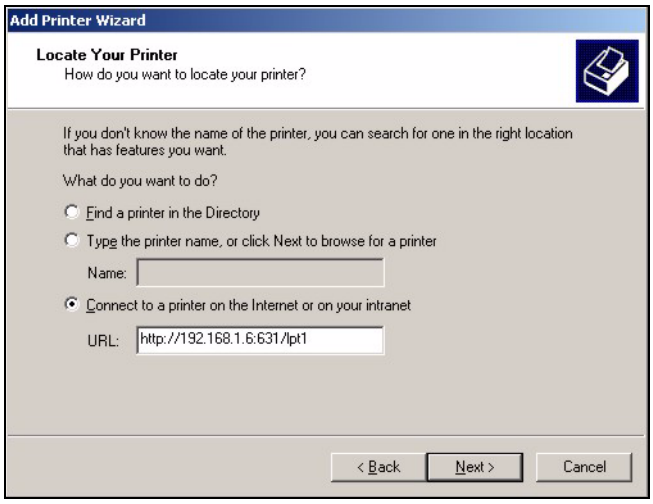


5 Select **Connect to a printer on the Internet or on your intranet** and enter the URL of your NPS-520.

The URL should be in the format of http://address/631/port (where "address" is the IP address of your NPS-520, "631" is the standard IPP port number and "port" is the name of a parallel port on the computer for the USB printer, for example, http://192.168.1.6:631/lpt1. The default port name is "lpt1".

Click **Next**.

Figure 44 Windows 2000: Add Printer Wizard: Locate Your Printer



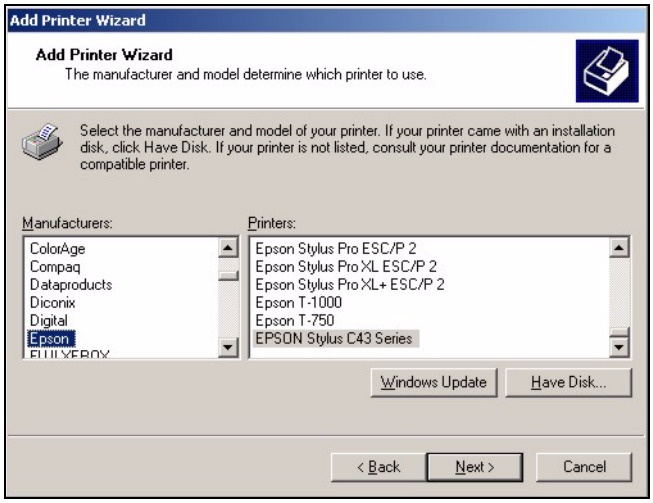
6 Select the make of the printer that you want to connect to the NPS-520 in the **Manufacturers** list.

7 Select the printer model from the list of **Printers**.

8 If your printer is not displayed in the list of **Printers**, you can insert the printer driver installation CD/disk or download the driver file to your computer, click **Have Disk…** and install the new printer driver.

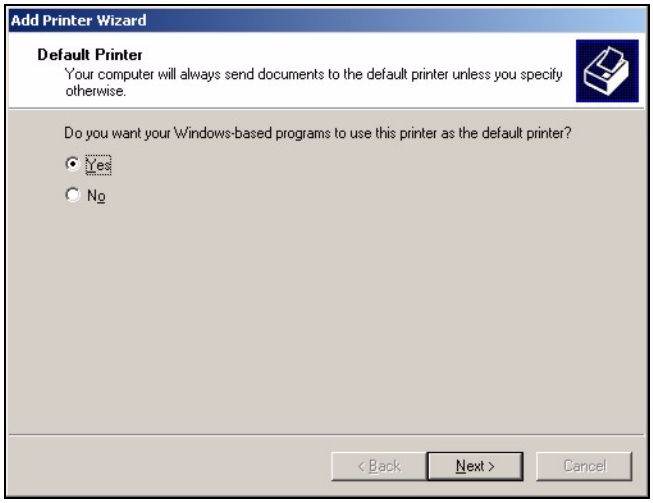
9 Click **Next** to continue.

Figure 45 Windows 2000: Add Printer Wizard: Printer Driver



10 Select **Yes** to set this printer as the default printer. Click **Next**.

Figure 46 Windows 2000: Add Printer Wizard: Default Printer



11 The following screen shows your current printer settings. Select **Finish** to complete printer setup and close the wizard screen.

Figure 47 Windows 2000: Add Printer Wizard Complete

4.2.2 Windows 98 SE/Me

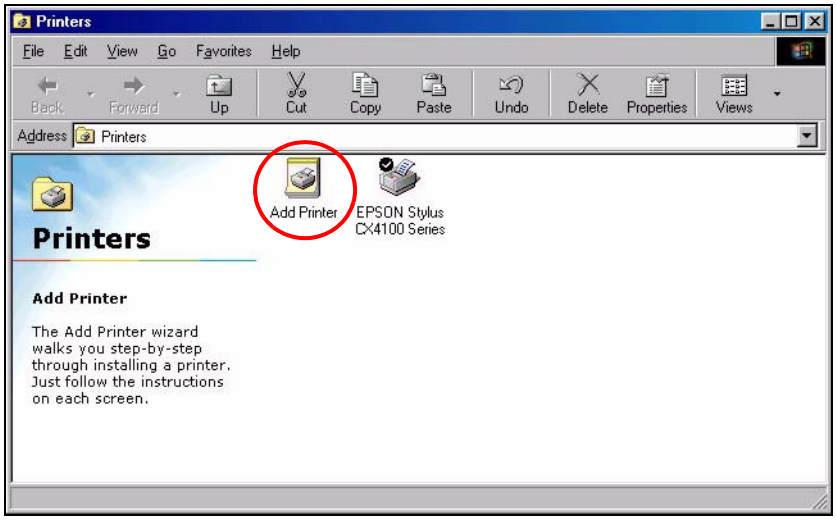
When you install the ZyXEL utility in Windows 98 SE/Me, you also install a **Network Port Setup** tool to add an LPR network port for the NPS-520. If you want to use RAW printing in Windows 98 SE/Me, you need to install an additional software to add a network port.

This section shows you how to add a printer on your computer using the **Network Port Setup** tool that comes with the ZyXEL utility.

We use the Windows Me screens here as an example. Screens and steps vary slightly for different Windows operating systems.

1. Click **Start > Settings > Printers**.
2. Double-click the **Add Printer** icon in the **Printers** screen to start the **Add Printer Wizard**.

Figure 48 Windows Me: Start > Settings > Printers

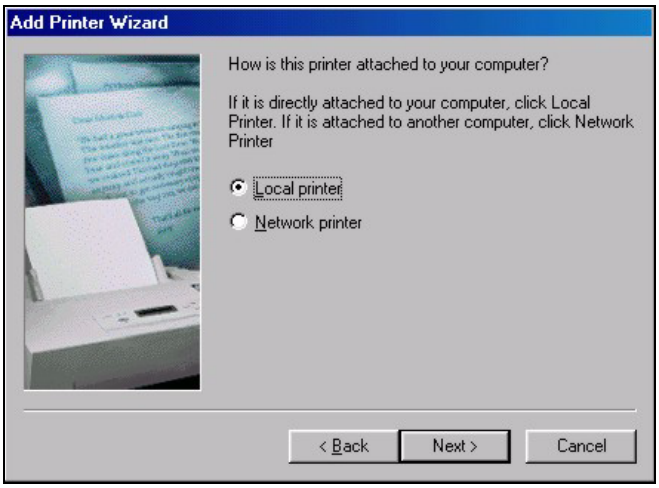


3. The **Add Printer Wizard** screen then displays. Click **Next**.

Figure 49 Windows Me: Add Printer Wizard: Welcome

4 Select **Local printer** and click **Next**.

Figure 50 Windows Me: Add Printer Wizard: Local or Network Printer



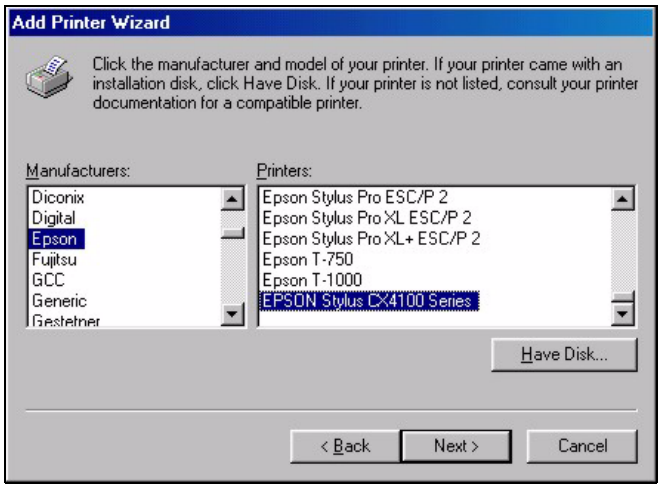
5 Select the make of the printer that you want to connect to the NPS-520 in the **Manufacturers** list.

6 Select the printer model from the list of **Printers**.

7 If your printer is not displayed in the list of **Printers**, you can insert the printer driver installation CD/disk or download the driver file to your computer, click **Have Disk…** and install the new printer driver.

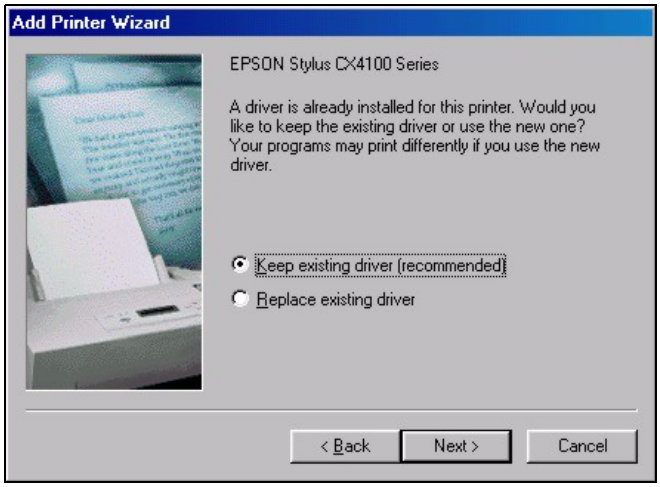
8 Click **Next** to continue.

Figure 51 Windows Me: Add Printer Wizard: Printer Driver



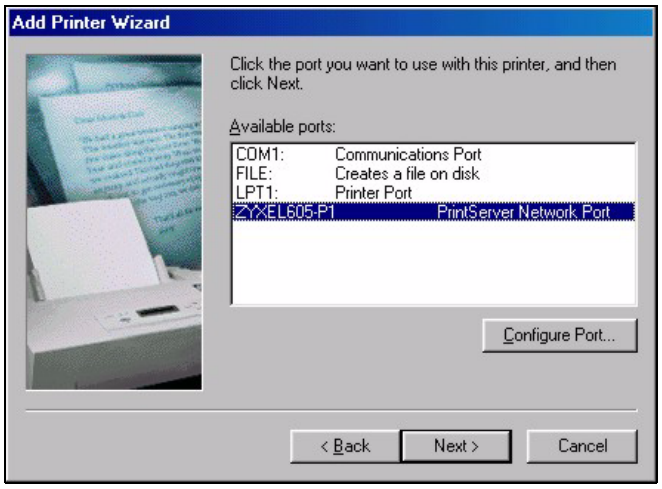
9 If the following screen displays, select **Keep existing driver** and click **Next** if you already have a printer driver installed on your computer and you do not want to change it. Otherwise, select **Replace existing driver** to replace it with the new driver you selected in the previous screen and click **Next**.

Figure 52 Windows Me: Add Printer Wizard: Use Existing Driver



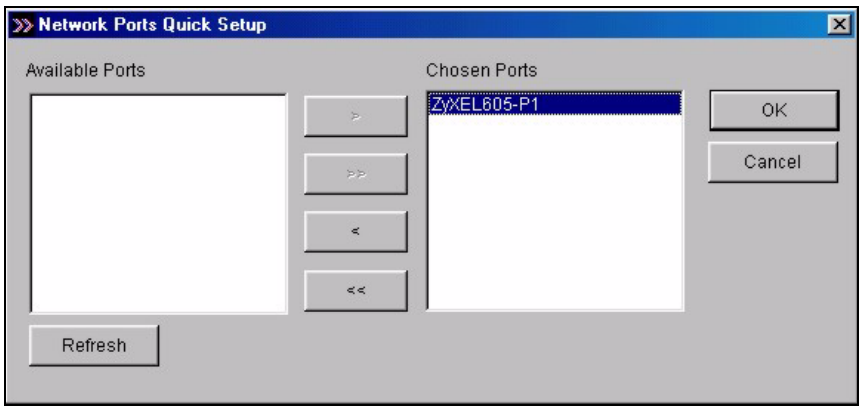
10 Select the network port that is created and added to your computer automatically for your NPS-520. Click **Next**.

Figure 53 Windows Me: Add Printer Wizard: Select Port



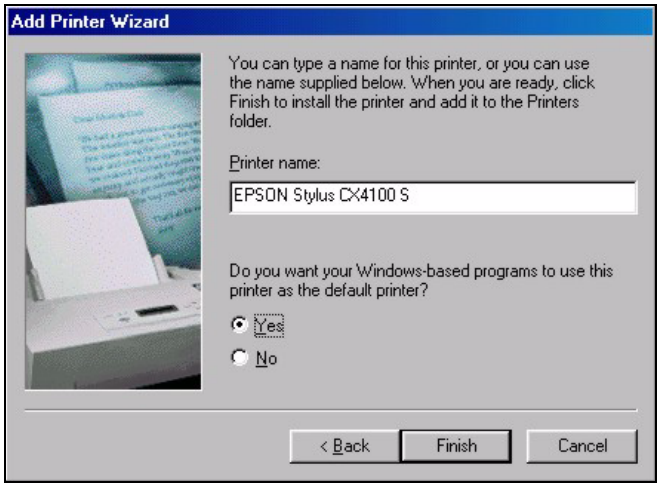
If you have installed a print server in your computer before or the network port for the NPS-520 does not display in the **Available ports** list in the **Add Printer Wizard** screen (see Figure 53 on page 60), click **Start > Programs > ZyXEL NPS-520 Utility > Network Port Setup**.
The **Network Port Quick Setup** screen displays. Highlight the network port for the NPS-520 in the **Available Ports** box and click **>** or **>>** to add it to the **Chosen Ports** box. Click **OK**.

Figure 54 Windows Me: Network Port Quick Setup



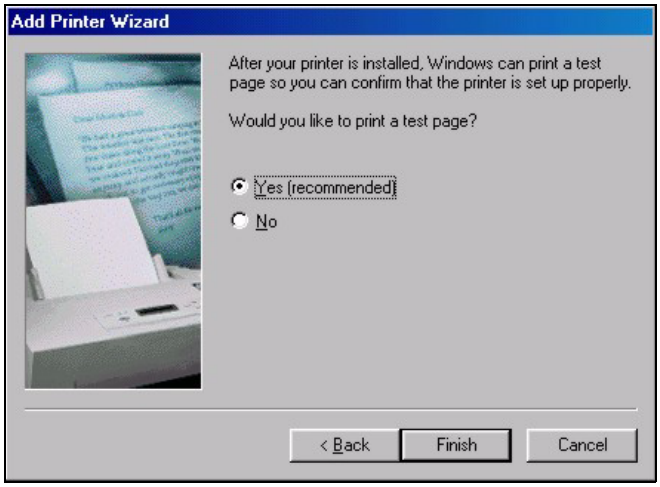
11 Type a name to identify the printer and select **Yes** to set this printer as the default printer. Click **Finish** to continue.

Figure 55 Windows Me: Add Printer Wizard: Name Your Printer



12 Select **Yes** and then click **Finish** if you want to print a test page. A pop-up screen displays to ask if the test page printed correctly. Otherwise select **No** and then click **Finish** to complete printer setup and close the wizard screen.

Figure 56 Windows Me: Add Printer Wizard: Print Test Page



4.3 Adding a Printer in Macintosh

Follow the steps below to add a printer on your Mac computer. Procedure, screens and file location may vary depending on your Mac OS version.

1 Click the **Printer Setup Utility** icon located in the Macintosh Dock (a place holding a series of icons/shortcuts). Proceed to step 6 to continue. If the **Printer Setup Utility** icon is not in the Macintosh Dock, continue to the next step.

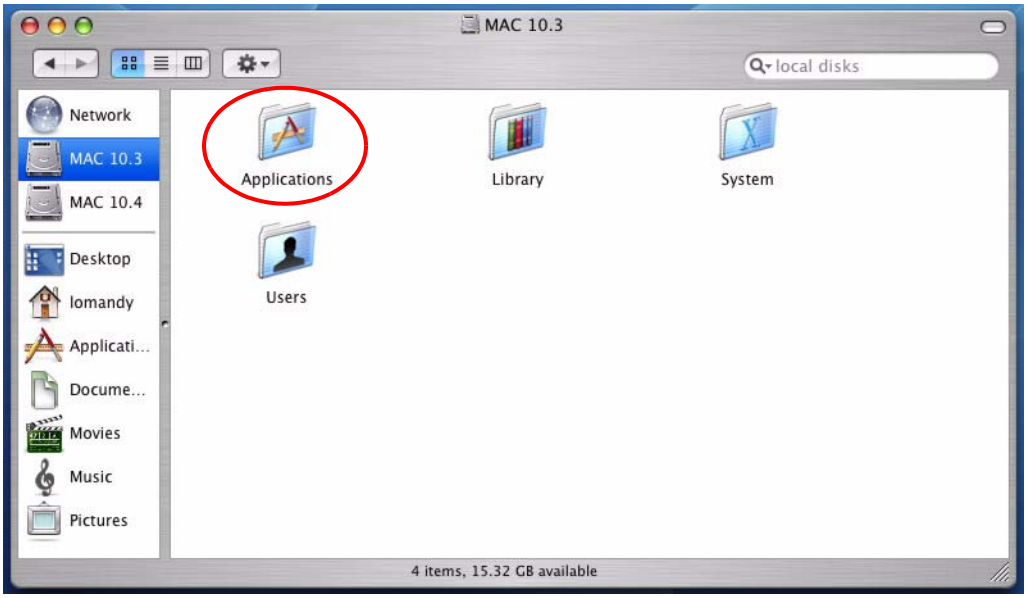
Figure 57 Macintosh Dock

2 Double-click your Macintosh hard drive on the desktop.

Figure 58 Macintosh HD Icon

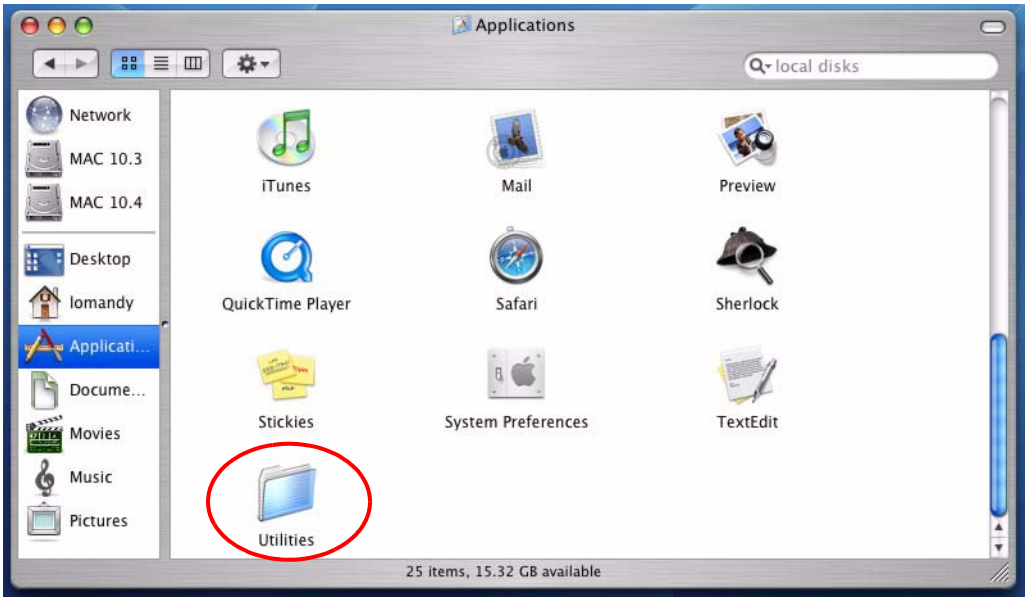
3 Double-click the **Applications** folder.

Figure 59 Macintosh: HD



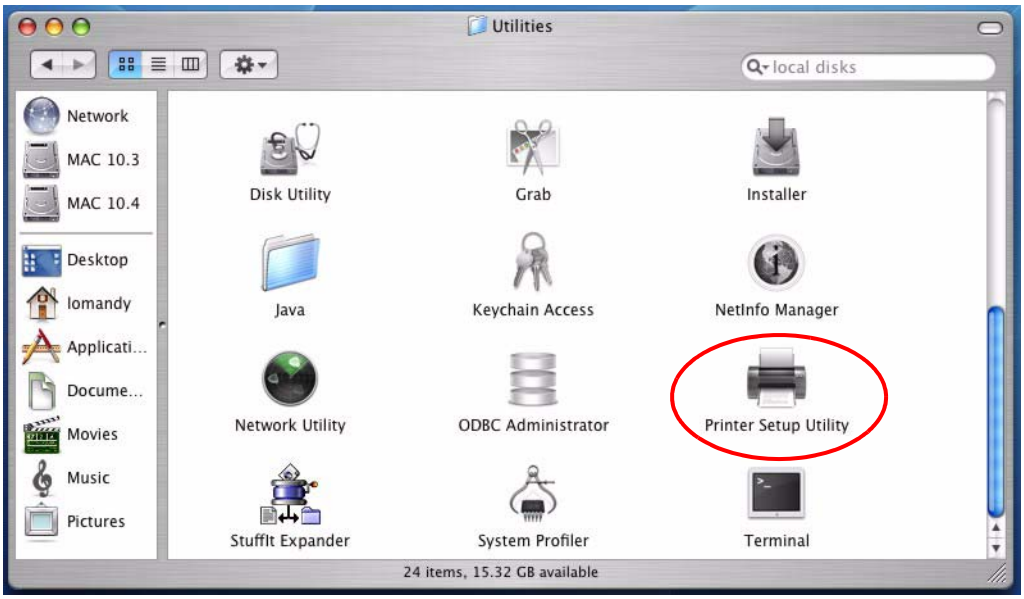
4 Double-click the **Utilities** folder.

Figure 60 Macintosh: Applications



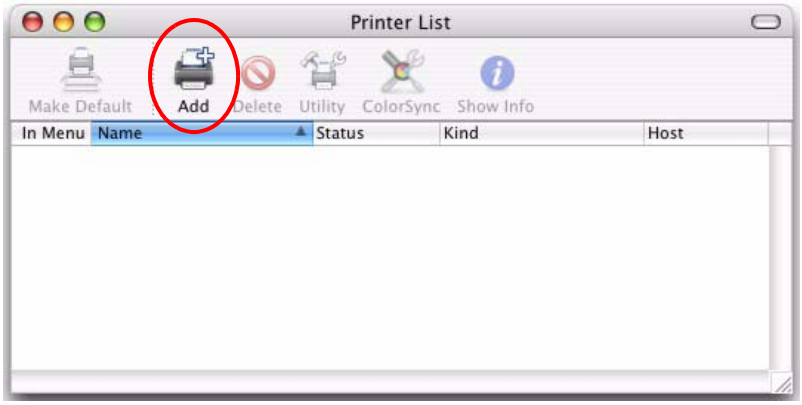
5 Double-click the **Printer Setup Utility** icon.

Figure 61 Macintosh: Utilities



6 Click the **Add** icon at the top of the **Printer List** screen.

Figure 62 Macintosh: Printer List



7 Set up your printer in the **Printer List** (or **Printer Browser**) screen. Select **IP Printing**.

8 Set the printer type to **LPD/LPR** (or **LPD**).

9 In the **Printer Address** (or **Address**) field, type the IP address of your NPS-520.

10 Type "lpt1" (a parallel port) in the **Queue Name** (or **Queue**) field.

11 Select your printer model that is attached to the NPS-520. If the printer model is not listed, select **Generic**.

12 Click **Add** to save and close the configuration screen.

Figure 63 Macintosh 10.3: Printer List

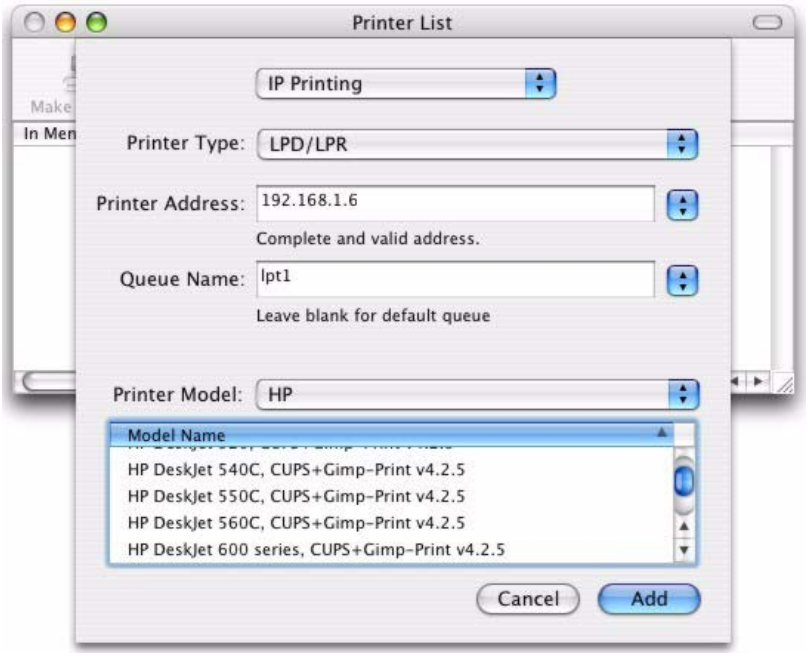
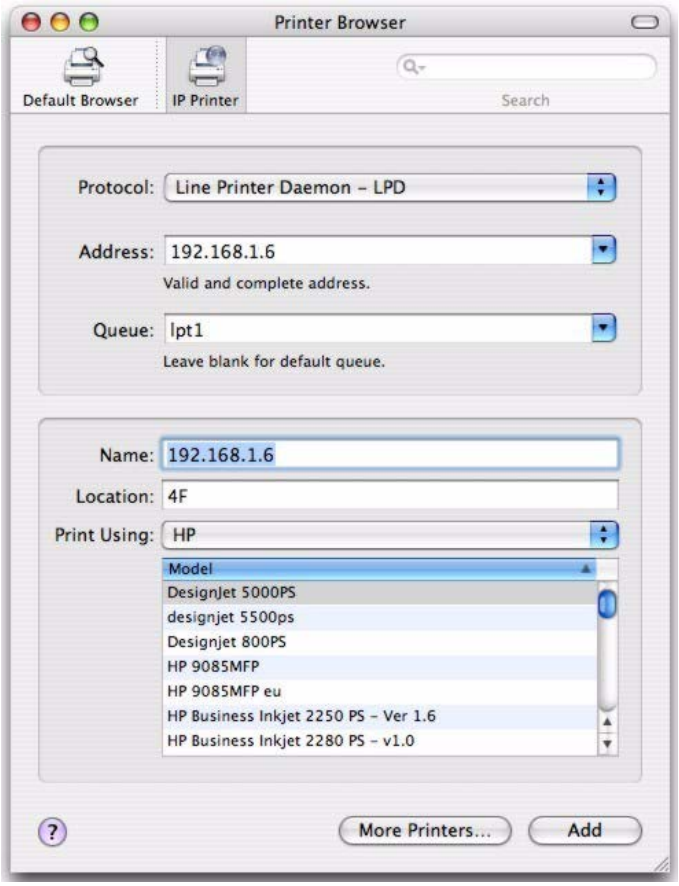
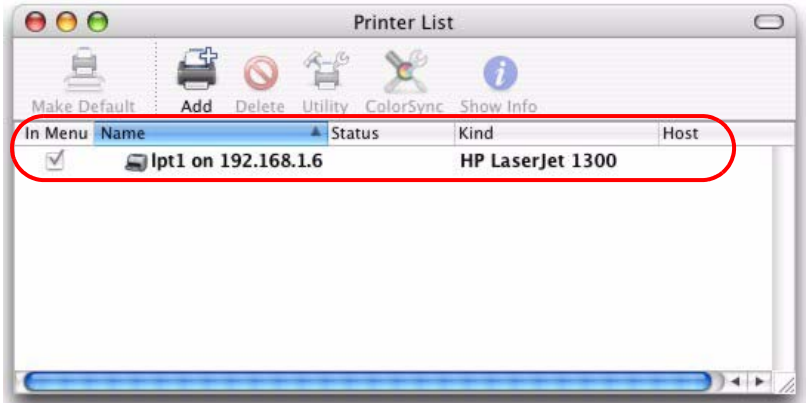


Figure 64 Macintosh 10.4: Printer Browser



13 The printer information displays in the **Name** and **Kind** fields.

Figure 65 Macintosh: Printer List Done



4.4 Adding a Printer in Linux/UNIX

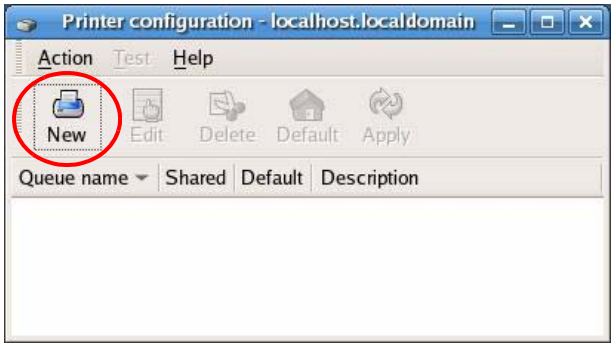
Follow the steps below to set up a printer on your Linux/Unix computer. This section uses the Fedora Core 2 screenshots. Procedure, screens and file location may vary depending on your Linux distribution and release version.

1 Click **System > Administration > Printing**.

Figure 66 Fedora Core 2: System > Administration > Printing

2 Click the **New** icon at the top of the **Printer Configuration** screen.

Figure 67 Fedora Core 2: Printer Configuration

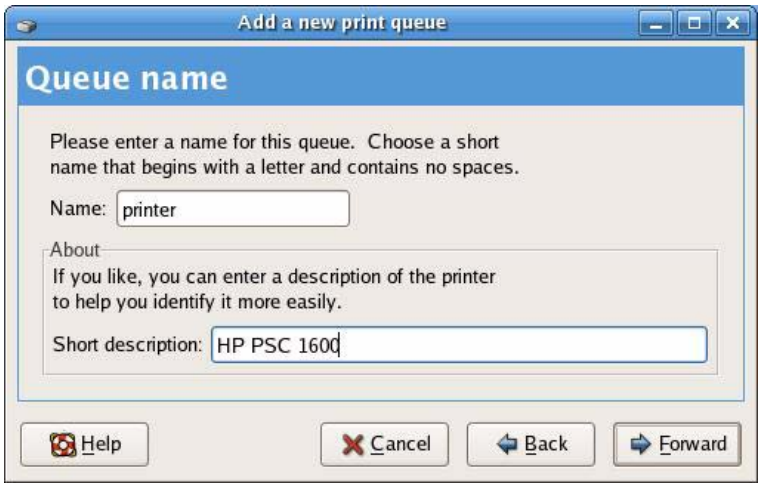


3 Click **Forward** to continue.

Figure 68 Fedora Core 2: Add a new print queue

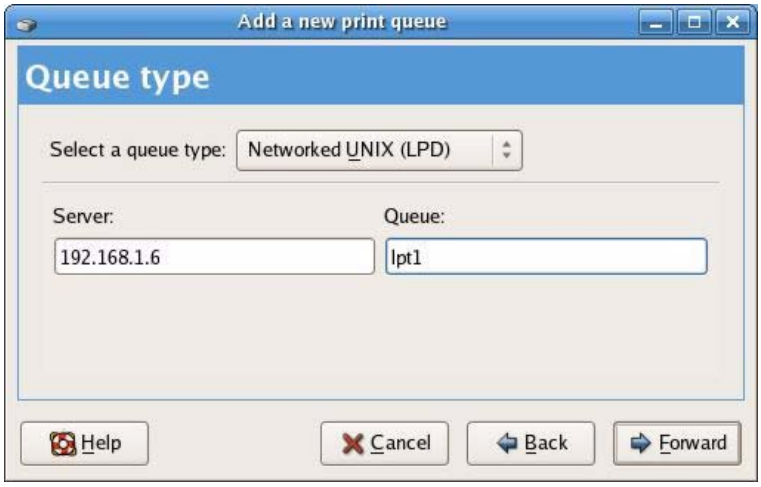
4 Enter descriptive names for the new printer queue and printer. Click **Forward**.

Figure 69 Fedora Core 2: Add a new print queue: Queue name



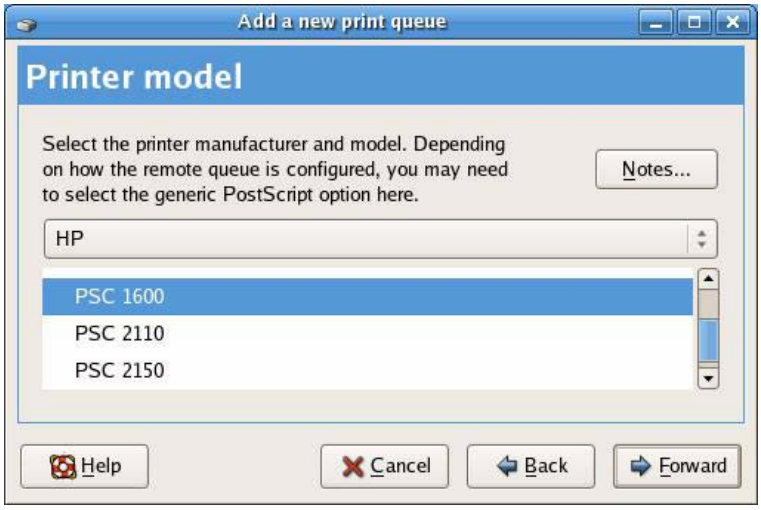
5 Set the queue type to **Networked UNIX (LPD)** and enter your NPS-520's IP address and "lpt1" in the **Server** and **Queue** fields respectively. Click **Forward**.

Figure 70 Fedora Core 2: Add a new print queue: Queue Type



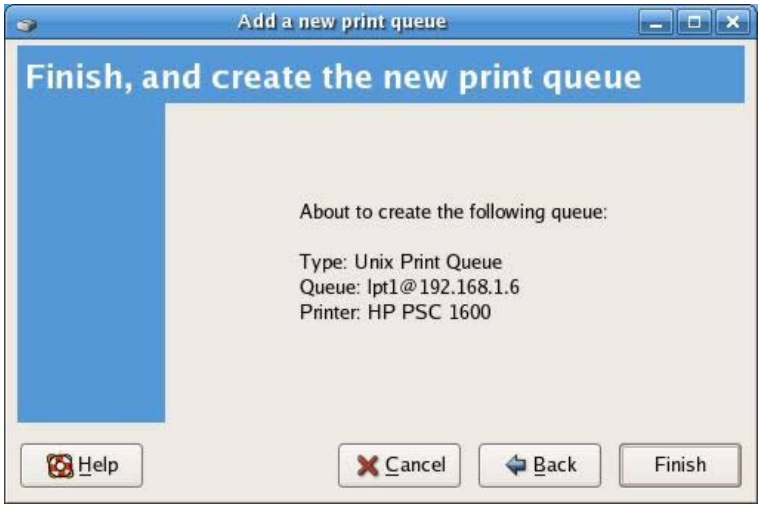
6 Select your printer model that is attached to the NPS-520. If the printer model is not listed, select **Generic**. Click **Forward**.

Figure 71 Fedora Core 2: Add a new print queue: Printer model



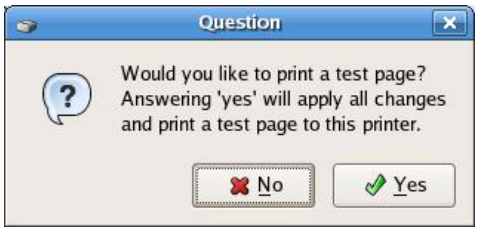
7 This read-only screen shows the current settings. Check whether what you have configured is correct and click **Finish**.

Figure 72 Fedora Core 2: Add a new print queue: Finish



8 Click **Yes** to print a test page and save your changes.

Figure 73 Fedora Core 2: Print a test page



9 If the test page is printed successfully, click **Yes**. Otherwise, click **No** and go back to the the **Printer Configuration** screen to set up the printer again.

Figure 74 Fedora Core 2: Print a test page: Confirmation

5

Troubleshooting

This chapter offers some suggestions to solve problems you might encounter.

The NPS-520 does not turn on. None of the LEDs turn on.

1. Make sure you are using the power adaptor or cord included with the NPS-520.
2. Make sure the power adaptor or cord is connected to the NPS-520 and plugged in to an appropriate power source. Make sure the power source is turned on.
3. Disconnect and re-connect the power adaptor or cord to the NPS-520.
4. If the problem continues, contact the vendor.

One of the LEDs does not behave as expected.

5. Check the hardware connections. See the Quick Start Guide or Section 1.6 on page 19.
6. Inspect your cables for damage. Contact the vendor to replace any damaged cables.
7. Disconnect and re-connect the power adaptor to the NPS-520.
8. If the problem continues, contact the vendor.

I forgot the IP address for the NPS-520.

1. The default IP address is **192.168.1.6**.
2. If you set the NPS-520 to get the IP address from a DHCP server, look up the IP address assigned to the NPS-520 in the DHCP server.
3. If you manually changed the IP address and have forgotten it, open the ZyXEL utility from a computer connected to the NPS-520. Check the IP address in the **TCP/IP Setting** screen.
4. If this does not work, you have to reset the device to its factory defaults. See Section 1.5 on page 18.

I forgot the password.

1. The default password is **1234**.
2. If this does not work, you have to reset the device to its factory defaults. See Section 1.5 on page 18.

I cannot see or access the **Login** screen in the web configurator.

1. Make sure you are using the correct IP address.
   - The default IP address is 192.168.1.6.
   - If you changed the IP address (Section 3.6 on page 40), use the new IP address.
   - If you changed the IP address and have forgotten it, see the troubleshooting suggestions for I forgot the IP address for the NPS-520.
2. Check the hardware connections, and make sure the LEDs are behaving as expected. See the Quick Start Guide and Section 1.6 on page 19.
3. Make sure your Internet browser does not block pop-up windows and has JavaScripts and Java enabled. See Appendix C on page 95.
4. Make sure your computer's Ethernet adapter is installed and functioning properly.
5. Make sure your computer is in the same subnet as the NPS-520. (If you know that there are routers between your computer and the NPS-520, skip this step.)
   - If there is a DHCP server on your network, make sure your computer is using a dynamic IP address. See Appendix D on page 647.
6. Reset the device to its factory defaults, and try to access the NPS-520 with the default IP address. See Section 1.5 on page 18.
7. If the problem continues, contact the network administrator or vendor, or try one of the advanced suggestions.

I can see the **Login** screen, but I cannot log in to the NPS-520.

1. Make sure you have entered the password correctly. The default password is **1234**. These fields are case-sensitive, so make sure [Caps Lock] is not on.
2. Turn the NPS-520 off and on or disconnect and re-connect the power adaptor to the NPS-520.
3. If this does not work, you have to reset the device to its factory defaults. See Section 2.3 on page 57.

I cannot print on the printer which is connected to the NPS-520.

1. Make sure your computer is in the same network to which the NPS-520 is connected.
2. Make sure the NPS-520 and the printer are on and working.
3. In the ZyXEL utility **Status** screen, check if the printer is available and your computer is associated with the printer.
4. If a computer is always occupying the connection to the printer without enabling **Auto Release** and/or **Auto Connect**, terminate that computer's connection to the printer by clicking the **Force Release** button in the utility **System Setting** screen.
5. If your computer or the NPS-520 is behind a firewall, make sure servoap.exe and mfpagent.exe are allowed to go through the firewall.

I cannot scan or fax on a MFP which is connected to the NPS-520.

1. Make sure your computer operating system is Windows 2000 SP4 or above.
2. Make sure there is no computer currently connected to the printer.
3. Make sure your printer is in the list of compatible MFP printers (see Table 17 on page 73).
4. Connect the MFP to your computer directly to make sure the MFP is working properly.
5. If your computer or the NPS-520 is behind a firewall, make sure servoap.exe and mfpagent.exe are allowed to go through the firewall.

A

Product Specifications

The following tables summarize the NPS-520's hardware and firmware features.

Table 15 Hardware Specifications

Dimensions (W x D x H)	76.5(W) x 57(D) x 25(H) mm
Device Weight	62 g
Power Specification	7V DC/0.5A
Ethernet Port	Auto-negotiating: 10 Mbps or 100 Mbps in either half-duplex or full-duplex mode. Auto-crossover: Use either crossover or straight-through Ethernet cables.
USB Port	USB 2.0 Type A Print Port
Operation Temperature	0º C ~ 50º C
Operation Humidity	20% ~ 95% Non-condensing

Table 16 Firmware Specifications

FEATURE	DESCRIPTION
Default IP Address	192.168.1.6
Default Password	1234
Printing Protocol Supported	IPP, LPR, RAW
Configuration Tool	ZyXEL utility, Web configurator
Operating System Supported	Windows 98 Second Edition (SE), Windows Me, Windows 2000, Windows 2003, Windows XP, Unix/Linux (with LPR/LPD protocol support), Mac OS 9.x or later

NPS-520 Compatible USB Printers

The following is a list of USB printer models compatible with the NPS-520 at the time of writing.

Table 17 NPS-520 Compatible USB Printers

BRAND	MODEL	TYPE	FUNCTIONS				REMARK
			PRINT	SCAN	FAX	CARD READER	
BenQ	CM3000	MFP	O	O			
Brother	HL-2070	Color Laser	O				

Table 17 NPS-520 Compatible USB Printers

BRAND	MODEL	TYPE	FUNCTIONS				REMARK
			PRINT	SCAN	FAX	CARD READER	
Brother	HL-5240	Color Laser	O				
Brother	MFC-210C	MFP	O	O	O	O	
Brother	MFC-215C	MFP	O	O	O	O	
Brother	MFC-2820	MFP	O		O		
Brother	MFC-420CN	MFP	O	O	O	O	
Brother	MFC-425CN	MFP	O	O	O	O	
Brother	MFC-3240C	MFP	O	O	O		
Brother	MFC-7420	MFP	O	O	O		
Brother	MFC-7820N	MFP	O	O	O		
Brother	MFC-8840D	MFP	O	O	O		
CANON	S200SPx	Color Ink	O				
CANON	C350	Color Ink Jet	O				
CANON	i255	Color Ink Jet	O				
CANON	i320	Color Ink Jet	O				
CANON	i355	Color Ink Jet	O				
CANON	i450	Color Ink Jet	O				
CANON	i455	Color Ink Jet	O				
CANON	i550	Color Ink Jet	O				
CANON	i850	Color Ink Jet	O				
CANON	i6100	Color Ink Jet	O				
CANON	i6500	Color Ink Jet	O				
CANON	i9100	Color Ink Jet	O				
CANON	i9950D	Color Ink Jet	O				
CANON	i475D	Color Ink Jet	O				
CANON	i560	Color Ink Jet	O				
CANON	i865	Color Ink Jet	O				
CANON	i905D	Color Ink Jet	O				
CANON	iR 2010	B&W Copying Machine	O				
CANON	iP90	Color Ink Jet	O				
CANON	iP1000	Color Ink Jet	O				

Table 17 NPS-520 Compatible USB Printers

BRAND	MODEL	TYPE	FUNCTIONS				REMARK
			PRINT	SCAN	FAX	CARD READER	
CANON	iP1500	Color Ink Jet	O				
CANON	iP2000	Color Ink Jet	O				
CANON	iP3000	Color Ink Jet	O				
CANON	iP4000	Color Ink Jet	O				
CANON	iP4200	Color Ink Jet	O				
CANON	iP5000	Color Ink Jet	O				
CANON	iP6000D	Color Ink Jet	O				
CANON	iP8500D	Color Ink Jet	O				
CANON	iX4000	Color Ink Jet	O				
CANON	iX5000	Color Ink Jet	O				
CANON	MPC 190	MFP	O	O			
CANON	PIXMA MP110	MFP	O	O	O		
CANON	PIXMA MP130	MFP	O	O	O		
CANON	PIXMA MP150	MFP	O	O			
CANON	PIXMA MP170	MFP	O	O		O	
CANON	PIXMA MP450	MFP	O	O		O	
CANON	PIXMA MP530	MFP	O	---	---		
CANON	PIXMA MP700	MFP	O	O	---	O	
CANON	PIXMA MP730	MFP	O	O	---	O	
CANON	PIXMA MP780	MFP	O	O	---	O	
Dell	944	MFP	O	O		O	
EPSON	Aculaser C1900	Color Laser Jet	O				
EPSON	Aculaser C4000	Color Laser Jet	O				
EPSON	Aculaser C4100	Color Laser Jet	O				
EPSON	Aculaser C8600	Color Laser Jet	O				
EPSON	DLQ-3500C	Impact Printer	O				
EPSON	EPL-6100	B&W Laser Jet	O				
EPSON	EPL-6200	B&W Laser Jet	O				

Table 17 NPS-520 Compatible USB Printers

BRAND	MODEL	TYPE	FUNCTIONS				REMARK
			PRINT	SCAN	FAX	CARD READER	
EPSON	EPL-N2500	B&W Laser Jet	O				
EPSON	EPL-N3000	B&W Laser Jet	O				
EPSON	PictureMate*	Color Ink Jet	O				
EPSON	Stylus C43UX	Color Ink Jet	O				
EPSON	Stylus C63	Color Ink Jet	O				
EPSON	Stylus C67	Color Ink Jet	O				
EPSON	Stylus C83	Color Ink Jet	O				
EPSON	Stylus C88	Color Ink Jet	O				
EPSON	Stylus COLOR 900	Color Ink Jet	O				
EPSON	Stylus COLOR 1160	Color Ink Jet	O				
EPSON	Stylus CX1500	MFP	O	O			
EPSON	Stylus CX3700	MFP	O	O			
EPSON	Stylus CX4100	MFP	O	O			
EPSON	Stylus CX4700	MFP	O	O		O	
EPSON	PHOTO 4990 Scanner	MFP		O			
EPSON	Stylus R310	MFP	O			---	
EPSON	Stylus R340	MFP	O			O	
EPSON	Stylus R350	MFP	O			O	
EPSON	Stylus RX430	MFP	O	O		O	
EPSON	Stylus RX510	MFP	O	O		O	
EPSON	Stylus RX520	MFP	O	O		O	
EPSON	Stylus RX530	MFP	O	O		O	
EPSON	Stylus RX630	MFP	O	O		O	
EPSON	Stylus RX650	MFP	O	O		O	
HP	Business 1100d	Color Ink Jet	O				
HP	Business 1200d	Color Ink Jet	O				
HP	CLJ 1500L	Color laser Jet	O				
HP	CLJ 3500	Color laser Jet	O				

Table 17 NPS-520 Compatible USB Printers

BRAND	MODEL	TYPE	FUNCTIONS				REMARK
			PRINT	SCAN	FAX	CARD READER	
HP	CLJ 3500N	Color laser Jet	O				
HP	CLJ 3700	Color laser Jet	O				
HP	CLJ 4600	Color laser Jet	O				
HP	Deskjet 450	Color Ink Jet	O				
HP	Deskjet 810C	Color Ink Jet	O				
HP	Deskjet 880C	Color Ink Jet	O				
HP	Deskjet 882C	Color Ink Jet	O				
HP	Deskjet 920C	Color Ink Jet	O				
HP	Deskjet 960	Color Ink Jet	O				
HP	Deskjet 980	Color Ink Jet	O				
HP	Deskjet 990	Color Ink Jet	O				
HP	Deskjet 1120C	Color Ink Jet	O				
HP	Deskjet 1180C	Color Ink Jet	O				
HP	Deskjet 3325	Color Ink Jet	O				
HP	Deskjet 3535	Color Ink Jet	O				
HP	Deskjet 3550	Color Ink Jet	O				
HP	Deskjet 3650	Color Ink Jet	O				
HP	Deskjet 3820	Color Ink Jet	O				
HP	Deskjet 3920[A]	Color Ink Jet	O				
HP	Deskjet 5160	Color Ink Jet	O				
HP	Deskjet 5440	Color Ink Jet	O				
HP	Deskjet 5550	Color Ink Jet	O				
HP	Deskjet 5652	Color Ink Jet	O				
HP	Deskjet 5740	Color Ink Jet	O				
HP	Deskjet 6122	Color Ink Jet	O				
HP	Deskjet 6540	Color Ink Jet	O				
HP	Deskjet 6840	Color Ink Jet	O				
HP	Deskjet 9300	Color Ink Jet	O				
HP	Deskjet 9650	Color Ink Jet	O				
HP	Deskjet 995C	Color Ink Jet	O				

Table 17 NPS-520 Compatible USB Printers

BRAND	MODEL	TYPE	FUNCTIONS				REMARK
			PRINT	SCAN	FAX	CARD READER	
HP	Laser Jet 1020 (GDI)	MFP	O				
HP	Laser Jet 1022 (GDI)	MFP	O				
HP	Laser Jet 3015	MFP	O	O	O		
HP	Laser Jet 3020	MFP	O	O	O		
HP	Laser Jet 3030	MFP	O	O	O		
HP	Laser Jet 3050	MFP	O	O	---		
HP	Laser Jet 3052	MFP	O	O			
HP	Laser Jet 3055	MFP	O	O	---		
HP	Laser Jet 3380	MFP	O	O	O		
HP	Laser Jet 3390	MFP	O	O	---		
HP	Laser Jet 3392	MFP	O	O	---		
HP	Laser Jet 4650	Color Laser Jet	O				
HP	Laser Jet 1010	B&W LaserJet	O				
HP	Laser Jet 1012	B&W LaserJet	O				
HP	Laser Jet 1015	B&W LaserJet	O				
HP	Laser Jet 1200	B&W LaserJet	O				
HP	Laser Jet 1220	B&W LaserJet	O				
HP	Laser Jet 1300	B&W LaserJet	O				
HP	Laser Jet 1320	B&W LaserJet	O				
HP	Laser Jet 2300	B&W LaserJet	O				
HP	Laser Jet 2300L	B&W LaserJet	O				
HP	Laser Jet 2420	B&W LaserJet	O				
HP	Laser Jet 4350	B&W LaserJet	O				
HP	Photosmart 145	Mini Photo Printer	O				

Table 17 NPS-520 Compatible USB Printers

BRAND	MODEL	TYPE	FUNCTIONS				REMARK
			PRINT	SCAN	FAX	CARD READER	
HP	Photosmart 245	Mini Photo Printer	O				
HP	Photosmart 325	Mini Photo Printer	O				
HP	Photosmart 375	Mini Photo Printer	O				
HP	Photosmart 475	Mini Photo Printer	O				
HP	Photosmart 7260	Photo Printer	O				
HP	Photosmart 7450	Photo Printer	O				
HP	Photosmart 7550	Photo Printer	O				
HP	Photosmart 7660	Photo Printer	O				
HP	Photosmart 7760	Photo Printer	O				
HP	Photosmart 7830	Photo Printer	O				
HP	Photosmart 7960	Photo Printer	O				
HP	Photosmart 8030	Photo Printer	O				
HP	Photosmart 8230	Photo Printer	O				
HP	Photosmart 8250	Photo Printer	O				
HP	Photosmart 8450	Photo Printer	O				
HP	Photosmart 8750	Photo Printer	O				
HP	PhotoSmart 2575	MFP	O	O		O	
HP	PhotoSmart 2610	MFP	O	O	---	O	
HP	PhotoSmart 2710	MFP	O	O	---	O	
HP	PhotoSmart 3110	MFP	O	O	---	O	
HP	PhotoSmart 3310	MFP	O	O	---	O	
HP	PhotoSmart 475	MFP	O			O	
HP	PhotoSmart 7450	MFP	O			O	
HP	PhotoSmart 7830	MFP	O			O	
HP	PhotoSmart 8030	MFP	O			O	
HP	PhotoSmart 8230	MFP	O			O	

Table 17 NPS-520 Compatible USB Printers

BRAND	MODEL	TYPE	FUNCTIONS				REMARK
			PRINT	SCAN	FAX	CARD READER	
HP	PhotoSmart 8250	MFP	O			O	
HP	PhotoSmart 8450	MFP	O			O	
HP	PhotoSmart 8750	MFP	O			O	
HP	PSC 750	MFP	O	O			
HP	PSC 1210	MFP	O	O			
HP	PSC 1350	MFP	O	O			
HP	PSC 1410	MFP	O	O			
HP	PSC 1510	MFP	O	O			
HP	PSC 1610	MFP	O	O		O	
HP	PSC 2210	MFP	O	O	---	O	
HP	PSC 2310	MFP	O	O		O	
HP	PSC 2355	MFP	O	O		O	
HP	PSC 2410	MFP	O	O		O	
HP	PSC 2510	MFP	O	O		O	
HP	Office Jet 4255	MFP	O	O	---		
HP	Office Jet 4355	MFP	O	---	---		
HP	Office Jet 5510	MFP	O	O	---		
HP	Office Jet 5610	MFP	O	O	---		
HP	Office Jet 6110	MFP	O	O	---		
HP	Office Jet 6210	MFP	O	O	---		
HP	Office Jet 6310	MFP	O	---	---		
HP	Office Jet 7210	MFP	O	O	---	O	
HP	Office Jet 7410	MFP	O	O	---	O	
HP	Office Jet 9100	MFP	O	O	---	O	
KONICA MINOLTA	1380MF	MFP	O	---			
KONICA MINOLTA	2480	MFP	O	O			
LEXMARK	P4350	MFP	O	O		O	

Table 17 NPS-520 Compatible USB Printers

BRAND	MODEL	TYPE	FUNCTIONS				REMARK
			PRINT	SCAN	FAX	CARD READER	
LEXMARK	P6210	MFP	O	O		O	
LEXMARK	P6250	MFP	O	---		---	
LEXMARK	X3330	MFP	O	O			
LEXMARK	X3350	MFP	O	O			
LEXMARK	X3470	MFP	O	---		---	
LEXMARK	X4270	MFP	O	O	---		
LEXMARK	X5150	MFP	O	O			
LEXMARK	X6150	MFP	O	O	O		
LEXMARK	X6170	MFP	O	O	O		
LEXMARK	X7350	MFP	O	---	---		
LEXMARK[B]	Z603	Color Ink Jet	O				**
LEXMARK	Z615	Color Ink Jet	O				**
LEXMARK	Z705	Color Ink Jet	O				**
LEXMARK	Z810	Color Ink Jet	O				**
LEXMARK	Z816	Color Ink Jet	O				**
LEXMARK	Z818	Color Ink Jet	O				**
LEXMARK	E120	B&W Laser Jet	O				
LEXMARK	E230	B&W Laser Jet	O				
LEXMARK	C510	B&W Laser Jet	O				
SAMSUNG	ML-1520LP	B&W Laser Jet	O				
SAMSUNG	ML-1740	B&W Laser Jet	O				
SAMSUNG	ML-2010	B&W Laser Jet	O				
SAMSUNG	SF-565P	MFP	O	O	O		
SAMSUNG	SCX-4100	MFP	O	O			
SAMSUNG	SCX-4720F	MFP	O	O	O		

Table Key: An O in a function's column shows that the printer has the specified feature. An --- in a function's column shows that the specified feature is available on the printer but hasn't been tested yet on the NPS-520. The information in this table was correct at the time of writing, although it may be subject to change.

A. You need to disable bi-directional support on this printer.

B. For some LEXMARK printers (marked with **), you need to disable bi-directional support and select WinPrint processor and RAW printing protocol.

B

Setting up Your Computer's IP Address

All computers must have a 10M or 100M Ethernet adapter card and TCP/IP installed.

Windows 95/98/Me/NT/2000/XP, Macintosh OS 7 and later operating systems and all versions of UNIX/LINUX include the software components you need to install and use TCP/IP on your computer. Windows 3.1 requires the purchase of a third-party TCP/IP application package.

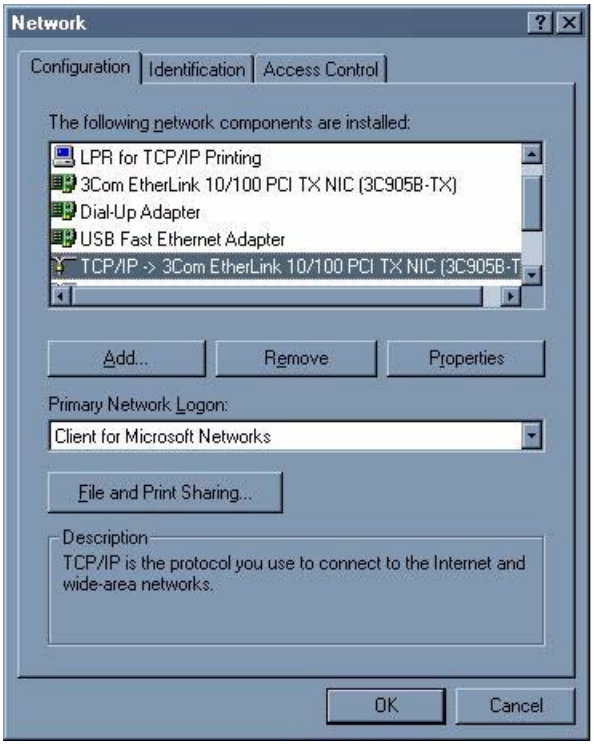
TCP/IP should already be installed on computers using Windows NT/2000/XP, Macintosh OS 7 and later operating systems.

After the appropriate TCP/IP components are installed, configure the TCP/IP settings in order to "communicate" with your network.

Windows 95/98/Me

Click **Start**, **Settings**, **Control Panel** and double-click the **Network** icon to open the **Network** window

Figure 75 WIndows 95/98/Me: Network: Configuration



Installing Components

The **Network** window **Configuration** tab displays a list of installed components. You need a network adapter, the TCP/IP protocol and Client for Microsoft Networks.

If you need the adapter:

1. In the **Network** window, click **Add**.
2. Select **Adapter** and then click **Add**.
3. Select the manufacturer and model of your network adapter and then click **OK**.

If you need TCP/IP:

1. In the **Network** window, click **Add**.
2. Select **Protocol** and then click **Add**.
3. Select **Microsoft** from the list of **manufacturers**.
4. Select **TCP/IP** from the list of network protocols and then click **OK**.

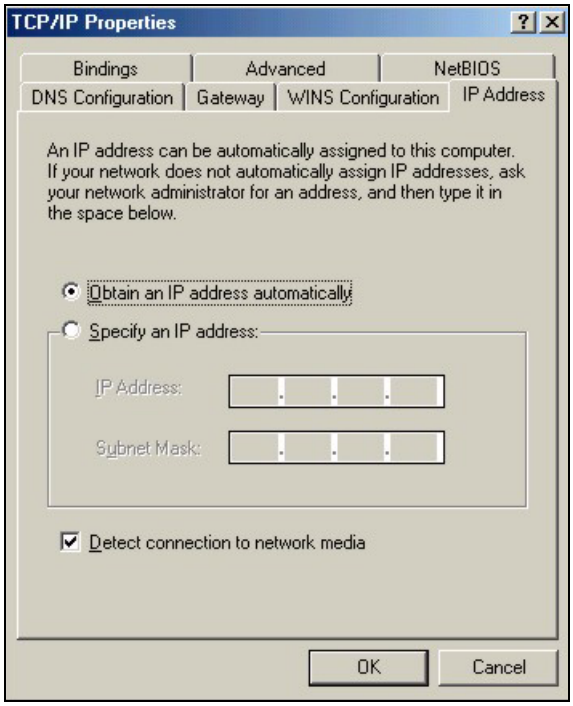
If you need Client for Microsoft Networks:

1. Click **Add**.
2. Select **Client** and then click **Add**.
3. Select **Microsoft** from the list of manufacturers.
4. Select **Client for Microsoft Networks** from the list of network clients and then click **OK**.
5. Restart your computer so the changes you made take effect.

Configuring

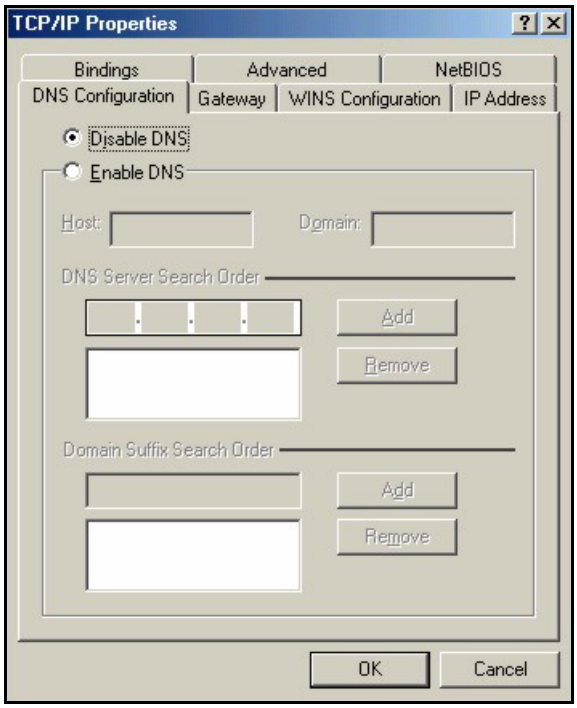
1. In the **Network** window **Configuration** tab, select your network adapter's TCP/IP entry and click **Properties**
2. Click the **IP Address** tab.
   - If your IP address is dynamic, select **Obtain an IP address automatically**.
   - If you have a static IP address, select **Specify an IP address** and type your information into the **IP Address** and **Subnet Mask** fields.

Figure 76 Windows 95/98/Me: TCP/IP Properties: IP Address



3. Click the **DNS** Configuration tab.
   - If you do not know your DNS information, select **Disable DNS**.
   - If you know your DNS information, select **Enable DNS** and type the information in the fields below (you may not need to fill them all in).

Figure 77 Windows 95/98/Me: TCP/IP Properties: DNS Configuration



4 Click the **Gateway** tab.
   - If you do not know your gateway's IP address, remove previously installed gateways.
   - If you have a gateway IP address, type it in the **New gateway field** and click **Add**.
5 Click **OK** to save and close the **TCP/IP Properties** window.
6 Click **OK** to close the **Network** window. Insert the Windows CD if prompted.
7 Restart your computer when prompted.

Verifying Settings

1 Click **Start** and then **Run**.
2 In the **Run** window, type "winipcfg" and then click **OK** to open the **IP Configuration** window.
3 Select your network adapter. You should see your computer's IP address, subnet mask and default gateway.

Windows 2000/NT/XP

1 For Windows XP, click **start**, **Control Panel**. In Windows 2000/NT, click **Start**, **Settings**, **Control Panel**.

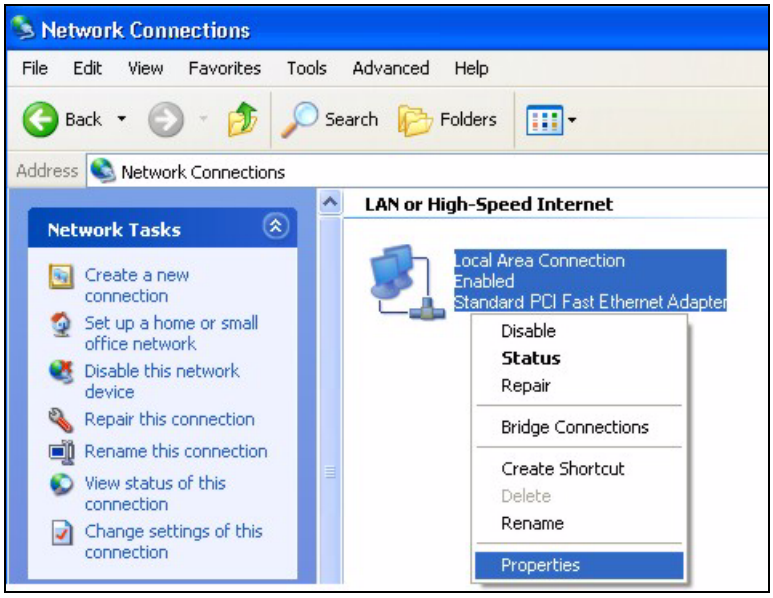
Figure 78 Windows XP: Start Menu

2 For Windows XP, click **Network Connections**. For Windows 2000/NT, click **Network and Dial-up Connections**.

Figure 79 Windows XP: Control Panel

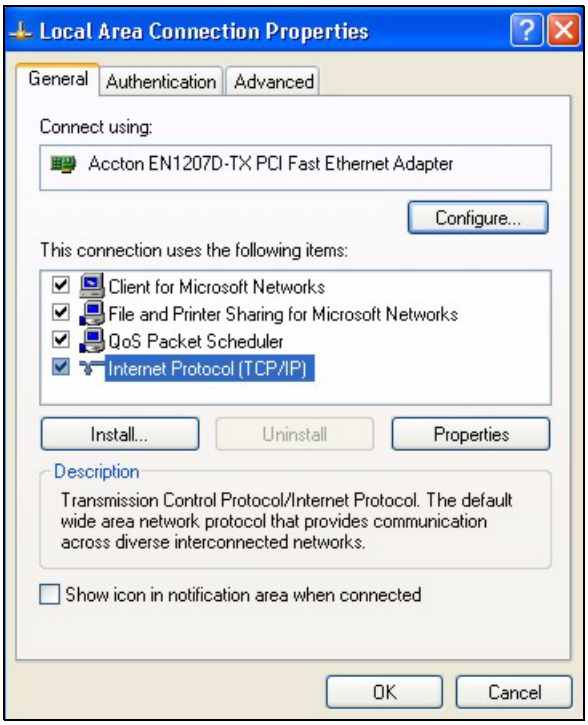
3 Right-click **Local Area Connection** and then click **Properties**.

Figure 80 Windows XP: Control Panel: Network Connections: Properties



4 Select **Internet Protocol (TCP/IP)** (under the **General** tab in Win XP) and click **Properties**.

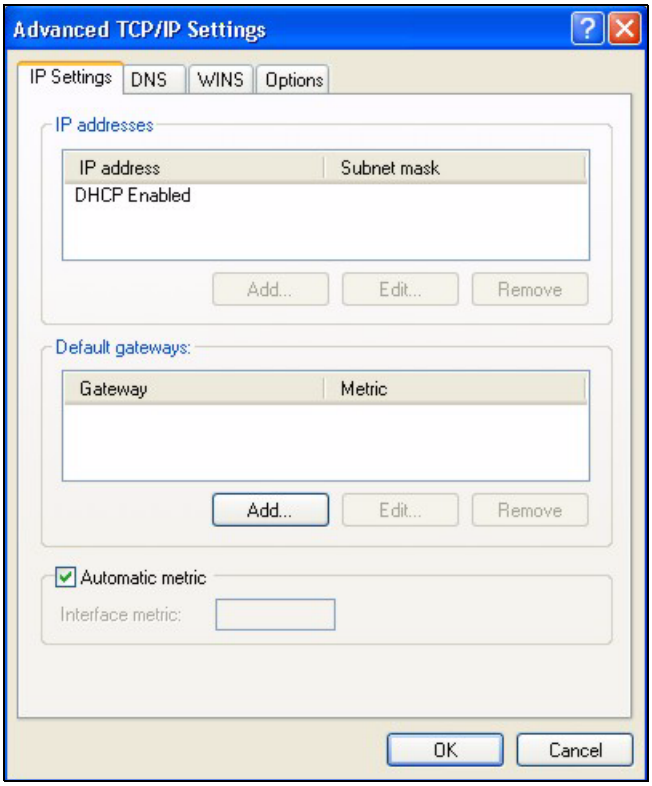
Figure 81 Windows XP: Local Area Connection Properties



5 The **Internet Protocol TCP/IP Properties** window opens (the **General** tab in Windows XP).

- If you have a dynamic IP address click **Obtain an IP address automatically**.
- If you have a static IP address click **Use the following IP Address** and fill in the **IP address**, **Subnet mask**, and **Default gateway** fields. Click **Advanced**.

Figure 82 Windows XP: Advanced TCP/IP Settings



6 If you do not know your gateway's IP address, remove any previously installed gateways in the **IP Settings** tab and click **OK**.

Do one or more of the following if you want to configure additional IP addresses:

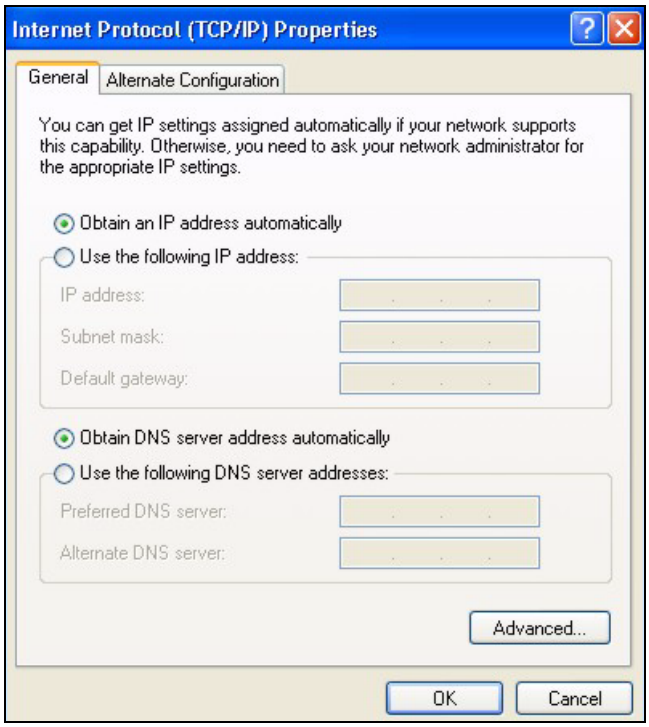
- In the **IP Settings** tab, in **IP addresses**, click **Add**.
- In **TCP/IP Address**, type an IP address in **IP address** and a subnet mask in **Subnet mask**, and then click **Add**.
- Repeat the above two steps for each IP address you want to add.
- Configure additional default gateways in the **IP Settings** tab by clicking **Add** in **Default gateways**.
- In **TCP/IP Gateway Address**, type the IP address of the default gateway in **Gateway**. To manually configure a default metric (the number of transmission hops), clear the **Automatic metric** check box and type a metric in **Metric**.
- Click **Add**.
- Repeat the previous three steps for each default gateway you want to add.
- Click **OK** when finished.

7 In the **Internet Protocol TCP/IP Properties** window (the **General** tab in Windows XP):

- Click **Obtain DNS server address automatically** if you do not know your DNS server IP address(es).
- If you know your DNS server IP address(es), click **Use the following DNS server addresses**, and type them in the **Preferred DNS server** and **Alternate DNS server** fields.

If you have previously configured DNS servers, click **Advanced** and then the **DNS** tab to order them.

Figure 83 Windows XP: Internet Protocol (TCP/IP) Properties



8 Click **OK** to close the **Internet Protocol (TCP/IP) Properties** window.

9 Click **OK** to close the **Local Area Connection Properties** window.

10 Restart your computer (if prompted).

Verifying Settings

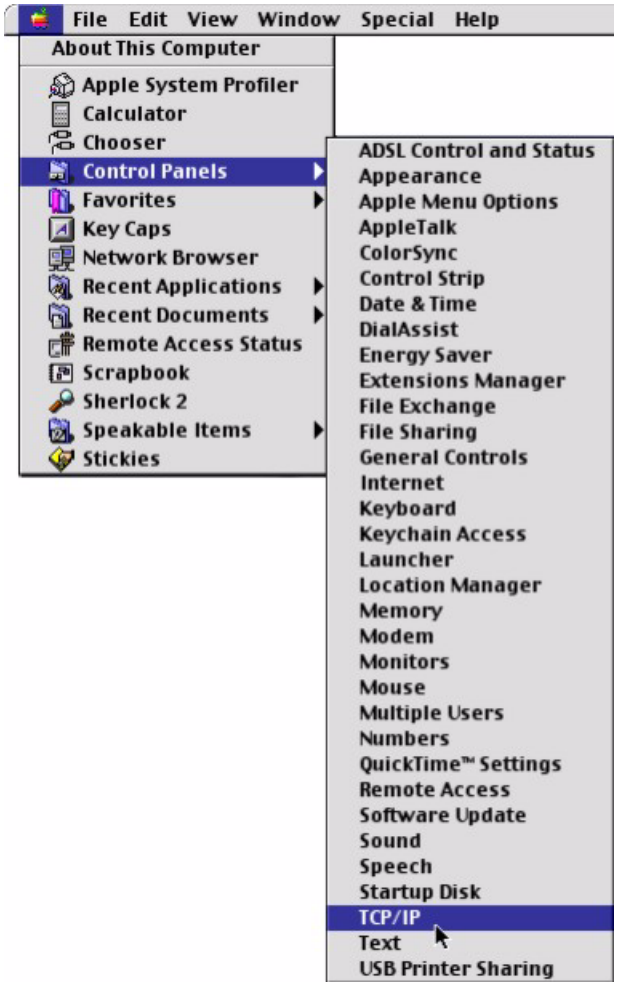
1 Click **Start**, **All Programs**, **Accessories** and then **Command Prompt**.

2 In the **Command Prompt** window, type "ipconfig" and then press [ENTER]. You can also open **Network Connections**, right-click a network connection, click **Status** and then click the **Support** tab.

Macintosh OS 8/9

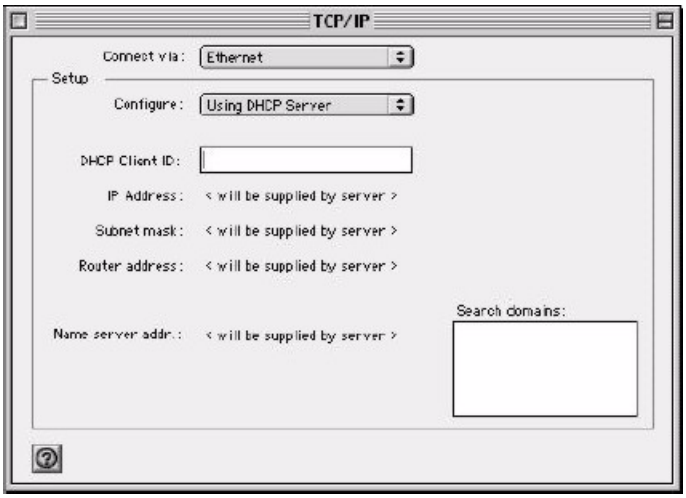
1 Click the **Apple** menu, **Control Panel** and double-click **TCP/IP** to open the **TCP/IP Control Panel**.

Figure 84 Macintosh OS 8/9: Apple Menu



2 Select **Ethernet built-in** from the **Connect via** list.

Figure 85 Macintosh OS 8/9: TCP/IP



3 For dynamically assigned settings, select **Using DHCP Server** from the **Configure:** list.

4 For statically assigned settings, do the following:

- From the **Configure** box, select **Manually**.
- Type your IP address in the **IP Address** box.
- Type your subnet mask in the **Subnet mask** box.
- Type the IP address of your gateway in the **Router address** box if you have one.

5 Close the **TCP/IP Control Panel**.

6 Click **Save** if prompted, to save changes to your configuration.

7 Restart your computer (if prompted).

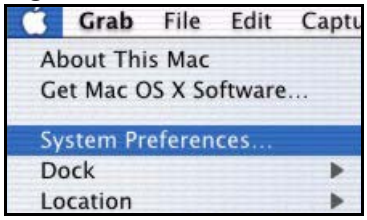
Verifying Settings

Check your TCP/IP properties in the **TCP/IP Control Panel** window.

Macintosh OS X

1 Click the **Apple** menu, and click **System Preferences** to open the **System Preferences** window.

Figure 86 Macintosh OS X: Apple Menu

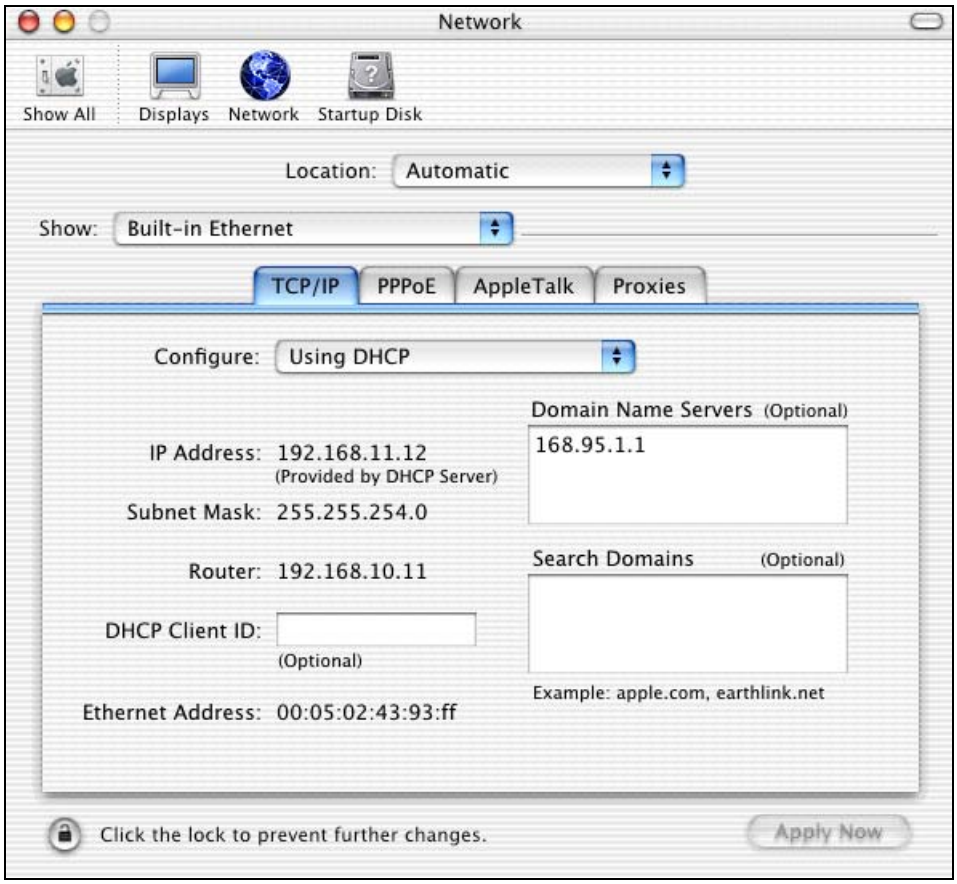


2 Click **Network** in the icon bar.

- Select **Automatic** from the **Location** list.
- Select **Built-in Ethernet** from the **Show** list.
- Click the **TCP/IP** tab.

3 For dynamically assigned settings, select **Using DHCP** from the **Configure** list.

Figure 87 Macintosh OS X: Network



4 For statically assigned settings, do the following:
   - From the **Configure** box, select **Manually**.
   - Type your IP address in the **IP Address** box.
   - Type your subnet mask in the **Subnet mask** box.
   - Type the IP address of your gateway in the **Router address** box if you have one.
5 Click **Apply Now** and close the window.
6 Restart your computer (if prompted).

Verifying Settings

Check your TCP/IP properties in the **Network** window.

C

Pop-up Windows, JavaScripts and Java Permissions

In order to use the web configurator you need to allow:

- Web browser pop-up windows from your device.
- JavaScripts (enabled by default).
- Java permissions (enabled by default).

Internet Explorer 6 screens are used here. Screens for other Internet Explorer versions may vary.

Internet Explorer Pop-up Blockers

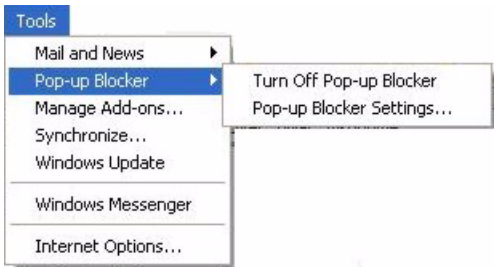
You may have to disable pop-up blocking to log into your device.

Either disable pop-up blocking (enabled by default in Windows XP SP (Service Pack) 2) or allow pop-up blocking and create an exception for your device's IP address.

Disable pop-up Blockers

1 In Internet Explorer, select **Tools**, **Pop-up Blocker** and then select **Turn Off Pop-up Blocker**.

Figure 88 Pop-up Blocker



You can also check if pop-up blocking is disabled in the **Pop-up Blocker** section in the **Privacy** tab.

1 In Internet Explorer, select **Tools**, **Internet Options**, **Privacy**.
2 Clear the **Block pop-ups** check box in the **Pop-up Blocker** section of the screen. This disables any web pop-up blockers you may have enabled.

Figure 89 Internet Options

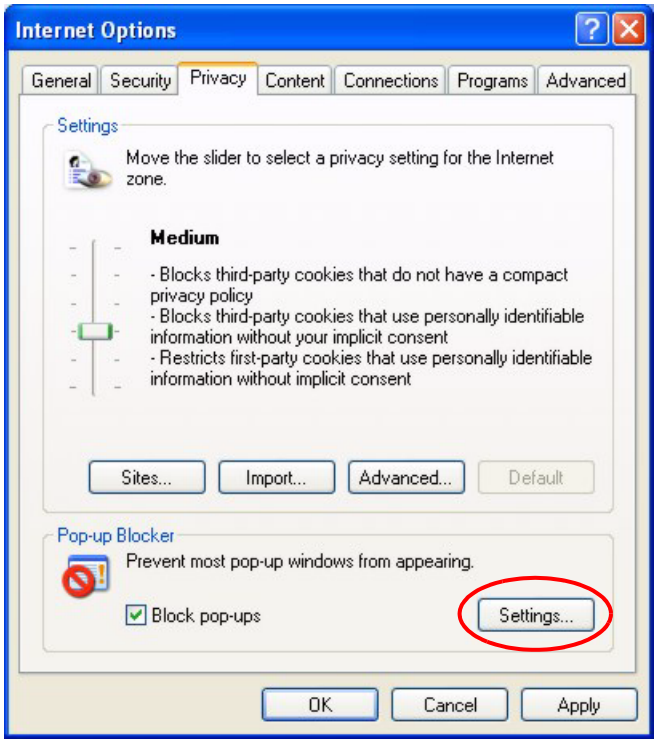
3 Click **Apply** to save this setting.

Enable pop-up Blockers with Exceptions

Alternatively, if you only want to allow pop-up windows from your device, see the following steps.

1 In Internet Explorer, select **Tools**, **Internet Options** and then the **Privacy** tab.
2 Select **Settings…**to open the **Pop-up Blocker Settings** screen.

Figure 90 Internet Options



3 Type the IP address of your device (the web page that you do not want to have blocked) with the prefix "http://". For example, http://192.168.1.1.

4 Click **Add** to move the IP address to the list of **Allowed sites**.

Figure 91 Pop-up Blocker Settings

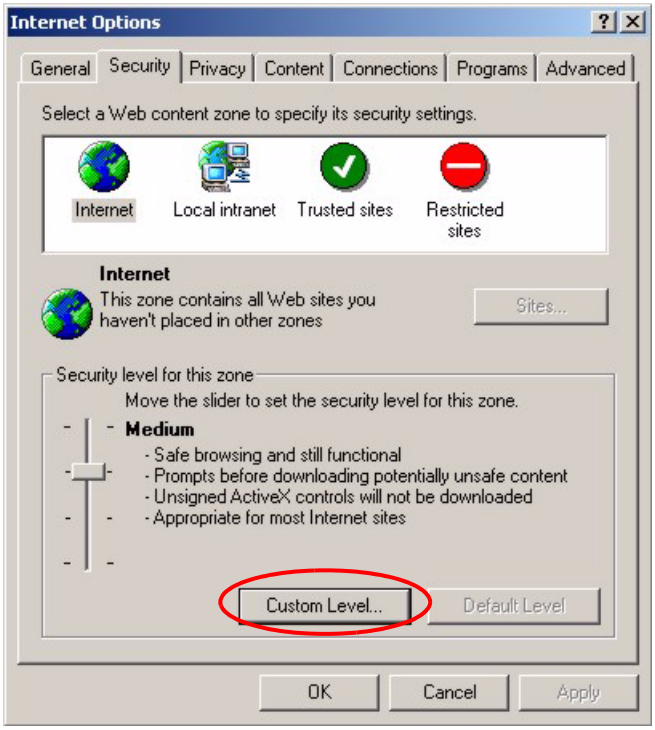
5 Click **Close** to return to the **Privacy** screen.
6 Click **Apply** to save this setting.

JavaScripts

If pages of the web configurator do not display properly in Internet Explorer, check that JavaScripts are allowed.

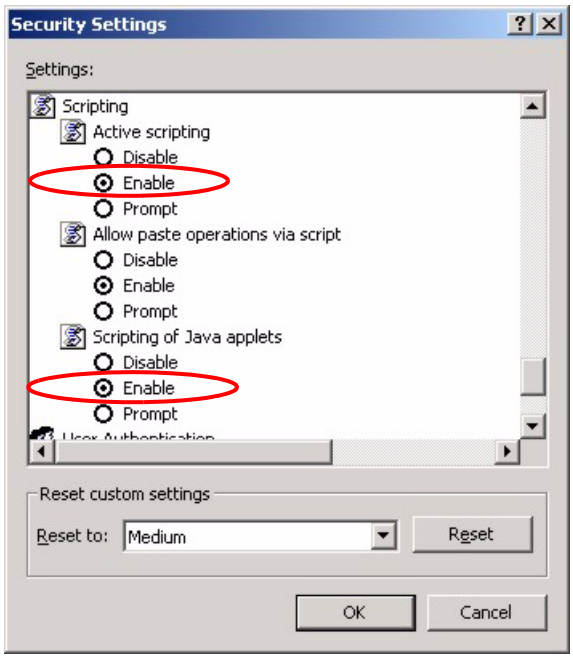
1 In Internet Explorer, click **Tools**, **Internet Options** and then the **Security** tab.

Figure 92 Internet Options



2 Click the **Custom Level...** button.
3 Scroll down to **Scripting**.
4 Under **Active scripting** make sure that **Enable** is selected (the default).
5 Under **Scripting of Java applets** make sure that **Enable** is selected (the default).
6 Click **OK** to close the window.

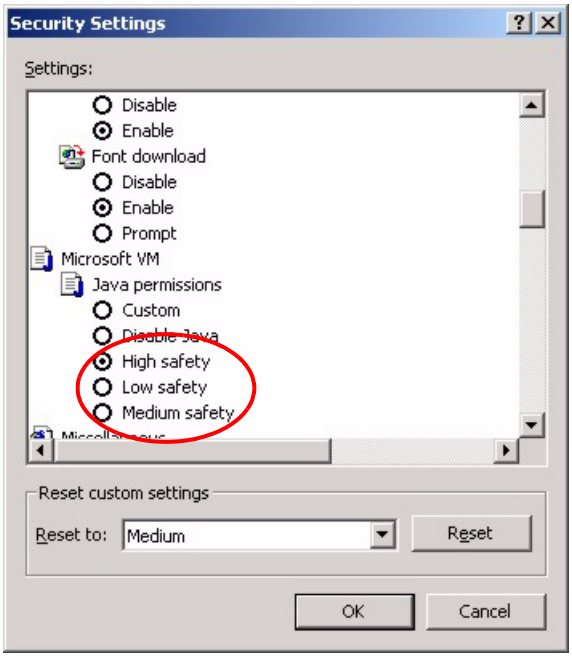
Figure 93 Security Settings - Java Scripting



Java Permissions

1. From Internet Explorer, click **Tools**, **Internet Options** and then the **Security** tab.
2. Click the **Custom Level...** button.
3. Scroll down to **Microsoft VM**.
4. Under **Java permissions** make sure that a safety level is selected.
5. Click **OK** to close the window.

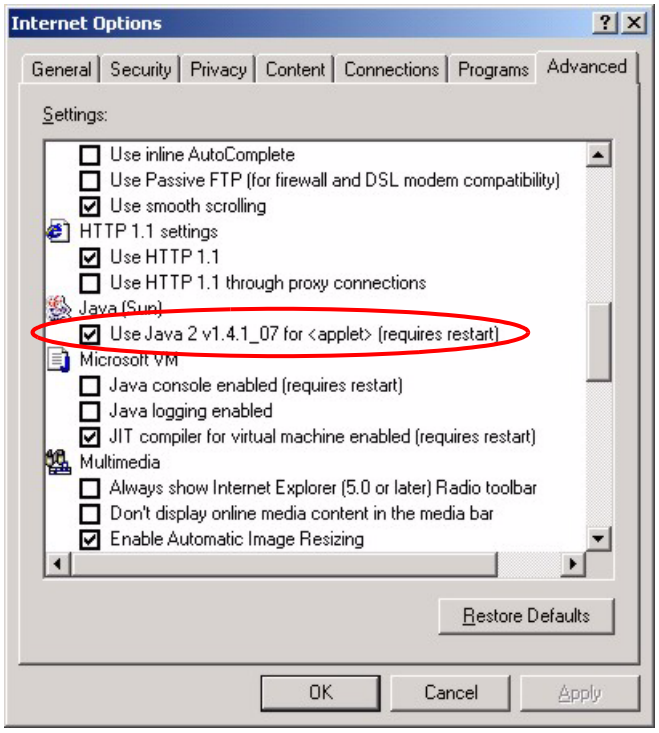
Figure 94 Security Settings - Java



JAVA (Sun)

1 From Internet Explorer, click **Tools**, **Internet Options** and then the **Advanced** tab.
2 make sure that **Use Java 2 for <applet>** under **Java (Sun)** is selected.
3 Click **OK** to close the window.

Figure 95 Java (Sun)



D

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E

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- Warranty Information.
- Date that you received your device.
- Brief description of the problem and the steps you took to solve it.

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"+" is the (prefix) number you dial to make an international telephone call.

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