

6500/6400 and 6700/4400 Series Printers



Printer Management Utility User's Manual

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Printer Management Utility User's Manual

Fifth Edition (July 2005)

This edition of the Printer Management Utility is to be used with the IBM 6500/6400 Series Line Matrix Printers and 6700/4400 Series Thermal Printers.

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1

Overview

The Printer Management Utility

The IBM* Printer Management Utility (PMU) allows you to organize all of the printers in your office remotely in a single database, download software and printer settings from a host computer with a single mouse click, and use a virtual operator's panel to configure printers in the same room or on the other side of the world.

Requirements

- an IBM 6500/6400 Series Line Matrix or 6700/4400 Series Thermal Printer
- the printer must be attached to the host system via a 10/100Base-T Ethernet Interface or a wireless Ethernet Interface; if you do not have an Ethernet Interface, see your dealer for an upgrade
- a host computer running the Windows** (95, 98, Me, NT, 2000, or XP) or UNIX** (such as AIX*, Linux**, or Solaris**) operating system
- a host computer running a Java** 2 Platform, Standard Edition (J2SE**) Java Runtime Environment (JRE) that is fully 1.4 compliant or higher. Sun** Microsystems provides a 1.4 compliant J2SE JRE for Windows, Linux, and Solaris at: <http://java.sun.com/j2se/>

NOTE: If you have another UNIX operating system, see your system administrator.

- for Windows, a minimum hardware configuration of a 450MHz Pentium** with 128 MB of RAM

To install and edit the database, it is not necessary to have the printers connected. When starting a session with a printer, the printer must be connected and turned on.

Installing the Software

The PMU is available only at the IBM web site at <http://www.printers.ibm.com>.

Follow the on-screen instructions to first install the J2SE JRE for your platform, then the PMU.

Printer Setup

Your printer uses the diagnostic port to communicate with the remote management software. The diagnostic port must be configured to interact with the NIC. Follow the instructions below for your printer model to check the diagnostic port setting.

6500 Series Line Matrix Printers

1. On the printer control panel, press the **STOP** key to take the printer offline.
2. Press **RETURN** and **ENTER** at the same time to unlock the ENTER key.
3. Press **MENU**. QUICK SETUP displays.
4. Press ↓ **SCROLL** until PRINTER CONTROL displays.
5. Press **ENTER**. INTERFACE SELECTION displays.
6. Press ↓ **SCROLL** until PRINTER MANAGEMENT PORT displays.
7. Press **ENTER**. DISABLE displays. If ETHERNET displays, go to step 10.
8. Press ↓ **SCROLL** until ETHERNET displays.
9. Press **ENTER**. As asterisk (*) appears next to ETHERNET.
10. Press **RETURN** and **ENTER** at the same time to lock the ENTER key.
11. Press **START** to put the printer back online.

6400 Series Line Matrix Printers

1. On the printer control panel, press the **Stop** key to take the printer offline.
2. Press **Scroll** ↑ and **Scroll** ↓ at the same time to unlock the Enter key.
3. Press **Scroll** ↑, **Scroll** ↓, **Enter**, and **Return** at the same time to enter the SERVICE menu.
4. Press **Scroll** ↑ or **Scroll** ↓ until PRINTER MGMT displays.
5. Press **Enter**. DIAGNOSTIC PORT displays.
6. Press **Enter**. DIAGNOSTIC PORT (and the current diagnostic port setting) displays. If DEBUT ETHERNET displays, go to step 9.
7. Press **Scroll** ↑ until DEBUT ETHERNET displays.
8. Press **Enter**. As asterisk (*) appears next to DEBUG ETHERNET.
9. Press **Scroll** ↑ and **Scroll** ↓ at the same time to lock the Enter key.
10. Press **Start** to put the printer back online.

6700 Series Thermal Printers

1. On the printer control panel, press the **PAUSE** key to take the printer offline.
2. Press ↓ and ↵ at the same time to unlock the ↵ key.
3. Press +, -, ↓, and ↑ at the same time to enter the Factory menu.
4. Press ↓ until Diagnostic Port displays.
5. If you have the internal PCI Ethernet Interface, press + until Debug Ethernet displays. If you have the external Ethernet Interface, press + until Debug Adapter displays.
6. Press ↵ to select it.
7. Press ↓ and ↵ at the same time to lock the ↵ key.
8. Press **PAUSE** twice to put the printer back online.

4400 Series Thermal Printers

1. On the printer control panel, press the **PAUSE** key to take the printer offline.
2. Press ↓ and ↵ at the same time to unlock the ↵ key.
3. Press +, -, ↓, and ↑ at the same time to enter the Factory menu.
4. Press ↓ until Diagnostic Port displays.
5. Press + until Debug Ethernet displays.
6. Press ↵ to select it.
7. Press ↓ and ↵ at the same time to lock the ↵ key.
8. Press **PAUSE** twice to put the printer back online.

Set Password

See page 45 to learn how to set passwords.

If the password is unknown you must clear it first.

6500/6400 Series

Go into the SERVICE menu, then into the PRINTER MGMT menu. Press ↓ **SCROLL** until CLEAR PASSWORD displays. Unlock the ENTER key, then press **ENTER** to clear the User and Supervisor passwords.

Under the Security tab in Printer Properties, delete any passwords that already exist. Now you may set new passwords as described on page 45.


6700/4400 Series

Go into the Factory menu. Press ↑ or ↓ until Clear Password displays. Unlock the ↵ key, then press ↵ to clear the User and Supervisor passwords.

Under the Security tab in Printer Properties, delete any passwords that already exist. Now you may set new passwords as described on page 45.

Set Telemetry Path (6700/4400 Series Only)

The following procedure enables you to collect data using the Data Validation application.

1. On the control panel, press the **PAUSE** key to take the printer offline.
2. Press  to place the printer in Menu mode. QUICK SETUP displays on the LCD.
3. Press ↓ and ↵ at the same time to unlock the ↵ key.
4. Press + until VALIDATOR displays.
5. Press ↓ until Telemetry Path displays.
6. Press + or - until Network Port displays.
7. Press ↵ to activate it.

NOTE: Since only one port can be used at a time, DEACTIVATING HOST SERIAL displays.

If you later change the setting to Serial Port or Disabled, REACTIVATING HOST SERIAL will display.

8. Press ↓ and ↵ at the same time to lock the ↵ key.
9. Press **PAUSE** twice to put the printer back online.

For more information, refer to the printer *User's Manual*.

Check Port Number

Make sure your printer port number has the same setting as the NIC. To check the port number using the remote management software, see page 18.

To check the port number on the printer, check the PRINTER MANAGER PORT NO. under PRINTER MGMT in the SERVICE menu (6500/6400 Series) or the PMU Port Number in the Factory menu (6700/4400 Series). The default port number is 3001.

Getting Started

This section provides a short tutorial on how to set up and access a printer using the remote management software.

1. This tutorial assumes the host computer running the remote management software and the printer you want to access are connected by a network. You must know the printer's IP Address and Port Number.
2. From your operating system, launch the remote management software. Click the splash screen to see the main window of the printer database more clearly. See Figure 1.

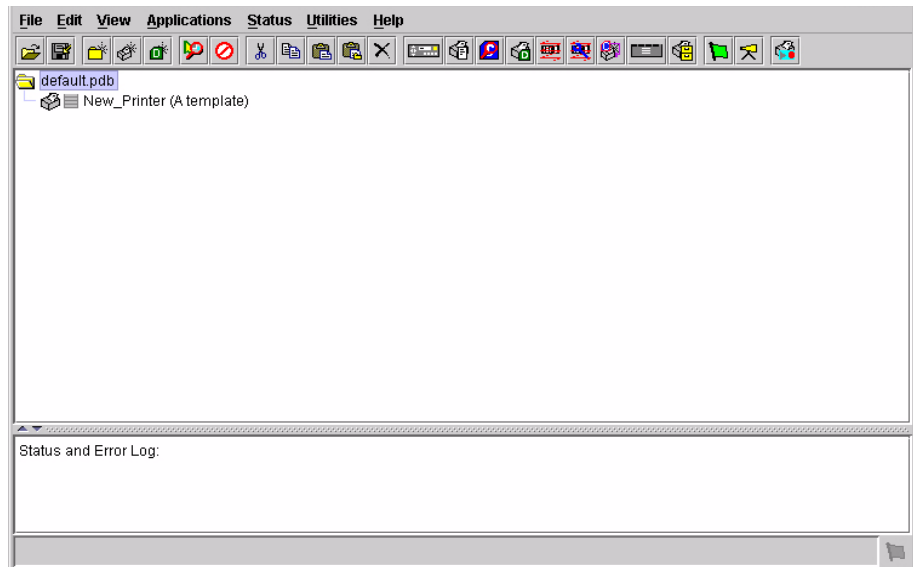


Figure 1. Printer Database Main Window

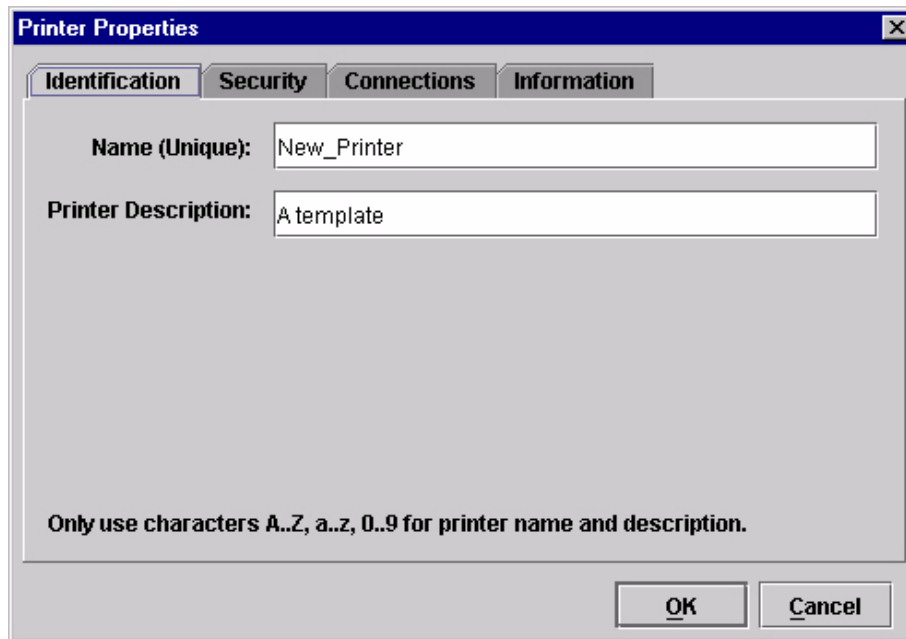


Figure 2. Printer Properties: Identification Tab

3. Double-click **New_Printer (A template)**. The Printer Properties dialog box opens. See Figure 2.
4. Assign a name to your printer. Delete the words **New_Printer** in the Name (Unique) field, and then type **Tutorial**.
5. Assign a description to this printer. Delete the words **A template** in the Printer Description field, and then type **My First Connection**.

Printer Properties

Identification **Security** Connections Information

User Password:

Supervisor Password: Supervisor Mode

Telnet Guest Password:

Telnet Root Password:

Only use characters A..Z, a..z, 0..9 for passwords.

OK Cancel

Figure 3. Printer Properties: Security Tab

6. Click the **Security** tab. See Figure 3.
7. If you are using the remote management software for the first time, it is likely that no passwords are assigned to this printer. If you are unsure, contact your system administrator.
 - If no passwords are assigned, leave the password boxes empty.
 - If a User password is necessary to access this printer, type the password in the User Password field.
 - If a Supervisor password is necessary to access this printer, type the password in the Supervisor Password field, and check the Supervisor Mode check box.
 - If a Telnet Guest password is necessary to poll the status of the printer, type the password in the Telnet Guest Password field. See “Security Tab” on page 65.
 - If a Telnet Root password is necessary to update wireless printer settings, type the password in the Telnet Root Password field. See “Security Tab” on page 65.

In any case, an asterisk (*) character appears in the field after each letter you type to preserve password secrecy.

For more details on setting up and changing passwords, see page 45.

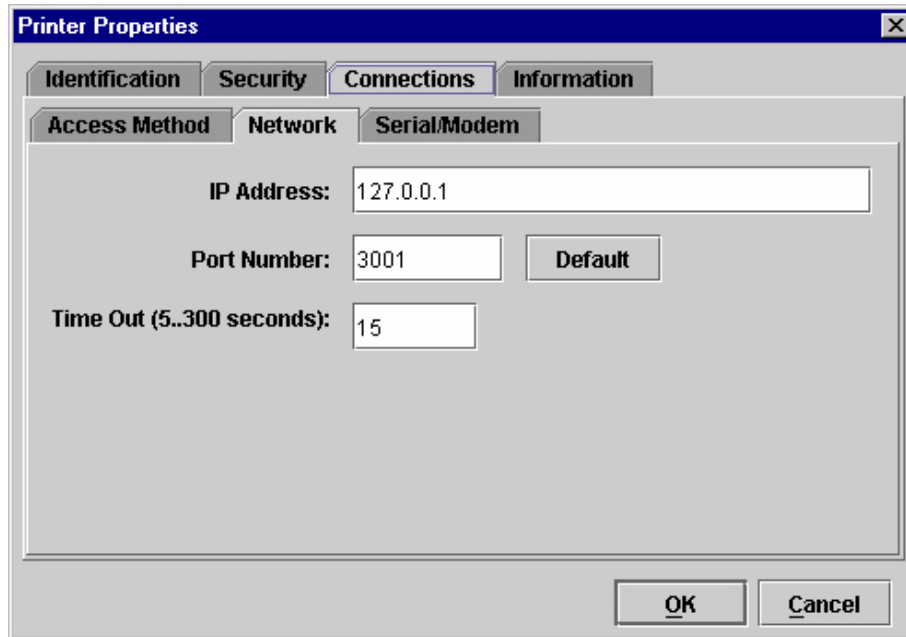


Figure 4. Printer Properties: Connections Tab – Network Sub-Tab

8. Click the **Connections** tab. By default, the Network sub-tab displays.
9. Click the **IP Address** field and then type the IP Address of the printer you want to access. Follow the format shown in Figure 4.

The Port Number field must be set to the same port as the printer. Leave it set at 3001. Leave the Time Out (5..300 seconds) field set at 15 seconds.

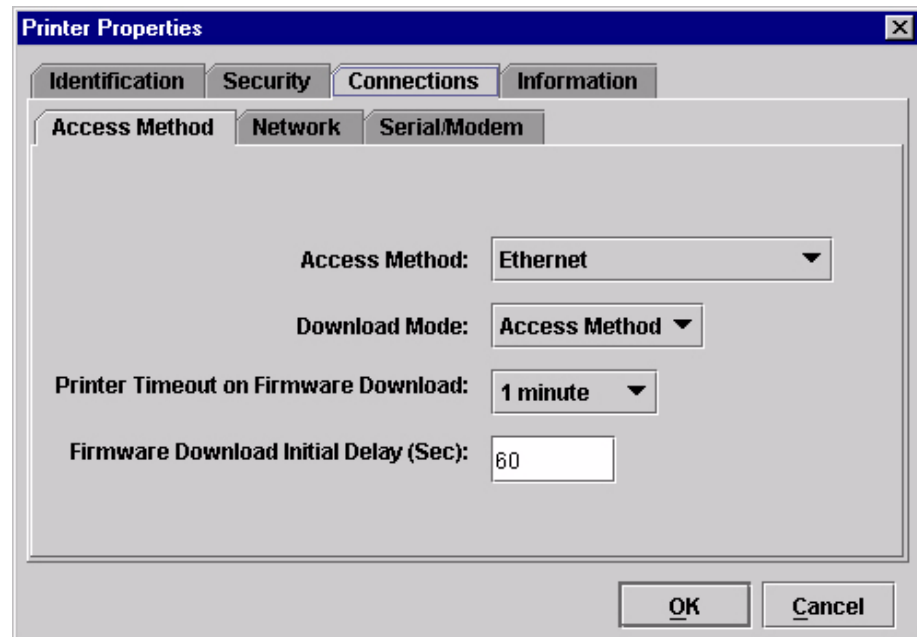


Figure 5. Connections: Connections Tab – Access Method Sub-Tab

10. Click the **Access Method** sub-tab. See Figure 5.

The Access Method tells the remote management software how the host computer communicates with the printer. Make sure it is set to Ethernet. Ignore Download Mode and Download Timeout for now. These options are described in “Access Method Sub-Tab” on page 68.

11. Click **OK**. The Printer Properties dialog box closes and you return to the printer database main window. Your printer is now set up in the remote management software database.

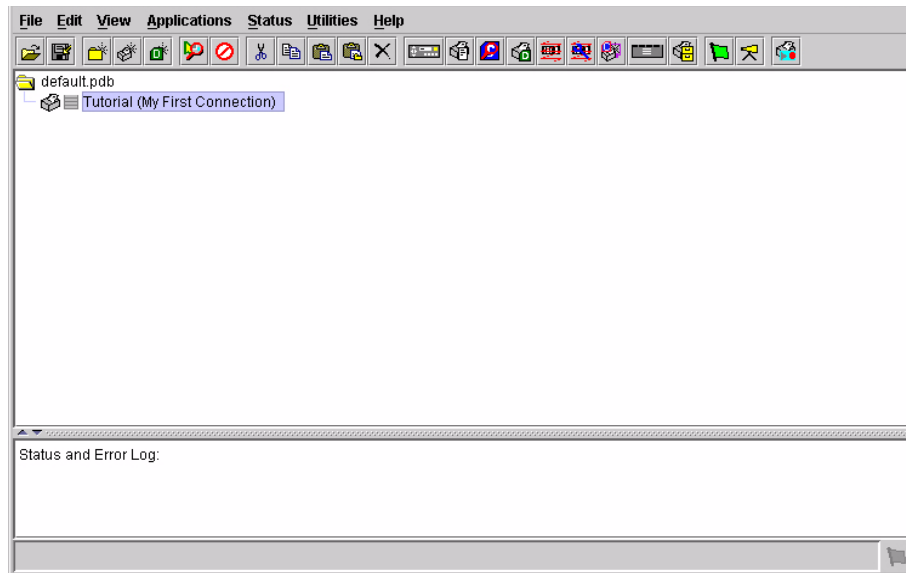


Figure 6. Printer Database Main Window

12. Try to access the printer's virtual operator panel as a test to see if the information you input is accurate. Follow this procedure:
 - a. **Tutorial (My First Connection)** should be highlighted in blue, as shown in Figure 6. If it is not highlighted, click it to select it.
 - b. Select **Applications ▶ Operator Panel**. The printer's virtual operator panel appears (see "Operator Panel" on page 98). If not, an error message appears in the Status and Error Log pane. Check your password to make sure it is correct. If the error continues, contact your system administrator.

2

Printer Database

Overview

When you start the PMU, the printer database window appears first. The printer database tool organizes and controls printers and Download files. Figure 7 shows how the database looks when the PMU launches for the first time.

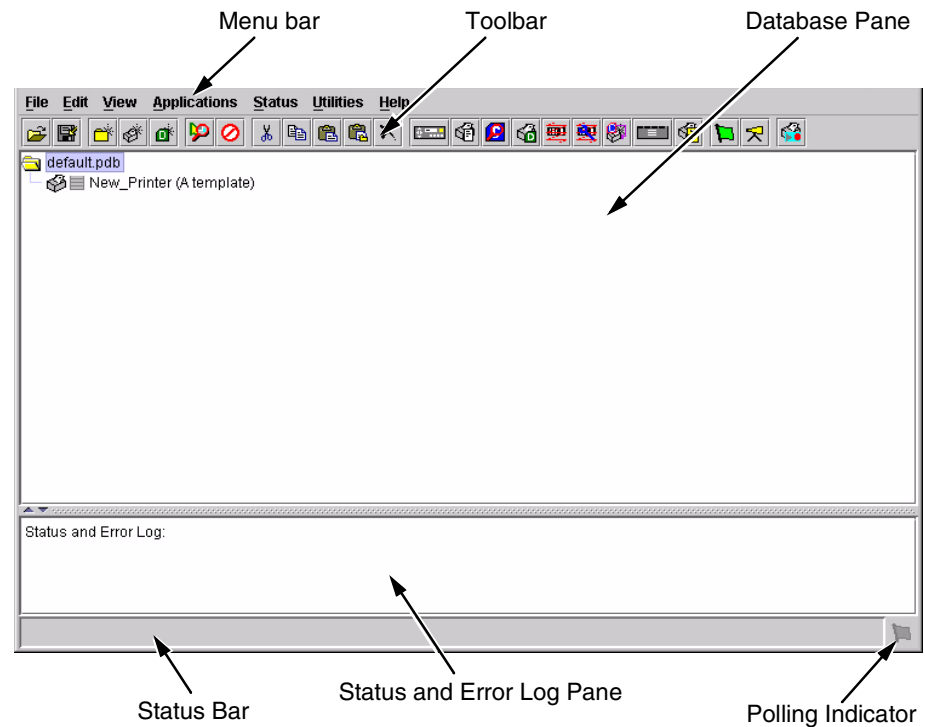


Figure 7. Printer Database Main Window

The menu bar contains all the menus used to control the functions of the program. The menus are described later in this chapter.

The toolbar contains buttons for the most commonly used menu functions. See page 60 for descriptions of the toolbar buttons.

Use the Database pane to access and control your printers in a tree format. The first line of the database tree displays the database file name. In Figure 7, the default file name for this database is **default.pdb**. From there, your database tree branches out to include printers, folders, and Download files, which you can organize into groups. With a single mouse click, you can download a file to several printers at once. In addition, you can use as many

databases with the PMU as you want. Databases save as **.pdb** files on your local hard drive.

NOTE: You can open only one printer database at a time.

The Status and Error Log scrolls status and error messages as you work through the program. If the PMU does not function properly, look at this pane for error messages. Use the scroll bar on the side of the pane to reference previous status and error messages. The status and error messages relate to the current PMU session, not to the specific database. When you exit the PMU, these messages will be deleted.

The Status Bar displays brief status messages of the PMU, some of which appear in the Status and Error Log.

The Polling Indicator turns green whenever printers are being polled.

The Menu Bar

The printer database menu bar is located at the top of the window (see Figure 7). Use the menu bar to access all the functions of the PMU.

The following are descriptions of the options located on the menu bar.

The File Menu

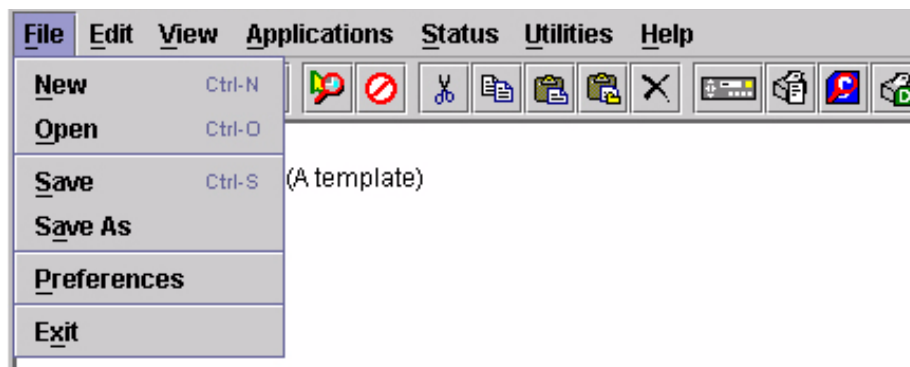


Figure 8. File Menu

New

Creates a new database file. Since the PMU allows only one database file to be open at a time, it asks if you want to save your changes to the current database before it creates a new one.

Open

Opens a database file. Since the PMU allows only one database file to be open at a time, it asks if you want to save your changes to the current database before it opens a different one.

Save

Saves the active database file using its current name.

Save As

Prompts you to enter a name for the current database file before the PMU saves it. Use Save As if you do not want to overwrite the current database file.

Preferences

Opens the Preferences dialog box. See Figure 9.

Exit

Exits the PMU.

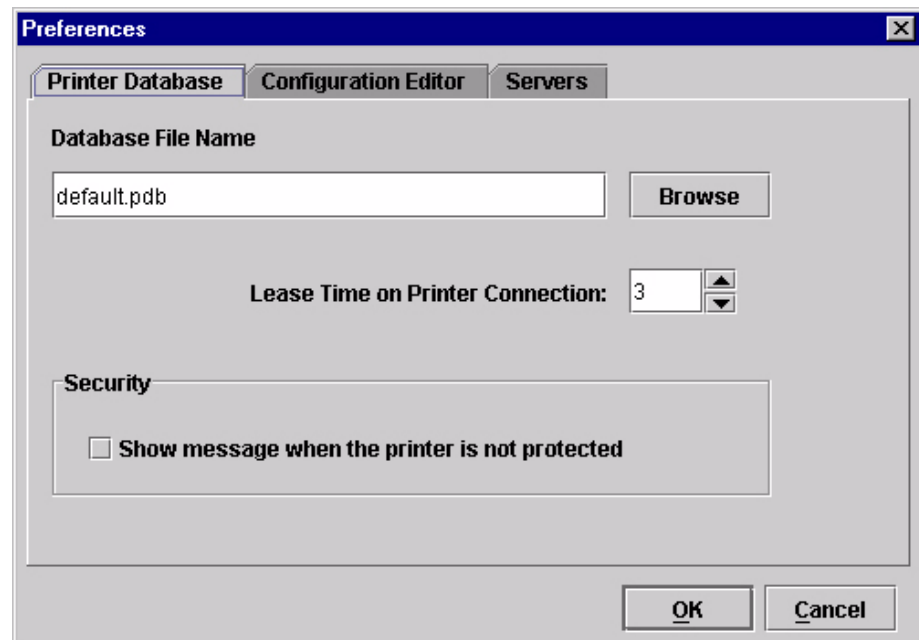


Figure 9. Preferences: Printer Database Tab

The Preferences dialog box has three tabs: Printer Database, Configuration Editor, and Servers.

The Printer Database tab controls database features.

Database File Name: Enter the name of the default database file. The PMU opens this database file when the program starts. To select a new default database file, type it into the Database File Name field, or click **Browse** to locate a file on your network.

Lease Time on Printer Connection: Enter an amount (in seconds) to set the maximum amount of time a printer connection can remain open without any communication. The default is three seconds.

Security: Check the **Show message when the printer is not protected** check box to enable a warning message that informs you when a selected printer does not have an assigned password.

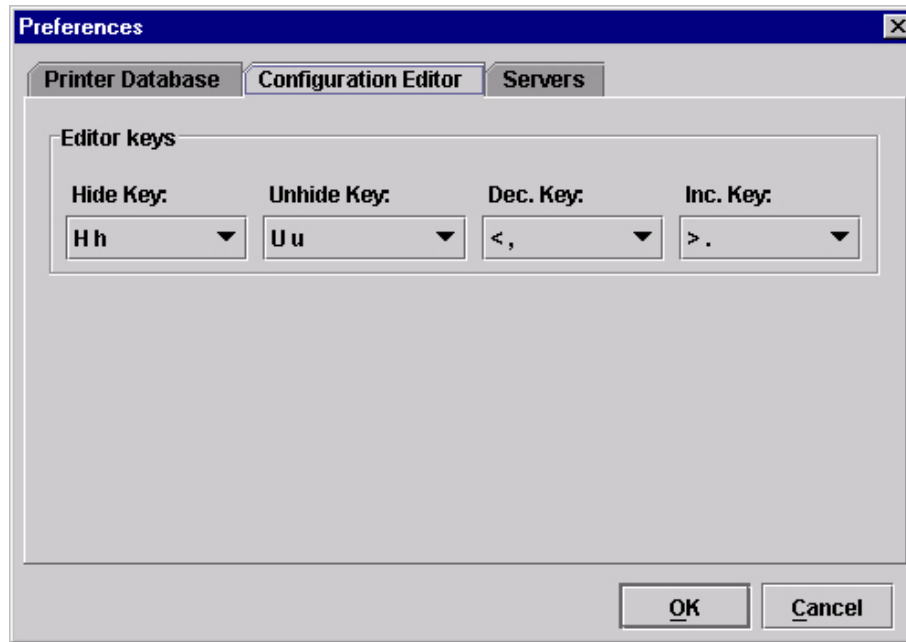


Figure 10. Preferences: Configuration Editor Tab

The Configuration Editor tab controls features of the Configuration Editor utility.

Hide Key/Unhide Key: Assigns which keys hide and unhide menu items in the Configuration Editor menu tree (see page 73). The default for Hide is **H h**. The default for Unhide is **U u**.

Dec./Inc. Key: Assigns which keys will decrement and increment menu items in the Configuration Editor menu tree (see page 73). The default for decrement is **< ,**. The default for increment is **> .**

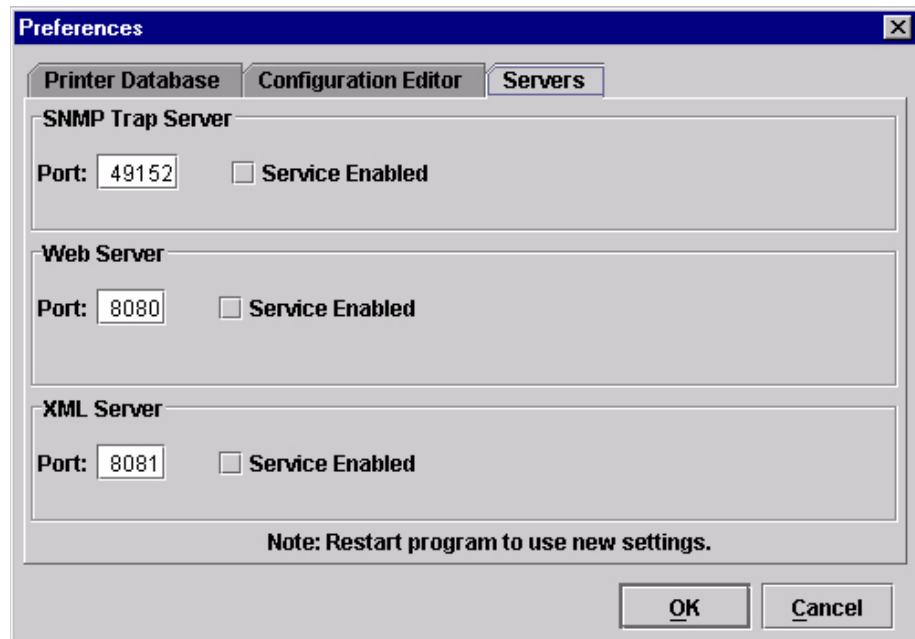


Figure 11. Preferences: Servers Tab

The Servers tab allows you to assign port values for the SNMP (Simple Network Management Protocol) Trap Server, the Web Server, and the XML Server. Click **Service Enabled** next to the corresponding server to turn it on.

NOTE: You must restart the PMU to use the new settings and enable the servers.

SNMP Trap Server: The service that enables the PMU to receive alerts from the printer when its status changes. Once the PMU receives the alert, the PMU creates an instant status poll to reflect the change in the database pane. For instance, if you turn the printer offline, the printer sends an alert to the PMU causing it to change the printer status instantly. In the database pane, the printer status changes to offline.

NOTE: The SNMP Trap Server works only if the printer's Ethernet Interface is configured correctly using the Configure Print Servers utility. See "Configure Print Servers" on page 54.

Web Server: Allows you to view the active PMU using a web browser. See "Web Access" on page 112.

NOTE: If you want to use the Web Server service, you must also enable the XML Server service.

XML Server: The PMU uses XML to communicate with its web server.

The Edit Menu

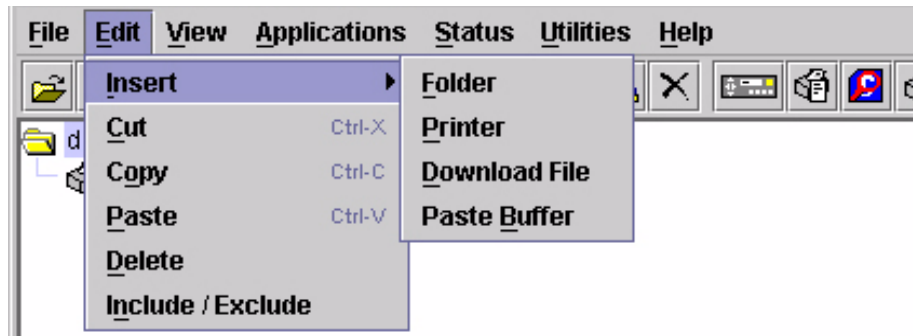





Figure 12. Edit Menu

Use the Edit option on the menu bar to build your database. The options in the Edit menu are described below.

Insert

Adds a folder, printer, or Download file into your database. You must select an existing database item to create a folder, printer, or file. You can also paste the contents of the paste buffer (the last item that was copied or cut) into the database. The new icon appears one level below the selected database item. If there are items below the selected database item, the new item appears at the end.

Inserting an item involves three steps:

1. Select a database item. (The new icon will appear below the item you select.)
2. Define which type of icon you want to add. Select **Edit ▶ Insert ▶** and then select the item you want to add. Or click the  (insert new folder),  (insert new printer), or  (insert new Download file) icon.
A new icon appears in the database.
3. Define what printer, folder, or file this icon represents.
 - a. To define a printer, see “Defining Printer Properties” on page 63.
 - b. To define a folder, double-click **New Folder**. The Folder Name dialog box opens. Type the name of the folder and click **OK**.
 - c. To define a Download file, see “File Download” on page 87.

Cut

Removes selected folders, printers, or files from the database and places it in the paste buffer.

Copy

Copies selected folders, printers, or files from the database to the paste buffer, leaving the original intact.

NOTE: You can select multiple database items by using the **Ctrl** or **Shift** key.

Paste

Places the item in the paste buffer on the database tree. To paste, you must select a database item. The pasted item appears on the same level as the selected database item.

NOTE: If you select **Edit ▶ Paste**, the pasted item appears on the same level as the selected database item. However, if you select **Edit ▶ Insert ▶ Paste Buffer**, the pasted item appears one level below the selected database item.

Delete

Permanently removes a selected folder, printer, or file from the database.

Include/Exclude

Deactivates a selected folder, printer, or file. Inactive database items display a red circle with a slash through it on top of the item's icon.

You cannot send information to or receive information from excluded database items using the following Applications, Status, and Utilities menu options: Flash File Manager, File Download, Update Status, and Configure Print Servers.

To activate a database item, select the inactive item and then select **Edit ▶ Include/Exclude**.

The View Menu

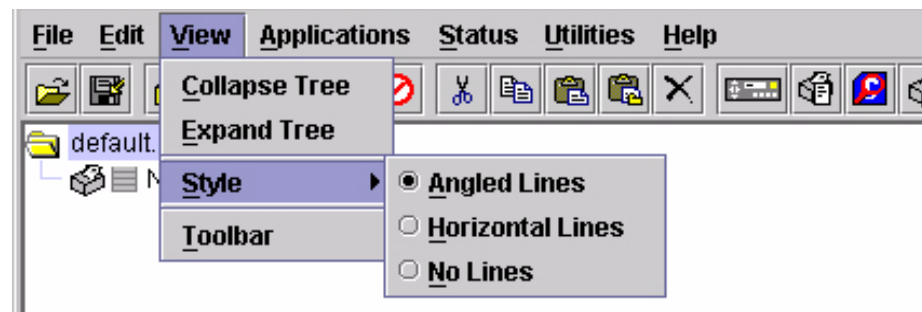


Figure 13. View Menu

Collapse Tree

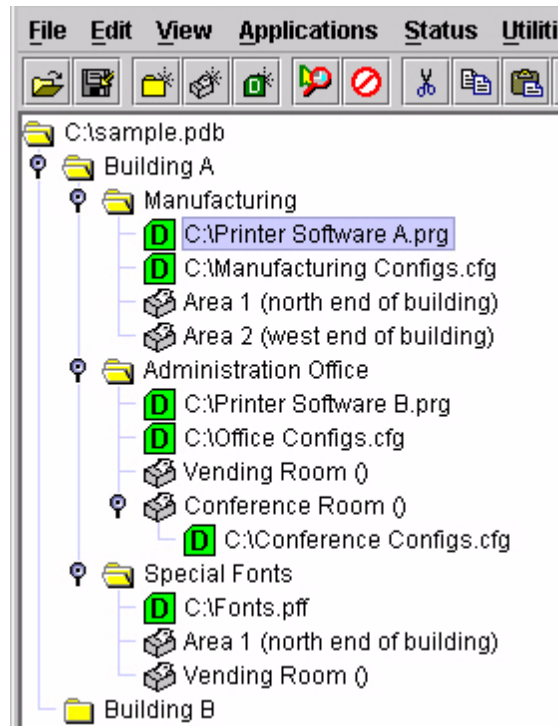
Collapses all folders on the database menu tree. Only the top level menu items display.

Expand Tree

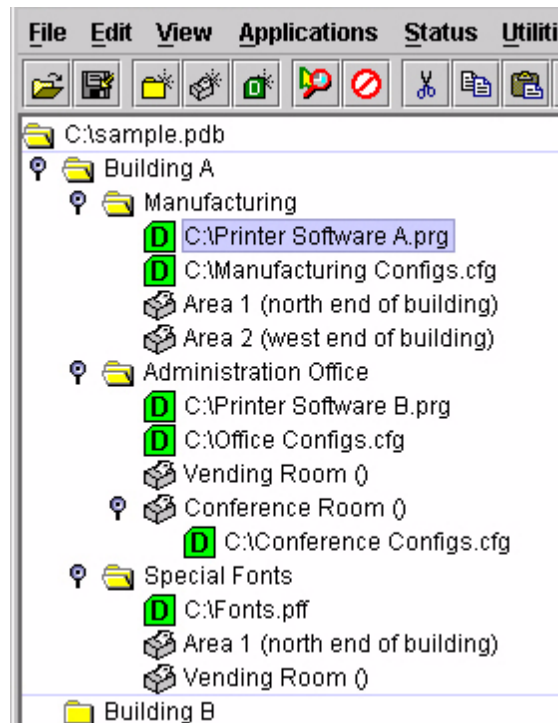
Expands all folders and printers on the database menu tree. All folders, printers, and Download files display.

Style

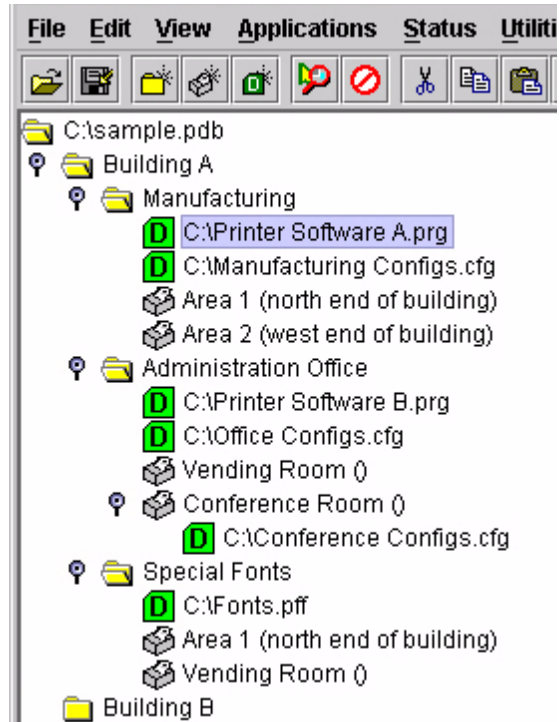
Angled Lines: Shows the links between database items using angled lines.



Horizontal Lines: Shows the links between folders using horizontal lines.

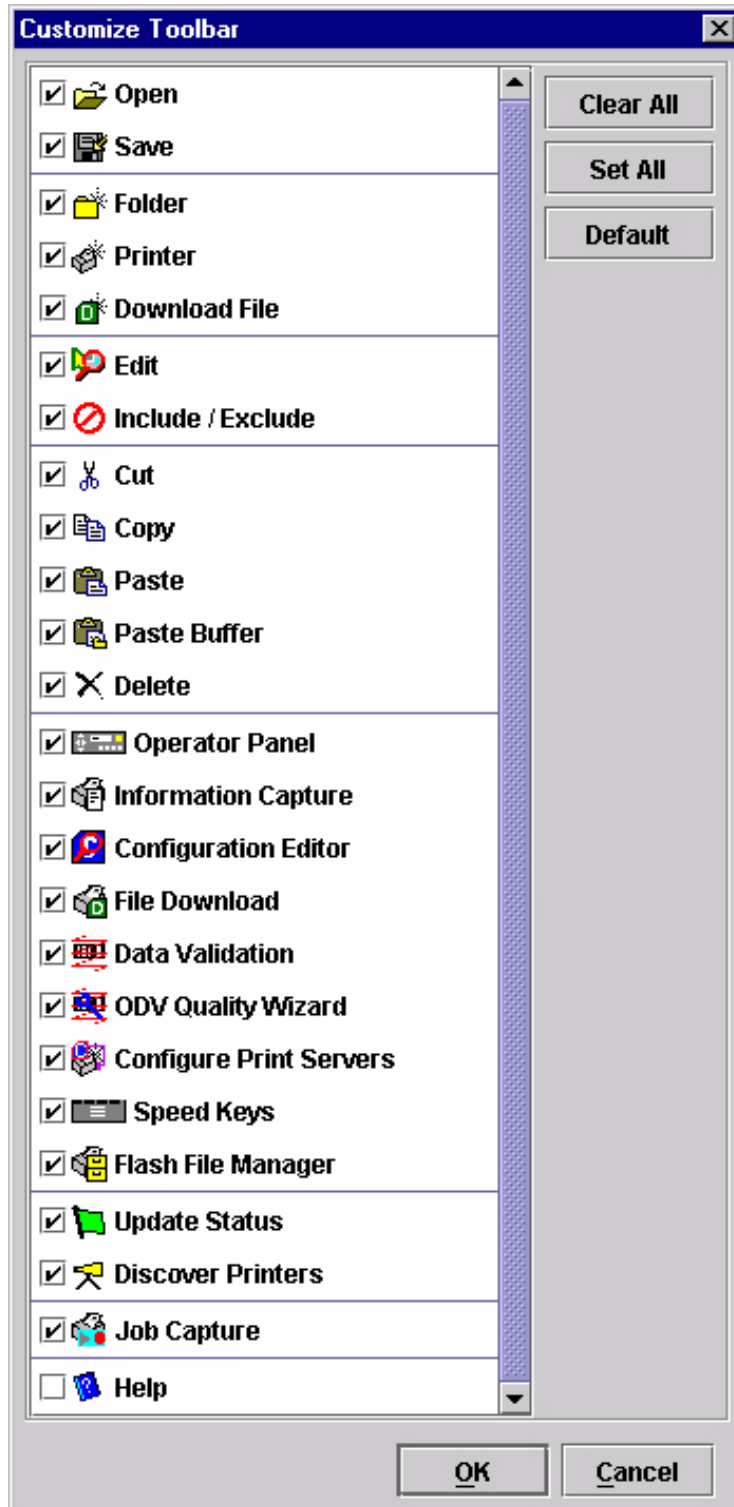


No Lines: Shows no links between database items.



Toolbar

Allows you to select which buttons display on the toolbar.



The Applications Menu

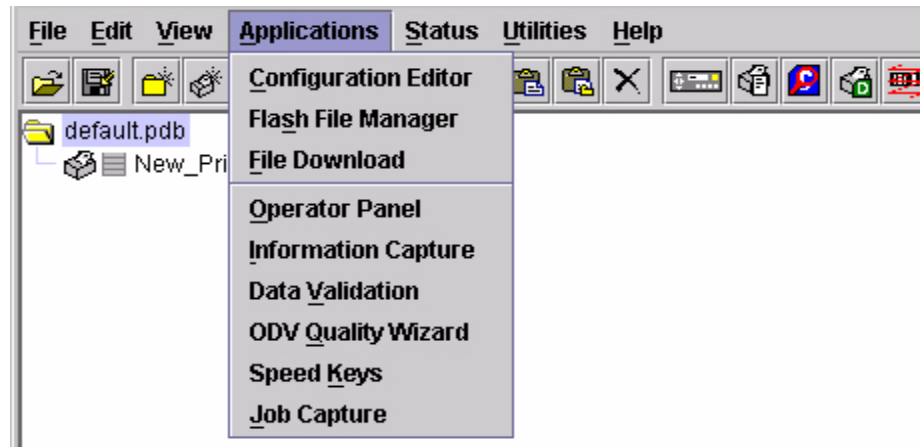


Figure 14. Applications Menu

For an explanation of the Applications menu options, find the menu option in Table 1 and go to the corresponding page.

Table 1. Applications Menu Options

Menu Option	Page
Configuration Editor	page 73
Flash File Manager	page 83
File Download	page 87
Operator Panel	page 98
Information Capture	page 101
Data Validation	page 103
ODV Quality Wizard	page 105
Speed Keys	page 106
Job Capture	page 107

The Status Menu

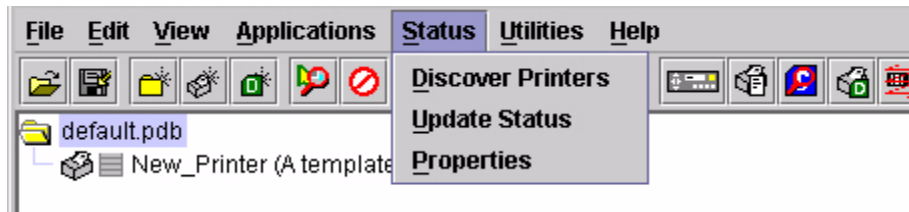



Figure 15. Status Menu

Discover Printers

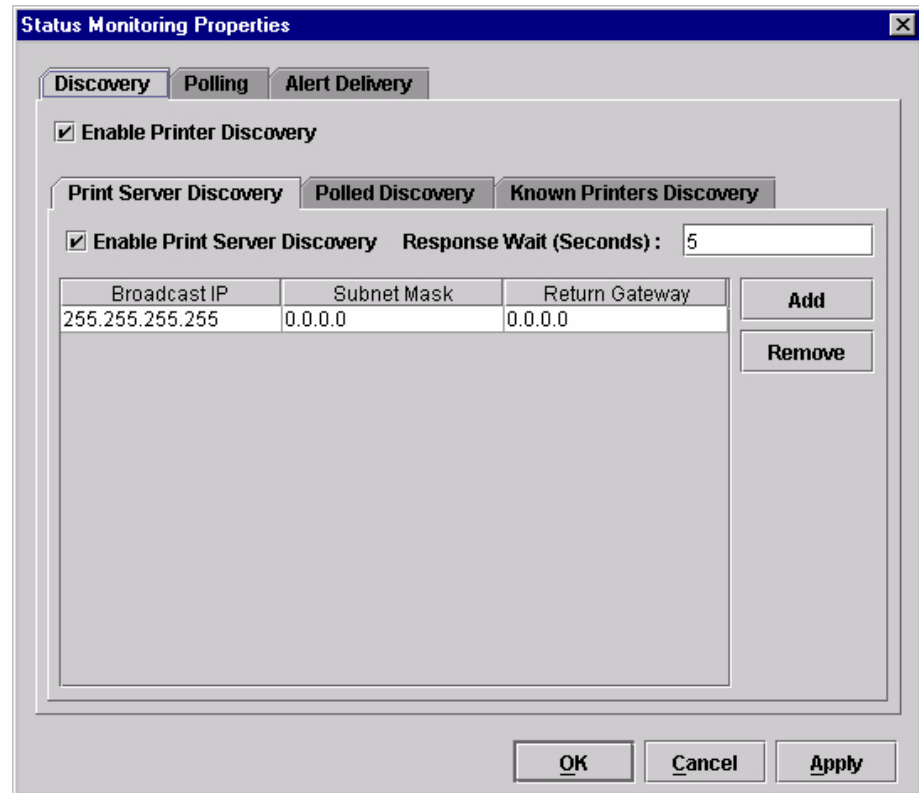
To search for printers on a network, select **Status ▶ Discover Printers**, or click the  **Discover Printers** button at the far right of the toolbar. The results of the search display in the database pane.

Discover Printers searches for printers on a network based on the settings specified in the Discovery tab of the Status Monitoring Properties dialog box. The next section explains how to configure your search.

Properties

Select **Status ▶ Properties** to open the Status Monitoring Properties dialog box. The dialog box contains three tabs: Discovery, Polling, and Alert Delivery.

NOTE: To enable printer discovery, check the **Enable Printer Discovery** check box.



**Figure 16. Status Monitoring Properties:
Discovery Tab – Print Server Discovery Sub-Tab**

Discovery Tab

You can discover printers on a network in three ways:

1. **Print Server Discovery:** This option allows you to discover all IBM 6700/6500/6400/4400 Series Ethernet Interface-equipped printers on a subnet. To enable the option, check the **Enable Print Server Discovery** check box in the Status Monitoring Properties dialog box (see Figure 16), then click **Apply** or **OK**.

Response Wait (Seconds): To specify the time delay (in seconds) the PMU waits for a printer response. By default, the value is set at 5 seconds.

Broadcast IP, Subnet Mask, and Return Gateway: These settings must match your network configuration. See your system administrator.

NOTE: To discover unconfigured NICs, you must enter the Gateway Address and Subnet Mask in the Return Gateway field.

If Enable Print Server Discovery is enabled, a progress indicator displays while the PMU discovers printers. See Figure 17.

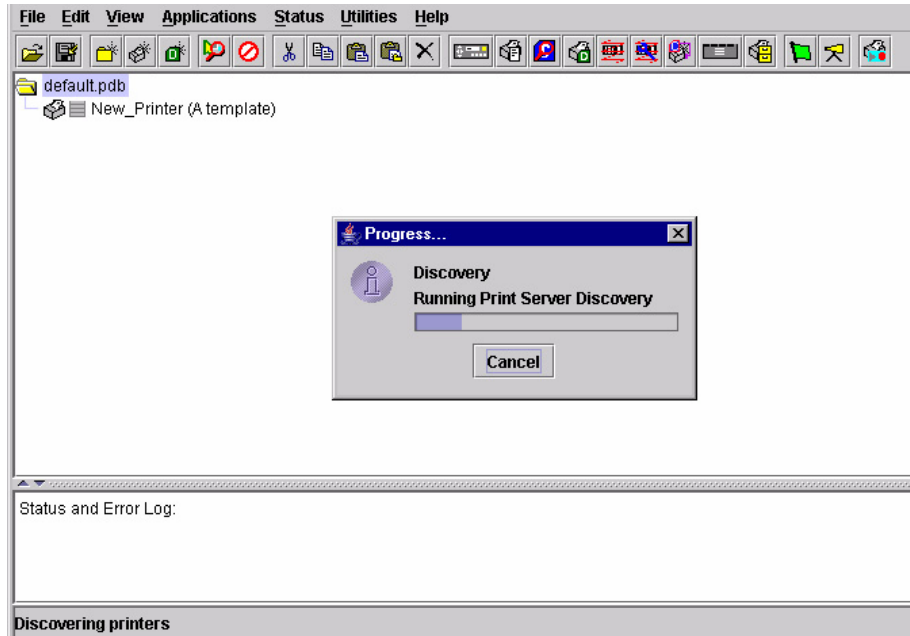
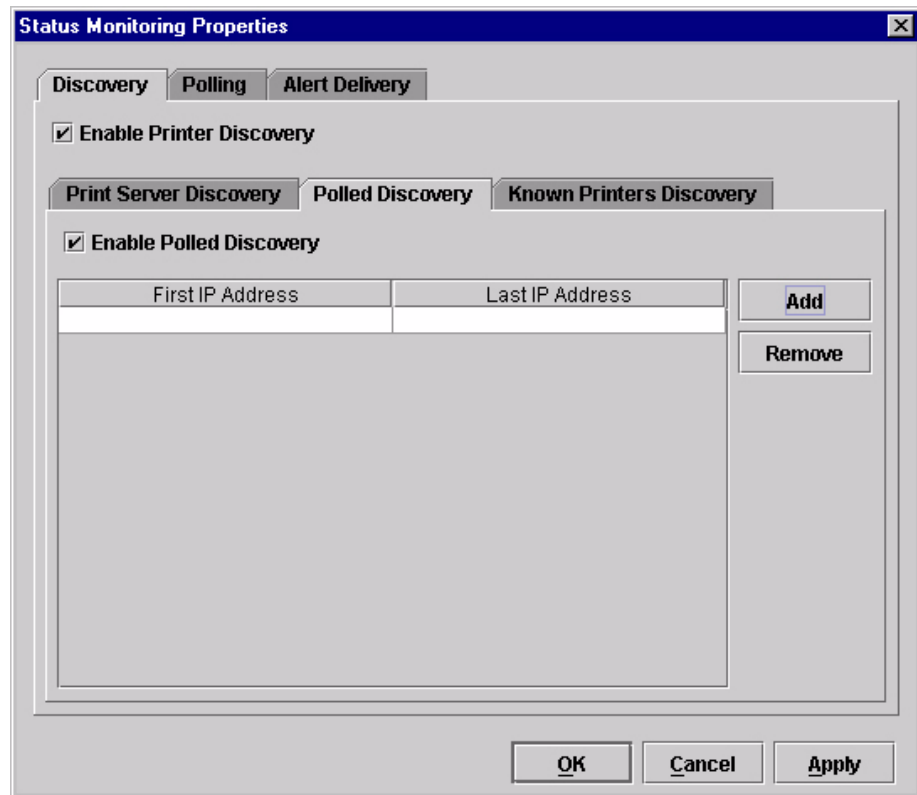


Figure 17. Print Server Discovery in Progress



**Figure 18. Status Monitoring Properties:
Discovery Tab – Polled Discovery Sub-Tab**

2. **Polled Discovery:** This option allows you to select a range of IP addresses to poll. To enable the option, click the **Polled Discovery** tab and check the **Enable Polled Discovery** check box, then click **Add** (see Figure 18). In the First IP Address field, enter the first IP address of your desired range. In the Last IP Address field, enter the last IP address. Click **Apply** or **OK**. The PMU polls the printers within your specified range and displays the results in the database pane.

If Polled Discovery is enabled, a progress indicator displays while the PMU discovers printers. See Figure 19.

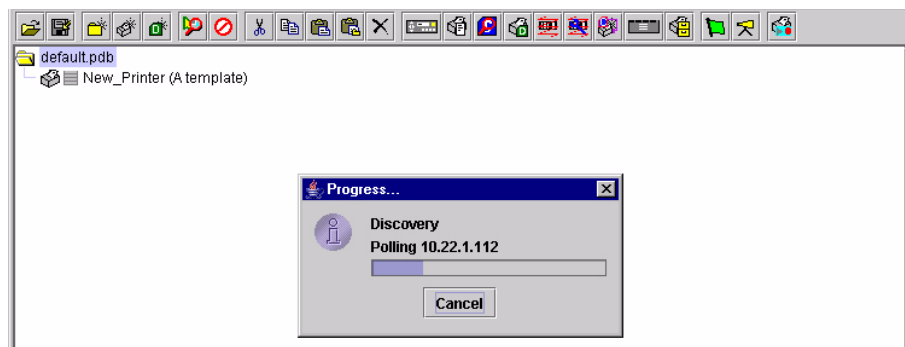
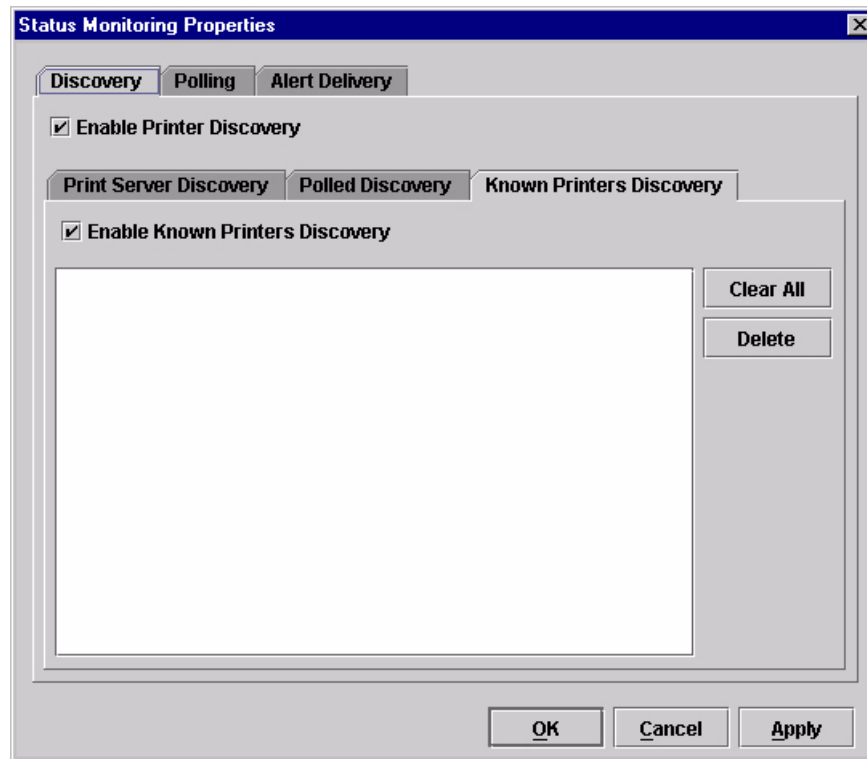


Figure 19. Polled Discovery in Progress



**Figure 20. Status Monitoring Properties:
Discovery Tab – Known Printers Discovery Sub-Tab**

3. **Known Printers Discovery:** This option logs previously discovered printer IP addresses. From this log, you can select and delete previously polled discoveries to create a new polling list to target your printer search. To enable the option, click the **Known Printers Discovery** tab and check the **Enable Known Printers Discovery** check box (see Figure 20). From the polled list of IP addresses, refine your search by keeping or deleting found IP addresses. Click **Apply** or **OK** to start a new poll based on your specification.

NOTE: You cannot manually add an IP address to this list. If you delete an IP address, it is lost until it is rediscovered.

If Known Printers Discovery is enabled, a progress indicator displays while the PMU discovers printers. See Figure 21.

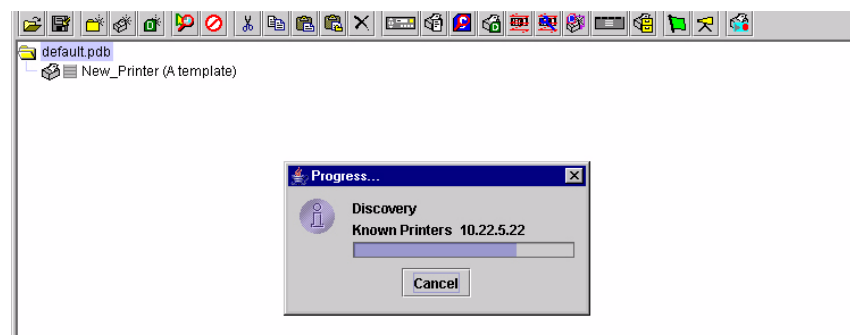


Figure 21. Known Printers Discovery in Progress

Polling Tab

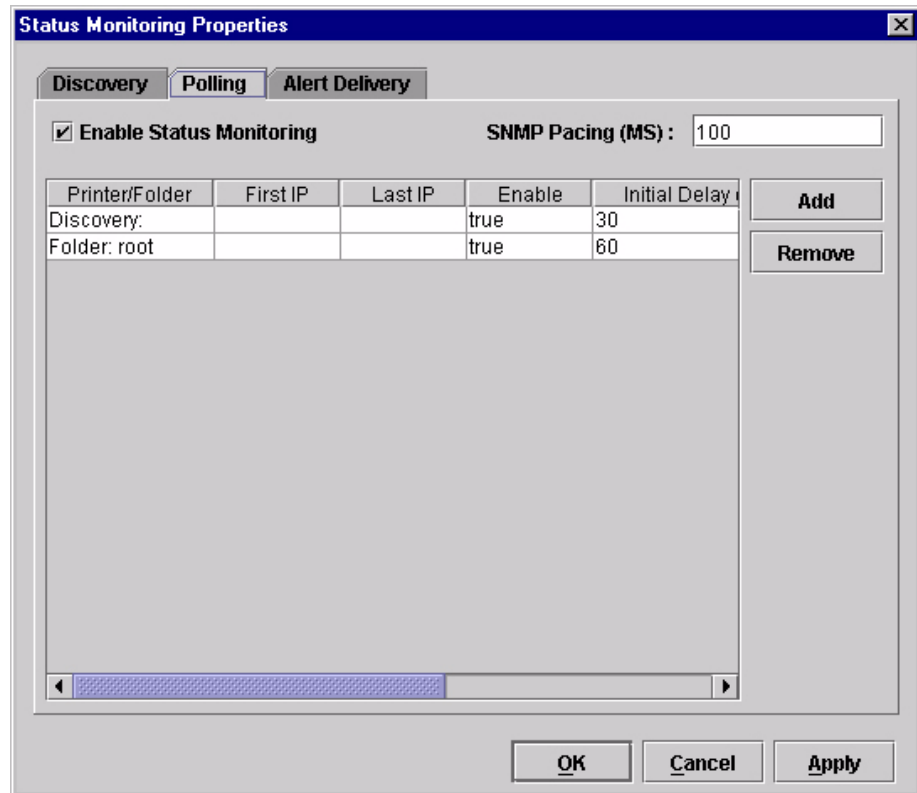


Figure 22. Status Monitoring Properties: Polling Tab

The Polling option allows you to control the way the PMU polls printers on the network. For instance, you can create a timed interval for the PMU to poll every 30 seconds or every two minutes. You can also specify a range of IP addresses.

To enable the option, check the **Enable Status Monitoring** check box in the Polling tab (see Figure 22). The SNMP Pacing (MS) value places a delay between each SNMP request. This feature minimizes the network load. By default, the value is set at 100 milliseconds (.1 second).

NOTE: If Discovery is enabled, then a discovery also occurs, based upon the settings in the Discovery tab (see “Discovery Tab” on page 33).

Now you can set parameters to a new task. The parameters include:

Printer/Folder: To select which printer or folder you want the PMU to poll. Click the field to select options from a drop-down menu.

First IP: To set the beginning IP address in a polling range. Use this option if you select **Range:** as the Printer/Folder option.

Last IP: To set the last IP address in a polling range. Use this option if you select **Range:** as the Printer/Folder option.

Enable: To select whether or not you want to enable polling of a specific task. If you want the PMU to poll the printers according to the specifications of your first task, select **true**. Otherwise, select **false**.

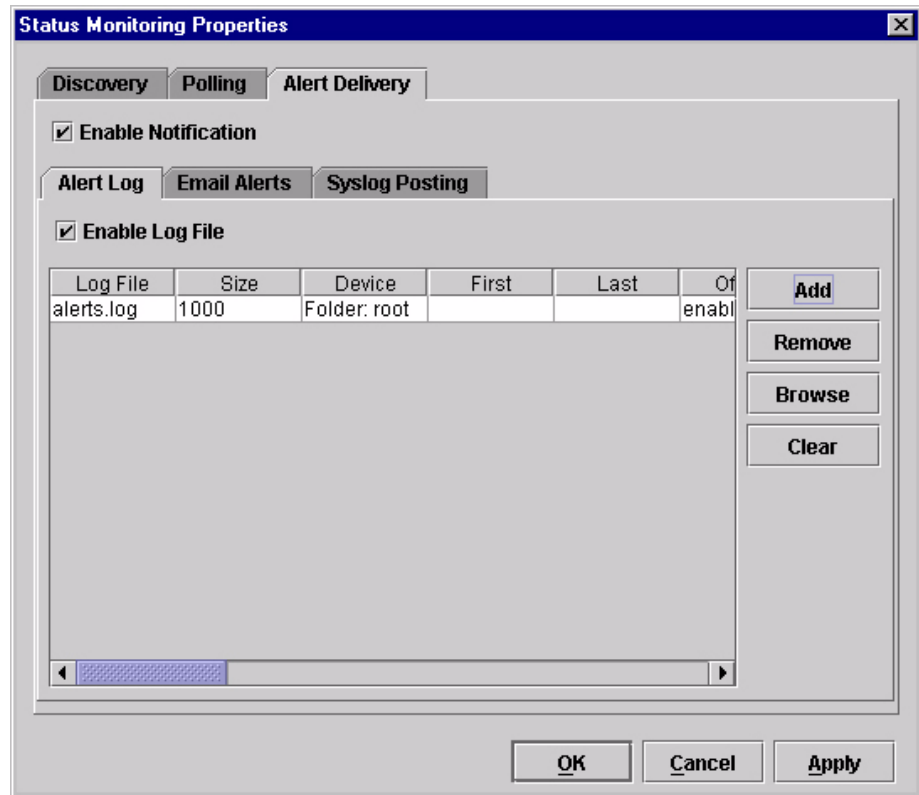
Initial Delay (S): To specify the time delay from when the PMU starts to when the PMU polls printers. The time delay is calculated in seconds.

Polled Interval (S): To poll printers automatically with timed intervals calculated in seconds. Use this option to periodically poll for new printers every few seconds.

Response Wait (MS): To specify the time delay the PMU waits between SNMP responses. By default, the value is set at 300 milliseconds (.3 seconds).

NOTE: If you enter a low value for slow networks, you may receive no response. In this case, increase the Response Wait (MS) value.

Alert Delivery Tab



**Figure 23. Status Monitoring Properties:
Alert Delivery Tab – Alert Log Sub-Tab**

Select **Status ▶ Properties** to open the Status Monitoring Properties dialog box. Click the **Alert Delivery** tab. Check the **Enable Notification** check box to enable the option. The Alert Delivery properties allow you to customize the way the PMU notifies you of potential printer errors. Descriptions of the three alert types follows:

1. **Alert Log:** Allows the PMU to log alerts to a file located in the PMU directory. To log alerts, check the **Enable Log File** check box, then click **Add** (see Figure 23). A task item adds to the log list. In the task item, specify the following as applicable, then click **Apply** or **OK**.

Log File: To name the log file. The default file name is **alerts.log**.

Size: To set the maximum file size, in bytes. The default (and minimum required) size is **1000** bytes.

Device: To choose a device item you want the PMU to monitor, such as a folder, specific printer, or a range of IP addresses.

First: To set the beginning IP address in a polling range. Use this option if you select **Range:** as the Device option.

Last: To set the last IP address in a polling range. Use this option if you select **Range:** as the Device option.

NOTE: In the remaining alert option fields, select **enable** or **disable** as desired.

Offline, Warning, Media Input, Media Output, Media Path, Marker, Cutter, Barcode, RFID, Scanner, Label, Intervention Needed, Consumables, and Power Cart: For a description of the alert groups and printer events, refer to “Alert Groups” in the SNMP Configuration section of chapter three in the *Ethernet Interface User’s Manual*. All options are enabled by default.

Comment: Enter comments as needed.

The screenshot shows the 'Status Monitoring Properties' dialog box with the 'Alert Delivery' tab selected. The 'Email Alerts' sub-tab is active. The 'Enable Notification' checkbox is checked. The 'Enable Email' checkbox is also checked. The configuration fields are as follows:

- Outgoing Mail (SMTP) Server: [Empty text box]
- Email Subject: Printer Status
- Email Sender: printermanager@yourcompany.com
- SMTP Email Server Port: 25

Below these fields is a table with the following data:

Email Address	Device	First	Last	Offline
	Folder: root			enable

Buttons for 'Add' and 'Remove' are located to the right of the table. At the bottom of the dialog are 'OK', 'Cancel', and 'Apply' buttons.

**Figure 24. Status Monitoring Properties:
Alert Delivery Tab – Email Alerts Sub-Tab**

2. **Email Alerts:** The PMU sends you an alert e-mail if a printer error occurs. To set up Email Alerts, check the **Enable Email** check box. Enter information in the following fields:

Outgoing Mail (SMTP) Server: See your system administrator.

Email Subject: Enter the subject of e-mail.

Email Sender: Enter your e-mail address.

SMTP Email Server Port: See your system administrator.

Next, click **Add** to define a new task (see Figure 24). In the new task item, specify the following information, then click **Apply** or **OK**.

Email Address: Enter the e-mail address where you want the PMU to send the alert messages.

Device: To choose a device item you want the PMU to monitor, such as a folder, specific printer, or a range of IP addresses.

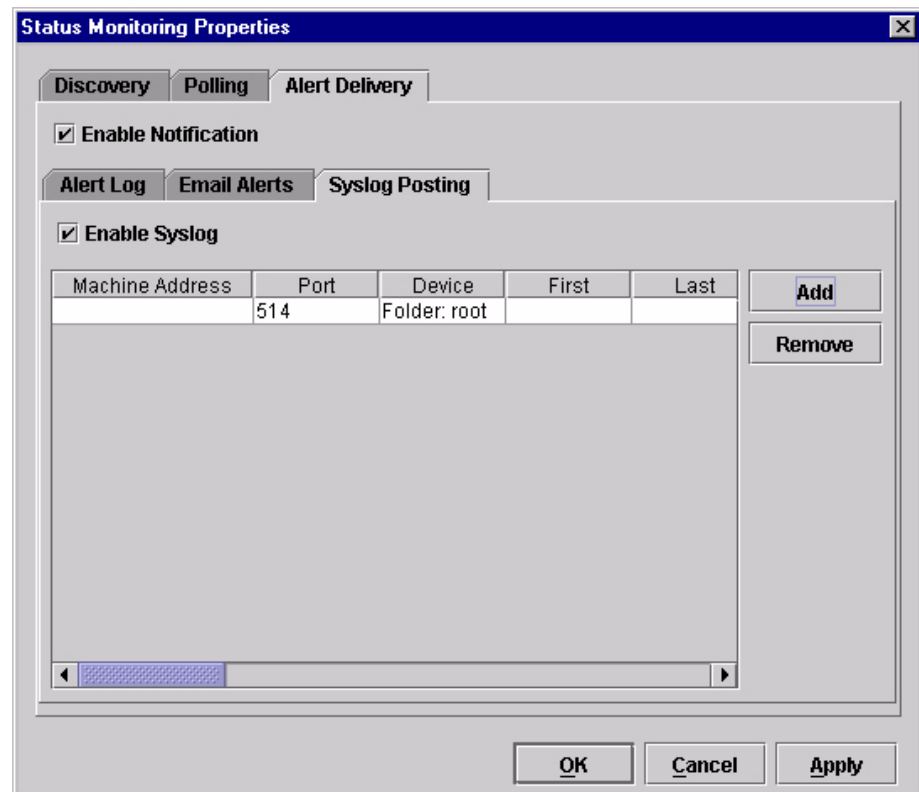
First: To set the beginning IP address in a polling range. Use this option if you select **Range:** as the Device option.

Last: To set the last IP address in a polling range. Use this option if you select **Range:** as the Device option.

NOTE: In the remaining alert option fields, select **enable** or **disable** as desired.

Offline, Warning, Media Input, Media Output, Media Path, Marker, Cutter, Barcode, RFID, Scanner, Label, Intervention Needed, Consumables, and Power Cart: For a description of the alert groups and printer events, refer to “Alert Groups” in the SNMP Configuration section of chapter three in the *Ethernet Interface User’s Manual*. All options are enabled by default.

Comment: Enter comments as needed.



**Figure 25. Status Monitoring Properties:
Alert Delivery Tab – Syslog Posting Sub-Tab**

3. **Syslog Posting:** Used in a UNIX operating system, it allows the PMU to log alerts to a file located in the PMU directory. To log alerts, check the **Enable Syslog** check box, then click **Add** (see Figure 25). A task item adds to the log list. In the task item, specify the following as applicable, then click **Apply** or **OK**.

Machine Address: The UNIX IP Address.

Port: See your system administrator.

Device: To choose a device item that you want the PMU to monitor, such as a folder, specific printer, or a range of IP addresses.

First: To set the beginning IP address in a polling range. Use this option if you select **Range:** as the Device option.

Last: To set the last IP address in a polling range. Use this option if you select **Range:** as the Device option.

NOTE: In the remaining alert option fields, select **enable** or **disable** as desired.

Offline, Warning, Media Input, Media Output, Media Path, Marker, Cutter, Barcode, RFID, Scanner, Label, Intervention Needed, Consumables, and Power Cart: For a description of the alert groups and printer events, refer to “Alert Groups” in the SNMP Configuration section of chapter three in the *Ethernet Interface User’s Manual*. All options are enabled by default.

Comment: Enter comments as needed.

Update Status




Update Status shows the condition of the printer at the time the status is checked. To update the status of a printer, select **Status ▶ Update Status**, or click the  (green flag) button at the right of the toolbar.

Figure 26 shows a printer with a wireless Ethernet Interface that uses two ports. The  (signal strength) icon represents the wireless port, while the  (ethernet port) icon represents the ethernet port.

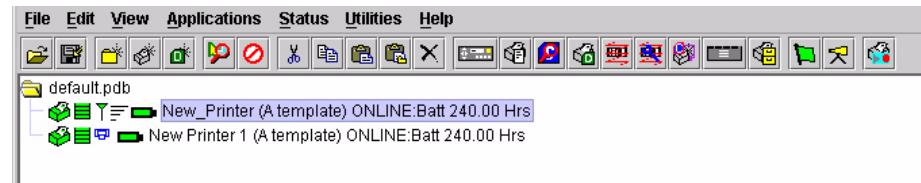



Figure 26. Update Status

When the printer status updates, the  (printer) icon may change color:

- Green indicates the printer is functioning properly and can print
- Yellow indicates a warning, but the printer can print
- Red indicates the printer is not functioning properly and cannot print
- Grey indicates that the printer is not recognized

The message to the right of the printer description is identical to the message on the front panel of the printer.

If you enable status polling, the printer status updates automatically.


The  (ribbon supply) icon indicates the amount of ribbon available on the printer.


- Green indicates a full or nearly full ribbon supply
- Yellow indicates a moderate ribbon supply
- Red indicates a small or no ribbon supply
- Grey indicates that the ribbon supply feature is not supported on the printer

NOTE: The following three icons appear only if the features are installed.




The  (signal strength) icon indicates the strength of the radio signal.


- Green with three or four bars indicates a strong signal
- Yellow with two bars indicates a moderate signal
- Red with one bar indicates a weak or non-existent signal

The  (ethernet port) icon always remains blue, since it represents an ethernet connection.

The  (battery power) icon indicates the percentage of available battery power.

- Green indicates the battery has 61% to 100% available power
- Yellow indicates the battery has 20% to 60% available power
- Red indicates the battery has less than 20% available power

Place the pointer over the , , or  icon to obtain information about the feature. See Figure 27, Figure 28, and Figure 29.

NOTE: No information displays if you place the pointer over the  icon.

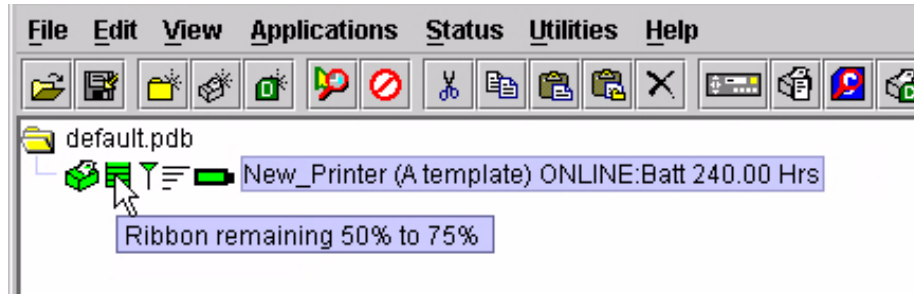


Figure 27. The Ribbon Supply Icon

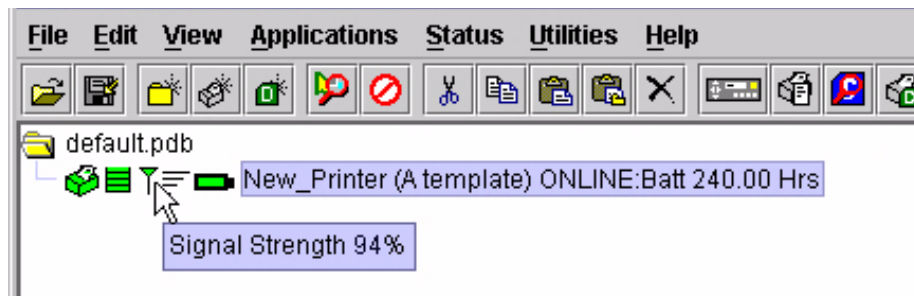


Figure 28. The Signal Strength Icon

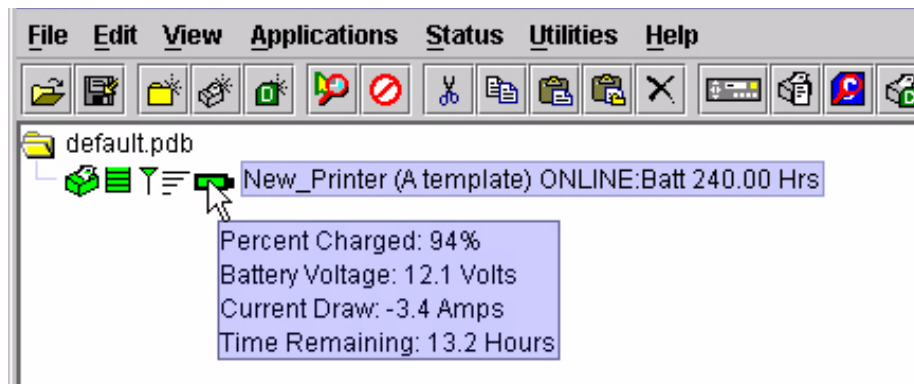


Figure 29. The Battery Power Icon

The Utilities Menu

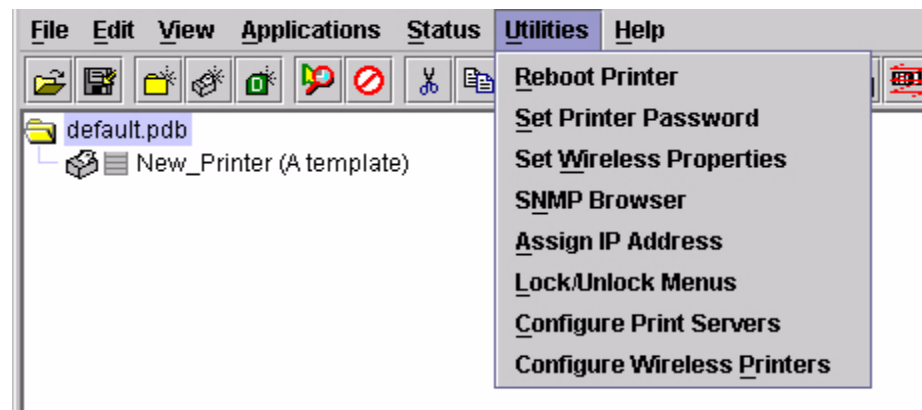


Figure 30. Utilities Menu

Reboot Printer

Reboots the selected printer.

Set Printer Password

The PMU does not allow passwords to change unless the Supervisor password matches the password in the Printer Properties. See “Security Tab” on page 65.

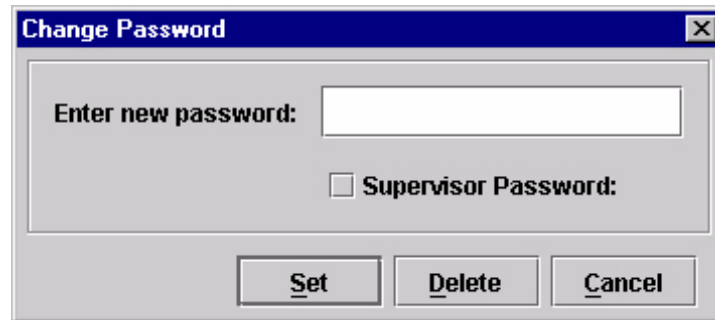
NOTE: If a password exists but is unknown, you must clear it first.
See “Set Password” on page 13.

To set the printer password in the database:

1. Double-click the printer name. The Printer Properties dialog box opens.
2. Click the **Security** tab.
3. Type the User and Supervisor passwords.
4. Check the **Supervisor Mode** check box.
5. Click **OK**.

To change the printer password:

1. Click the printer name to select it.
2. Select **Utilities** ▶ **Set Printer Password**. The Change Password dialog box opens.



3. Type the new password.
4. For a new Supervisor password, check the **Supervisor Password** check box. For a new User password, leave this box unchecked.
5. Click **Set**.
6. If you entered a new Supervisor password, double-click the printer name. The Printer Properties dialog box opens.
7. Click the **Security** tab.
8. Type the same password you entered in step 3 in the Supervisor Password field.
9. Click **OK**.

Set Wireless Properties

NOTE: For a more thorough description of these settings, refer to the *Ethernet Interface User's Manual*.

To set wireless properties, select a wireless printer from the printer database then select **Utilities** ▶ **Set Wireless Properties**.

The Wireless Properties dialog box contains four tabs: General, WEP Encryption, Kerberos, and LEAP.

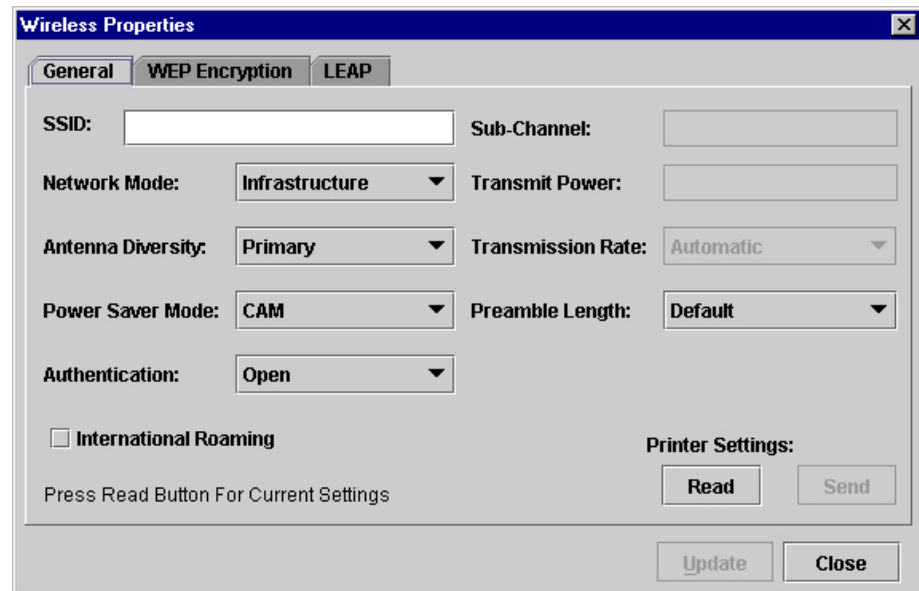


Figure 31. Wireless Properties: General Tab

General Tab

You must click **Read** to obtain the printer's settings before you can modify them.

NOTE: If the Ethernet Interface has a password assigned to the user **guest**, then a Telnet Guest Password is required. See "Security Tab" on page 65.

SSID (Service Set Identifier): A 1 to 32 case sensitive character string that identifies the SS network that the printer with a wireless Ethernet Interface is a part of.

Network Mode: Determines if the client communicates using an access point (Infrastructure) or other clients peer to peer (Ad Hoc).

Antenna Diversity: The Ethernet Interface supports a single (Primary and Auxiliary) and dual (Diverse) antenna mode.

Power Saver Mode: Determines if the Ethernet Interface will go into a power saving mode (Modes 1 through 5) or stay powered up (CAM: Continuous Access Mode).

Authentication: Determines the authentication scheme: Open, Shared, Kerberos, or LEAP.

Open system authentication allows all devices that have the authentication algorithm number for open system to authenticate.

Shared key authentication involves a four step process using secure or encrypted text by means of WEP.

LEAP is to enable LEAP operation.

Kerberos is to enable Kerberos operation.

Sub-Channel: Determines the channel for the radio frequency card: 1 through 15 and Default.

Transmit Power: Determines the wattage of the transmission power: Max (100 mW - Default), 50% (30 mW), 25% (15 mW), 10% (5 mW), and 1% (1 mW).

Transmission Rate: Currently unavailable. Determines the rate of data transmission from the radio frequency card to the access point: 1 MHz, 2MHz, 5 MHz, 11 MHz, and Automatic.

Preamble Length: Determines the size of the packet header generated by the access point: Long, Short, or Default (set by the access point).

International Roaming: Check this check box to enable roaming outside the home country.

When you are finished, click **Send** to transmit the values to the printer.

NOTE: If the Ethernet Interface has a password assigned to the user **root**, then a Telnet Root Password is required. See "Security Tab" on page 65.

If you are not going to modify settings on any other tabs, you must update the printer for the settings to take effect. Click **Update** to update the printer.

IMPORTANT

Make sure the settings match those configured in the Access Point.

WEP Encryption Tab

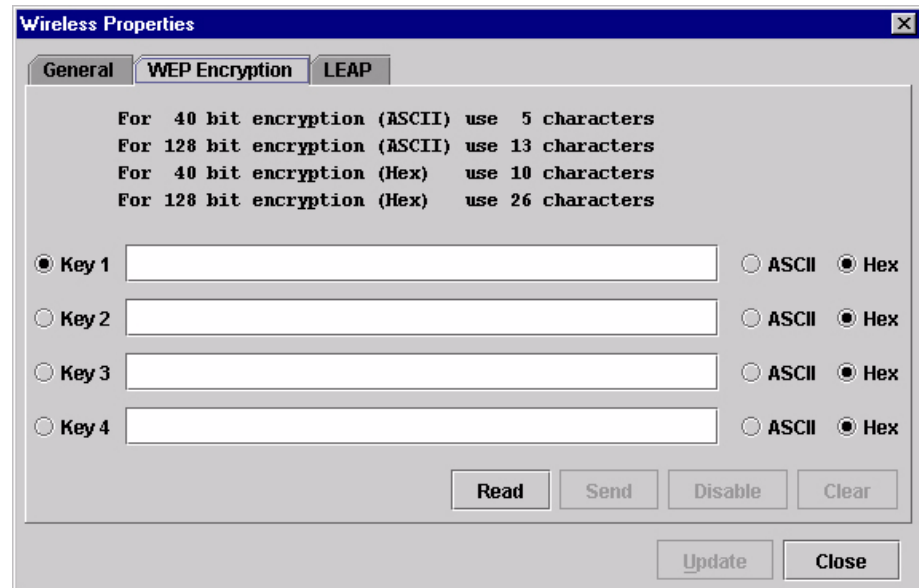


Figure 32. Wireless Properties: WEP Encryption Tab

You must click **Read** to obtain the printer's settings before you can modify them.

NOTE: If the Ethernet Interface has a password assigned to the user **guest**, then a Telnet Guest Password is required. See "Security Tab" on page 65.

Select which key you want to use for Wireless Equivalency Privacy (WEP) encryption. Use the correct number and type of digits for your preferred encryption strength (40 or 128 bit), then select **ASCII** or **Hex**.

Click **Disable** to disable WEP encryption for the selected printer.

Click **Clear** to clear all keys displayed on the WEP Encryption tab simultaneously. (The keys stored in the Ethernet Interface are not affected.)

When you are finished, click **Send** to transmit the values to the printer. You can transmit up to four keys at once, but only the selected key will become the active key in the printer.

NOTE: If the Ethernet Interface has a password assigned to the user **root**, then a Telnet Root Password is required. See "Security Tab" on page 65.

NOTE: If the values are not in the selected format, or if the exact number of characters required is not entered, an error message will appear. Correct the problem, then click **Send** again.

If you are not going to modify settings on any other tabs, you must update the printer for the settings to take effect. Click **Update** to update the printer.

IMPORTANT Make sure the settings match those configured in the Access Point.

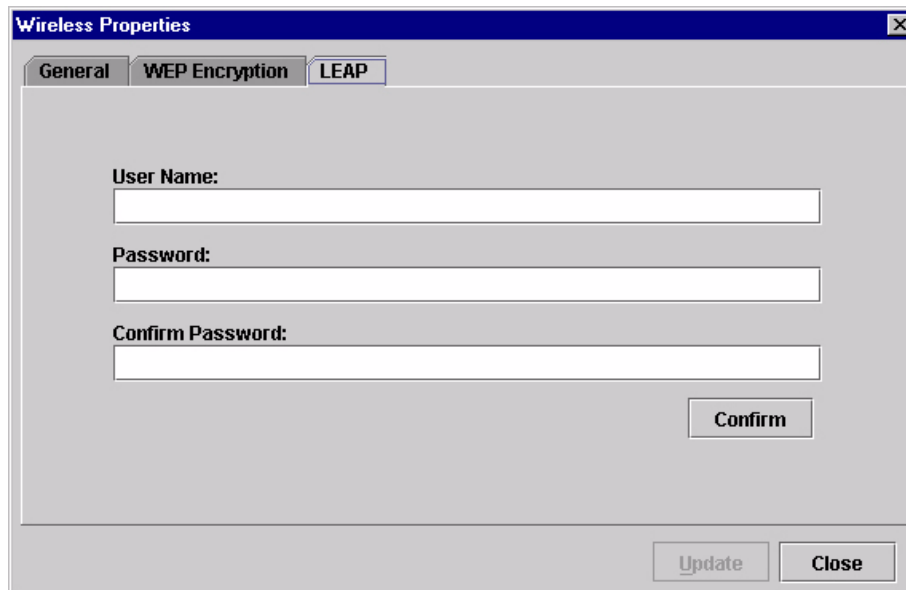


Figure 33. Wireless Properties: LEAP Tab

LEAP Tab

IMPORTANT To use LEAP, you must set Authentication to LEAP in the General tab (page 47).

This tab displays the information necessary for the Cisco** LEAP (Lightweight Extensible Authentication Protocol) wireless security scheme. The Cisco LEAP allows for a WEP key timeout that forces re-authentication, resulting in the derivation of a new WEP key for the session.

Enter the User Name, Password, and Confirm Password corresponding to the RADIUS (Remote Authentication Dial-In User Service) server, then click **Confirm** to confirm the Password.

To enable LEAP in the Ethernet Interface, select the **General** tab. Make sure **LEAP** is selected in the Authentication drop down menu. Click **Send** to transmit the LEAP settings and the wireless properties defined in the General tab.

SNMP Browser

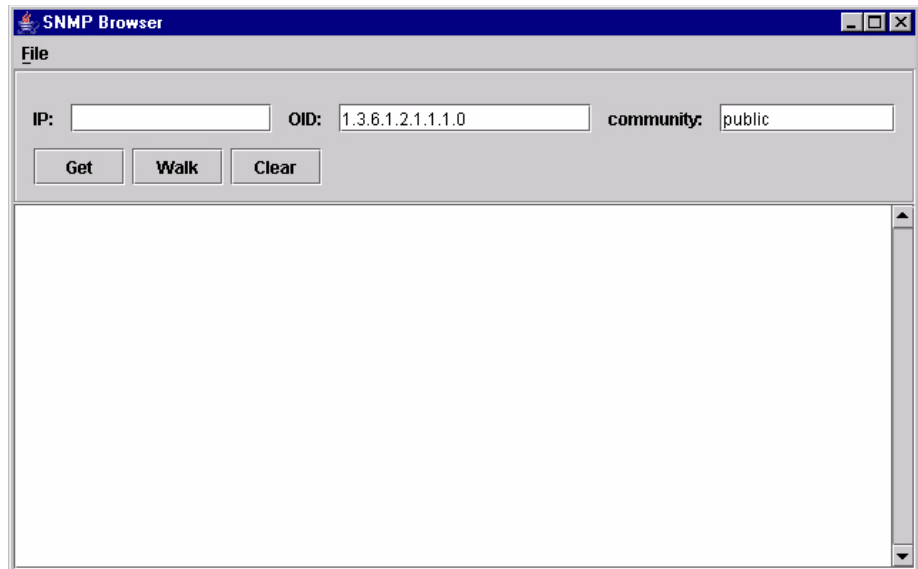


Figure 34. SNMP Browser

The SNMP Browser enables you to view attribute values in the Printer MIB managed by the Ethernet Interface. You can retrieve an attribute value of a specific MIB Object ID (OID), or you can walk or traverse the MIB.

Three inputs are required before you can use the SNMP Browser:

1. **IP:** defines the IP address of the target printer.
2. **OID:** defines either the specific MIB object ID you want to view, or the starting location for the MIB walk.
3. **community:** defines the access community defined in the Ethernet Interface. The default is public.

The **Get** button retrieves the attribute and attribute value for the specific OID entered. If the OID entered is invalid, you will receive the **Error: SNMP error** message.

The **Walk** button traverses the MIB starting with the OID entered. The display is in the format: `OID=Attribute_Value`.

The **Clear** button clears the current display.

The **File** menu allows you to open a previously saved SNMP Browser session, save the current session to file, or send the current session to a printer.

Assign IP Address

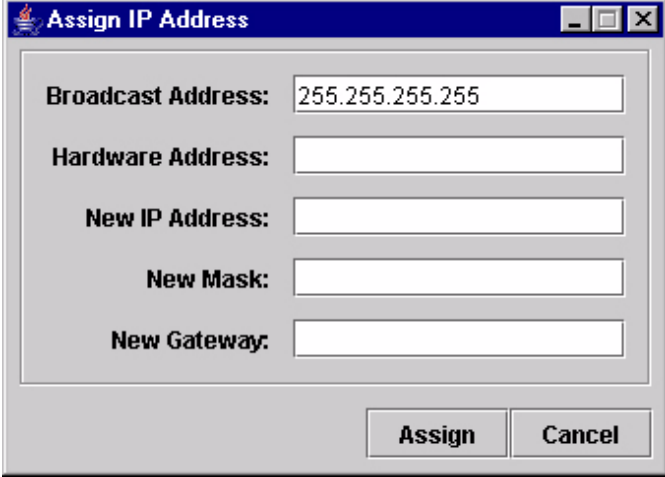


Figure 35. Assign IP Address

Allows you to assign IP addresses remotely to NICs that have not been previously configured, or to reconfigure the Ethernet Interface settings. See Figure 35.

IMPORTANT

This utility requires expert network knowledge. If you assign incorrect network parameters to the printer, then other devices on the network may operate improperly, possibly causing the whole network to be unusable.

The Assign IP Address utility has five fields:

- **Broadcast Address:** To enter a subnet broadcast number or a direct IP address to find the printer.
- **Hardware Address:** To enter the Machine Access Code (MAC) on the Ethernet Interface.
- **New IP Address:** To assign the printer its new IP address. Make sure this address is correct and do not enter an already existing IP address.
- **New Mask:** To enter the new mask address, if necessary. If you need the same mask, type the mask number.
- **New Gateway:** To enter the gateway number the new printer uses.

Once you click **Assign**, the Ethernet Interface settings change immediately.

NOTE: To view the new settings on the operator panel, reset the Ethernet Interface (refer to the *Ethernet Interface User's Manual*) or reboot the printer: set the power switch to O (Off), wait 15 seconds, then set the power switch to I (On).

Lock/Unlock Menus

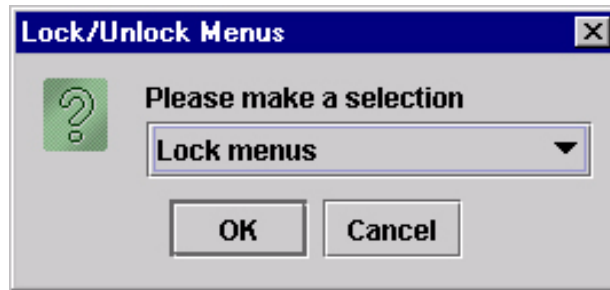


Figure 36. Lock/Unlock Menus Dialog Box

The Lock/Unlock Menus dialog box allows you to lock or unlock menus on a selected printer.

When you lock menus on a printer, the menu tree is disabled in the operator panel (physical and virtual). Any key that affects the menu tree such as +, -, ↑, ↓, ←, UP, DOWN, NEXT, and PREV will not function. Also, any key that goes to a menu, e.g., the JOB SELECT or TEST PRINT key, will not function.

NOTE: When some of the above listed keys are used in combination with another to perform functions not related to the menu, they are not disabled.

Other keys not disabled are those that perform a function, e.g., PAUSE, FEED, ONLINE, PAPER ADVANCE, VIEW, SET TOF, PRT CONFIG, and PAGE EJECT.

Configure Print Servers

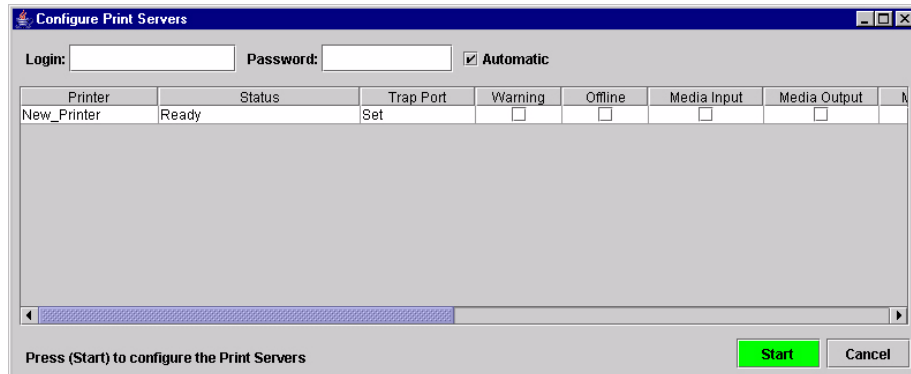



Figure 37. Configure Print Servers Window

To access the Configure Print Servers application, select one or several printers from the printer database then select **Utilities ▶ Configure Print Servers** or click the  **Configure Print Servers** button. The Configure Print Servers window appears (see Figure 37).

The Configure Print Servers application allows you to set the trap port according to the SNMP Trap Server setting (see page 25).

The Configure Print Servers application also allows you to select alert groups. To select an alert group, click the check box(es) of the corresponding option(s). The alert group options include:

- Warning
- Offline
- Media Input
- Media Output
- Media Path
- Marker
- Cutter
- Barcode
- RFID
- Scanner
- Intervention
- Consumable
- Label
- Power Cart

Click **Start** to configure the print servers.

NOTE: Check the **Automatic** check box to have the PMU connect directly with the printer.

Uncheck the check box to have the PMU make a Telnet connection with the printer. Enter **root** in the **Login** field and the password for the user **root** in the **Password** field.

When your printer encounters a problem that falls within the parameters of the selected alert options, the corresponding alert message appears. Refer to the Alert Groups Table in chapter three of the *Ethernet Interface User's Manual* for descriptions of the alert message options.

NOTE: To check the print servers configuration, go to the Ethernet Interface web page as discussed in chapter three of the *Ethernet Interface User's Manual*.

Configure Wireless Printers

Selecting individual printers and modifying wireless parameters is time consuming, especially when several printers need to be configured with the same property values.

To simplify this, the PMU provides a batch mode operation. This involves creating and modifying a **wireless.xml** file (which contains the batch mode information), then sending this file to all the specified wireless printers.

Create the wireless.xml File

1. Make sure the printers you want to receive the batch processing are in the printer database, and that their status has been updated. See “Update Status” on page 43.
2. To be certain that the PMU knows the printers’ current settings, make sure the printers have been read. See “Set Wireless Properties” on page 47.
3. Select the wireless printers to be configured (or a folder of printers), then select **Utilities ▶ Configure Wireless Printers**.

NOTE: If you are prompted to overwrite an existing **wireless.xml** file, click **Yes**, since you will be configuring a new set of printers.

A dialog box opens with the selected printers displayed. See Figure 38.

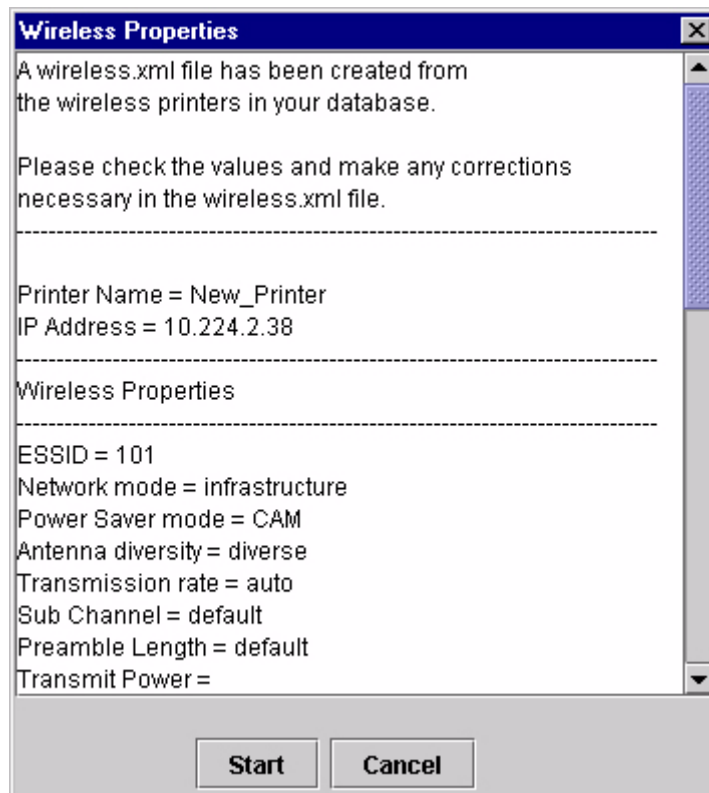




Figure 38. Sample Wireless Properties

The **wireless.xml** file has been created.

NOTE: If your printer selection includes a printer with a wireless Ethernet Interface that uses both the  wireless and  ethernet ports, the generated **wireless.xml** file will list only the ethernet port as the interface for sending wireless properties.

4. Click **Cancel**.

Modify the wireless.xml File

Locate and open the **wireless.xml** file, which is located in the PMU program directory. See Figure 39.

```
<?xml version="1.0" encoding="UTF-8" ?>
- <WirelessPrinters>
  :
  :
- <Printer enabled="false" name="A Printer" ipAddress="0.0.0.0" iFNum="2">
  <TelnetRootPassword password="" />
  <WirelessProperties ssid="101" networkMode="infrastructure"
    powerSaverMode="CAM" antennaDiversity="diverse" transmissionRate="auto"
    subChannel="default" preambleLength="default" transmitPower="100"
    internationalRoaming="false" />
- <WEP enabled="false" selectedKey="0">
  <Key1 value="" type="Hex" />
  <Key2 value="" type="Hex" />
  <Key3 value="" type="Hex" />
  <Key4 value="" type="Hex" />
  </WEP>
</Printer>
</WirelessPrinters>
```

Figure 39. The wireless.xml File

To modify this file, open it using a text editor. The following values can be set for the attributes (the default item is listed first).

NOTE: The following information is automatically inserted near the beginning of the **wireless.xml** file (as comments).

Printer

enabled: false, true (false causes the PMU to skip the printer update)

name: A Printer (the name of the printer in the printer database)

ipAddress: 0.0.0.0 (IP address of the printer)

iFNum: 2 (this setting must always be 2)

TelnetRootPassword

password: <null> (Ethernet Interface password)

NOTE: <null> indicates that there is nothing in the allotted space.

WirelessProperties**ssid:** 101 (1 to 32 character string)**networkMode:** infrastructure, adhoc, pseudo**powerSaverMode:** CAM, 1 to 5 (CAM is Continuous Access Mode)**antennaDiversity:** diverse, primary, auxiliary**transmissionRate:** auto, 1, 2, 5, 11**subChannel:** default, 1 to 15**preambleLength:** default, long, short**transmitPower:** 100 (figure is in percent, range is 1 to 100)**internationalRoaming:** false, true**IMPORTANT**

All the information in the wireless.xml file is sent as clear text during batch mode operation. For security, send the following information to a wireless printer using the  ethernet port.

WEP**enabled:** false, true (false causes the PMU to ignore the rest of the WEP section)**selectedKey:** 0, 1 to 4 (0 disables WEP encryption)**Key1-Key4:****value:** <null>

For 40 bit encryption (ASCII) use 5 characters

For 128 bit encryption (ASCII) use 13 characters

For 40 bit encryption (Hex) use 10 characters

For 128 bit encryption (Hex) use 26 characters

type: Hex, ASCII**Kerberos****enabled:** false, true (false causes the PMU to ignore the rest of the Kerberos section)**activate:** false, true (true causes the printer to use Kerberos when the printer is using a wireless connection)**clockSkew:** 300 (range is 60 seconds to 15 minutes)**clockSkewUnit:** seconds, minutes**ticketLifetime:** 43200 (range is 300 seconds to 3 days)**ticketUnit:** seconds, minutes, hours, days**renewableLifetime:** 0 (range is 300 seconds to 7 days; 0 means there is no renew limit and the PMU ignores the renewableUnit value)**renewableUnit:** seconds, minutes, hours, days**printServerName:** <null> (maximum of 63 printable characters; in the Windows environment, the user name defined in the Windows server must be changed accordingly)

IMPORTANT The KDC settings must match those configured in the Access Point.

portKDC: <null> (range is 0 to 65535)

nameKDC: <null> (maximum of 127 printable characters)

realmKDC: <null> (maximum of 127 printable characters)

password: <null> (maximum of 40 printable characters, excluding the " character)

When the values are correct, save the file as **wireless.xml** and place it in the PMU program directory.

IMPORTANT For security, limit access to the wireless.xml file, since it contains WEP keys and Kerberos passwords.

Send the wireless.xml File to the Printers

1. Select **Utilities** ▶ **Configure Wireless Properties**.

IMPORTANT When you are prompted to overwrite an existing wireless.xml file, click "No," since you have just created and modified it.

2. Click **Start**.

The Start button will turn red and change to Stop. The PMU verifies the wireless properties and any errors discovered will display.

If all data in the **wireless.xml** file are valid, they will be sent to all printers specified in the file. Click **Stop** to abort the setting of the wireless properties while in batch mode operation.

IMPORTANT **Aborting the batch mode operation will leave the printers' wireless properties in a mixed state, some new settings and some old settings. Abort only if you want to make a value correction in the wireless.xml file. Save the corrected file and start the batch mode operation again.**

When the data have been successfully sent, the Wireless Properties dialog box will update. See Figure 40.

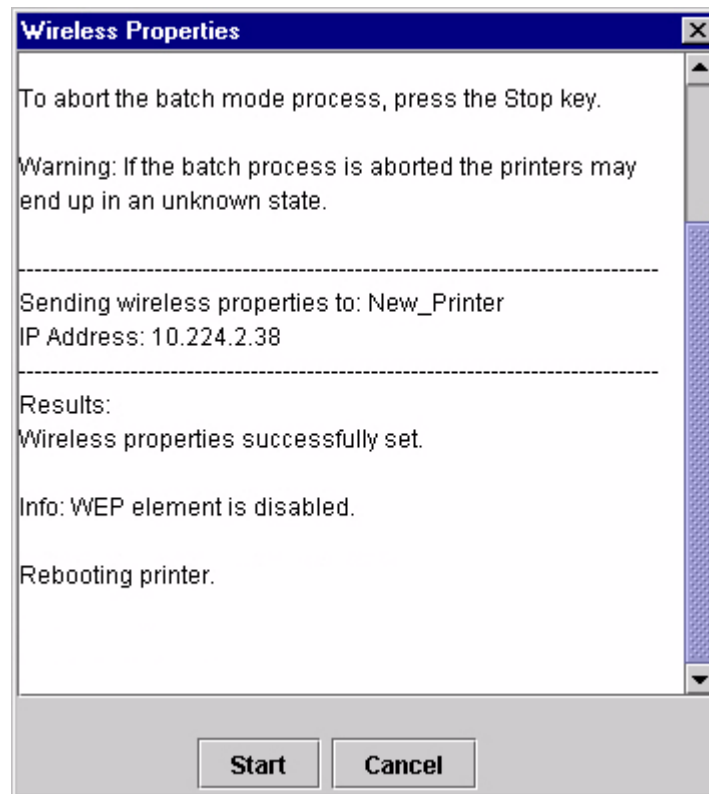


Figure 40. Wireless Properties Successfully Sent

The Help Menu

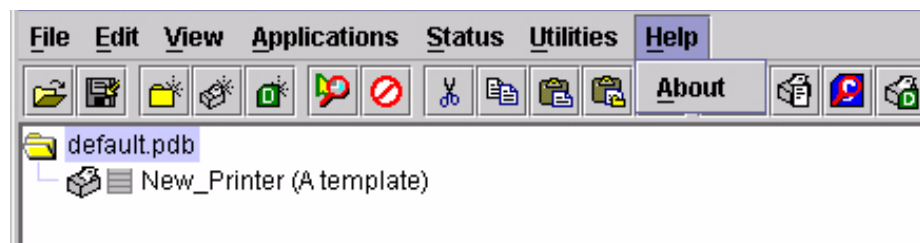


Figure 41. Help Menu
















About











Displays the PMU About dialog box. The About dialog box shows the program's version information and part number, and the Java version number.

The Toolbar

The PMU toolbar contains buttons that perform functions. See below for a description of each button. Refer to the specified page for a more detailed description.

You can select which buttons display on the toolbar. See page 30.

Button	Description
	Open: Opens a different printer database.
	Save: Saves the current printer database.
	Folder: Inserts a new folder into the printer database (page 26).
	Printer: Inserts a new printer into the database (page 26).
	Download File: Inserts a new Download file into the database (page 26).
	Edit: Defines the properties of the selected item (page 63).
	Include/Exclude: Deactivates a selected folder, printer, or file (page 27).
	Cut: Removes a selected folder, printer, or file from the database and places it in the paste buffer (page 26).
	Copy: Copies a selected folder, printer, or file to the paste buffer (page 26).
	Paste After: Pastes the item in the paste buffer after the selected item (page 27).
	Paste Into: Pastes the item in the paste buffer into the selected item (page 27).
	Delete: Removes the selected item (page 27).
	Operator Panel: Virtual control panel that allows you to make selections via the PMU as if you are using the actual printer control panel (page 98).
	Information Capture: Allows the PMU to capture information sent between the computer and the printer (page 101).
	Configuration Editor: Allows you to edit the data sent from the computer to the printer before the printer receives it (page 73).

Button	Description
	File Download: Allows you to download a configuration, firmware, or flash file to the printer (page 87).
	Data Validation: Opens the Data Validation window (page 103).
	ODV Quality Wizard: Opens the ODV Quality Wizard window (page 105).
	Configure Print Servers: Opens the Configure Print Servers window (page 54).
	Speed Keys: Opens the Speed Keys window (page 106).
	Flash File Manager: Opens the Flash File Manager window (page 83).
	Update Status: Marks a printer or printers for status updates (page 43).
	Discover Printers: Searches for new printers (page 32).
	Job Capture: Opens the Job Capture window (page 107).
	Help: Opens the Help window (page 59).

Managing the Database

To organize your databases easily and effectively, use the Edit option on the printer database menu bar. You can add, delete, and assign printers, configuration files, and download files to your database tree. You can also organize them using folders. All Edit menu functions have buttons on the toolbar (see page 60).

Database Items



Folder: Use folders to group the elements of your database.



Printer: See “Defining Printer Properties” on page 63.



Download file: A flash file or a configuration file (created in the Configuration Editor which is described on page 73) stored on your host computer.

A flash file contains information (e.g., the printer’s firmware file or a font file) that you can download to the flash SIMM memory of a printer or group of printers.

A configuration file contains user-defined printer configurations that you can download to your printer using either the printer database or the Configuration Editor.

For information about Download files, see “File Download” on page 87.

Defining Printer Properties

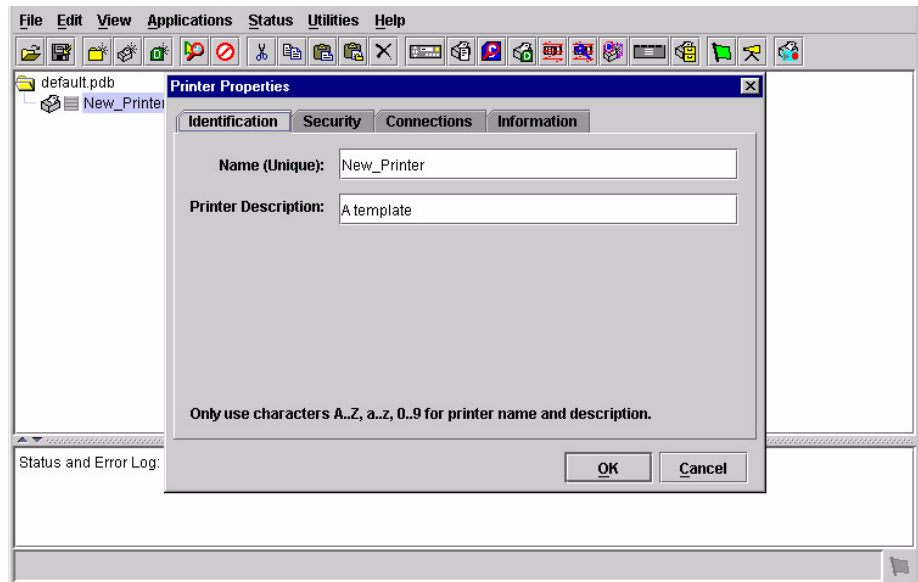



Figure 42. Defining Printer Properties

Before you can use any of the PMU applications, you must define the printer's properties. You must identify the printer and configure how the printer communicates with the PMU. To define a printer, double-click the printer's name or click the  (edit database entry) button. The first time you run the PMU, double-click **New_Printer (A template)**. The Printer Properties dialog box opens. See Figure 42.

The Printer Properties dialog box contains four tabs: Identification, Security, Connections, and Information, described in the next sections.

Identification Tab

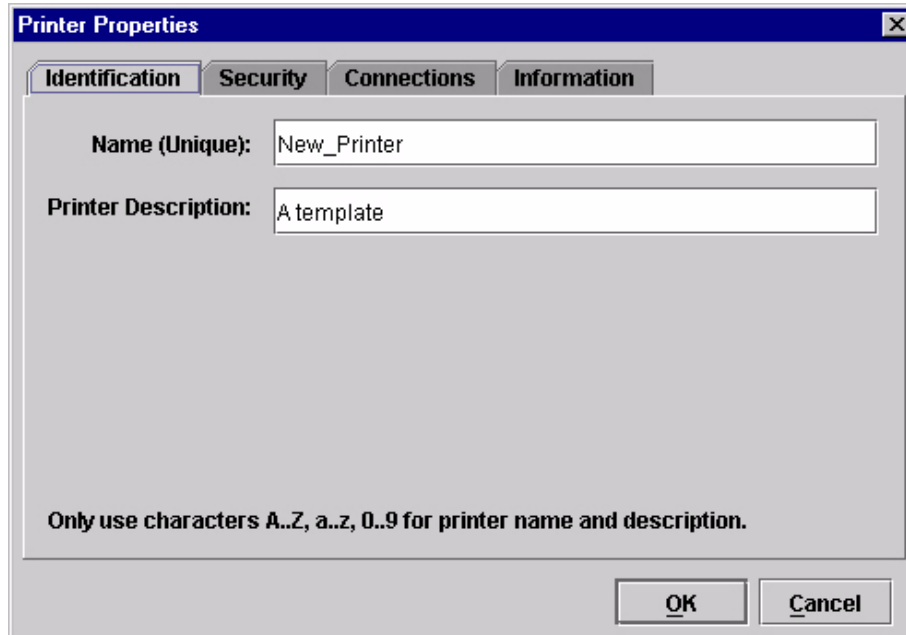


Figure 43. Printer Properties: Identification Tab

Name (Unique)/Printer Description: Assigns a name to your printer to identify it in the printer database. You can also assign a printer description, which appears in parentheses to the right of the printer name in the database. When you assign a printer name and description, use only the alphanumeric characters A-Z, a-z, and 0-9. Underscores and spaces may be used to separate words.

Security Tab

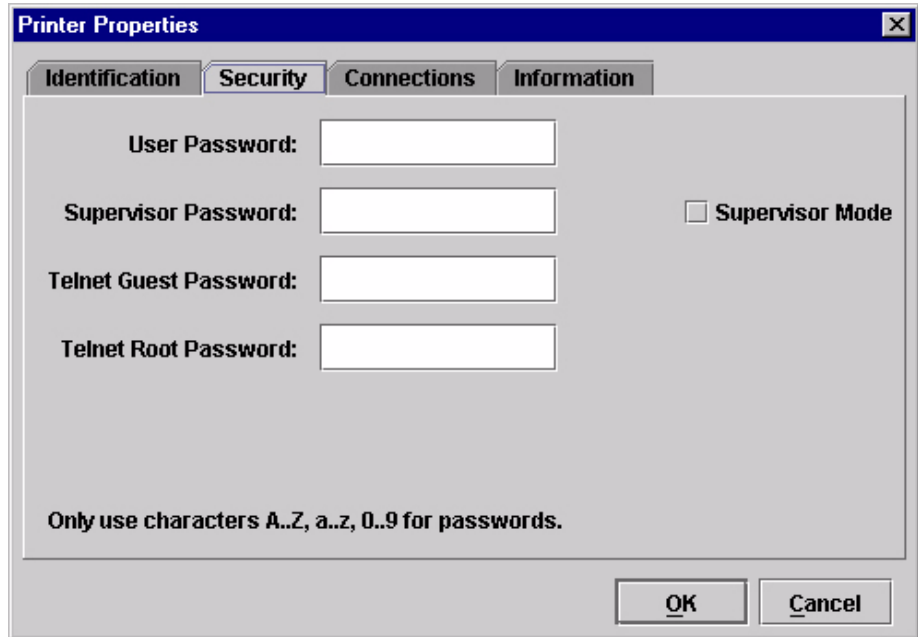


Figure 44. Printer Properties: Security Tab

User/Supervisor Password: Enter the printer’s password, if appropriate. The password feature restricts access to certain functions of the PMU. In User mode, the PMU does not allow the following functions: downloading files, configurations, or configuration names to the printer; clearing the error log; and setting passwords. Supervisor mode allows unrestricted access to all functions of the PMU.

User and Supervisor passwords are only recognized up to 9 characters, and are displayed as *****, one * for each character typed. Use only the alphanumeric characters A-Z, a-z, and 0-9 for passwords. Underscores and spaces may be used to separate words. To set up a password, see page 45.

Telnet Guest Password: The PMU uses Telnet to poll the status of older printers. If your printer reports a Telnet error (see Figure 45), enter the password for the user **guest**. See your system administrator.

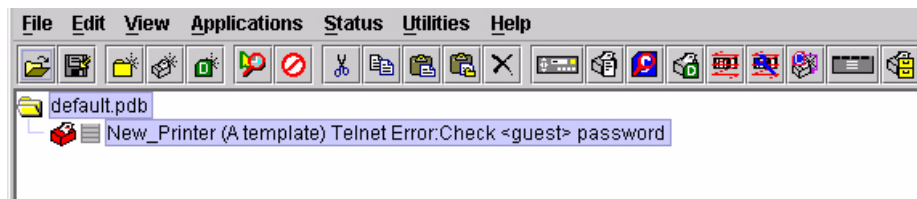


Figure 45. Telnet Guest Password Error: Polling the Printer Status

The PMU also uses Telnet to read wireless printer settings. If the PMU reports a Telnet error when attempting to read wireless printer settings (see Figure 46), enter the password for the user **guest**. See your system administrator.

NOTE: After you enter the password for the user **guest**, you must click **OK** to close the Printer Properties dialog box so that the PMU will recognize the **Telnet Guest** password.

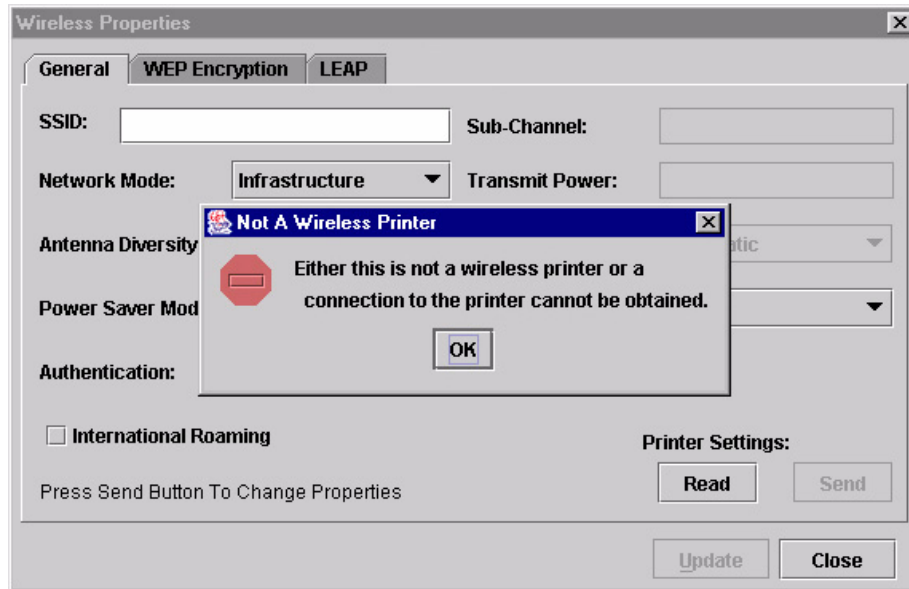


Figure 46. Telnet Guest Password Error: Reading Wireless Settings

Telnet Root Password: The PMU uses Telnet to update wireless printer settings. If the PMU reports a Telnet error when attempting to update wireless printer settings (see Figure 47), enter the password for the user **root**. See your system administrator.

NOTE: After you enter the password for the user **root**, you must click **OK** to close the Printer Properties dialog box so that the PMU will recognize the **Telnet Root** password.

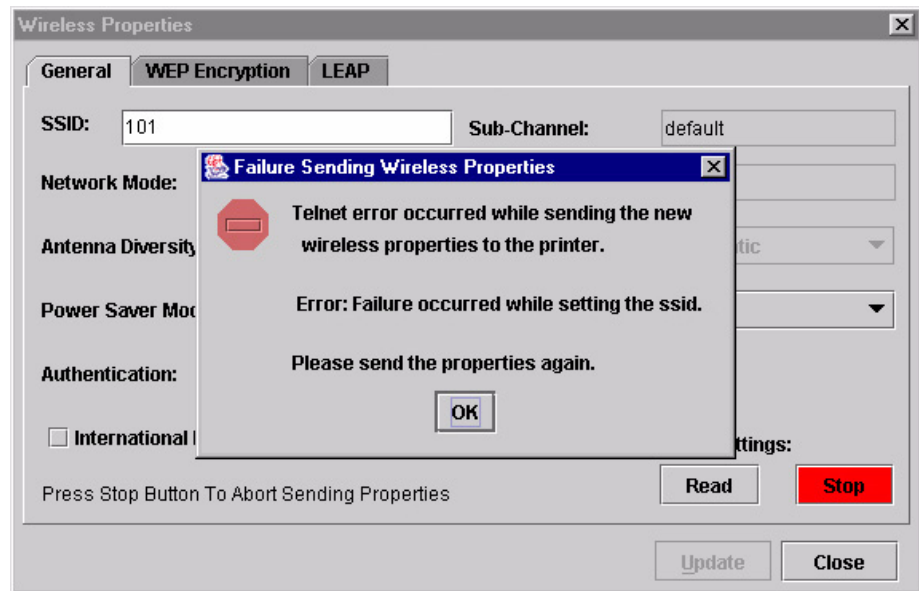
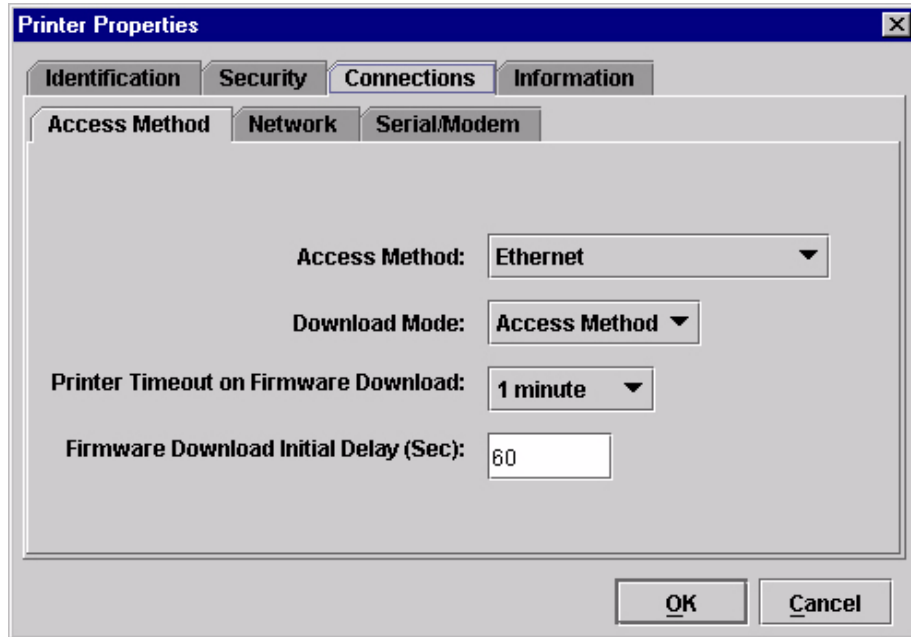


Figure 47. Telnet Root Password Error

Connections Tab



**Figure 48. Printer Properties:
Connections Tab – Access Method Sub-Tab**

The Connections tab contains three sub-tabs: Access Method, Network, and Serial/Modem.

Access Method Sub-Tab

Access Method: Identifies how the PMU accesses the printer. Refer to the *Ethernet Interface User's Manual* to set up the Ethernet Interface for your printer.

- **Ethernet:** To connect the host computer to the printer via the Ethernet Interface.
- **Network (TCP):** To connect the host computer to the printer via a network interface.
- **Printer Serial Port (Direct):** To connect the host computer to the printer directly via the serial port.
- **Printer Debug Port (Direct):** To connect the host computer to the printer directly via the debug port.
- **Printer Serial Port (Modem):** To connect the host computer to the printer via a modem and the serial port.
- **Printer Debug Port (Modem):** To connect the host computer to the printer via a modem and the debug port.

Download Mode: Identifies how the PMU downloads files and configurations to the printer. **Access Method** is the only option available.

Printer Timeout on Firmware Download: Specifies the number of minutes the printer waits for data while downloading a file from the host computer. If a

stall lasts for more than the specified time, the printer times out and the download terminates. If you have a slow connection between the PMU and the printer, you may need to define a longer Download Timeout period.

The Download Timeout range is between 1 and 60 minutes. The default is 1 minute.

Firmware Download Initial Delay (Sec): Specifies the number of seconds the PMU waits before sending files to the printer. If the printer is not ready within the specified time, the download will terminate, and the Status and Error Log will report “Connection Refused.”

If you receive this error message, increase the initial delay time. The default is 60 (seconds).

Network Sub-Tab

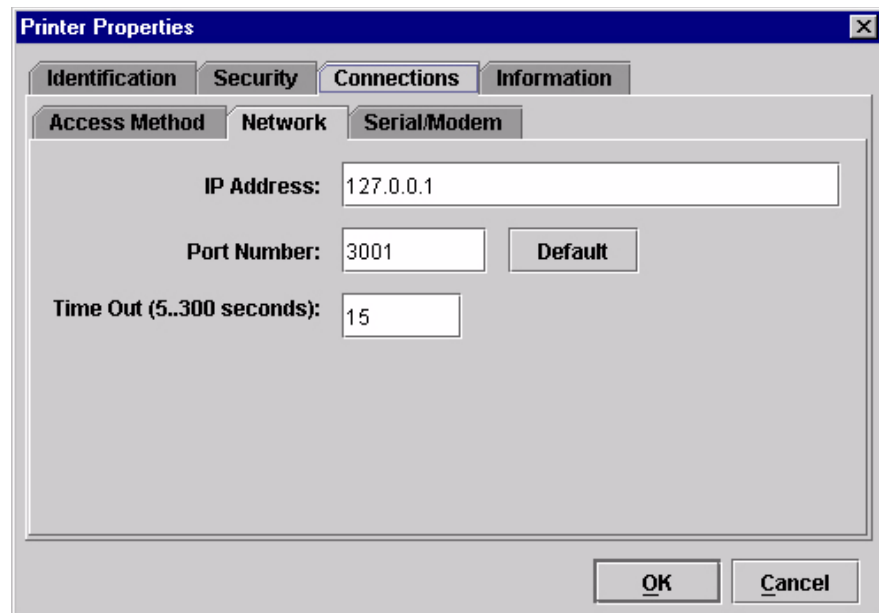


Figure 49. Printer Properties: Connections – Network Sub-Tab

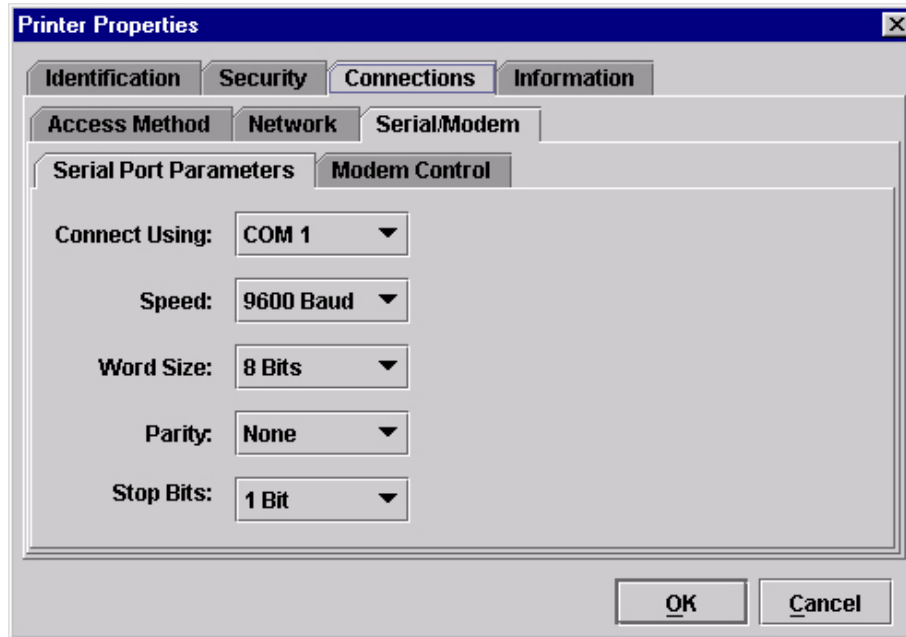
Enter the printer’s IP Address and Port Number. (Click **Default** to reset the Port Number to 3001.) The Time Out option sets the amount of time, in seconds, the PMU waits for a response from the printer after sending a command. If there is no response in the specified amount of time, an error message appears in the Status and Error Log pane. If you have a slow connection between the PMU and the printer, you may need to define a longer Time Out period. Define the Time Out between 5 and 300 seconds (the default is 15 seconds).

NOTE: The Network settings must match the settings in the printer’s front panel menu. See “ETHERNET PARAMS”, “ETHERNET ADDRESS”, or “WIRELESS ADDRESS” in the printer’s *User’s Manual* to check the IP address. To check the port number, check PRINTER MANAGER PORT NO. under PRINTER MGMT in the SERVICE menu (6500/6400 Series), or PMU Port Number in the Factory menu (6700/4400 Series). To access the SERVICE or Factory menu, see “Printer Setup” on page 12.

Serial/Modem Sub-Tab

The Serial/Modem tab contains two tabs: Serial Port Parameters and Modem Control.

Serial Port Parameters



**Figure 50. Printer Properties: Connections – Serial/Modem Sub-Tab
Serial Port Parameters**

Connect Using: The serial port to use for connection. The default is COM1. The range is COM1 to COM20.

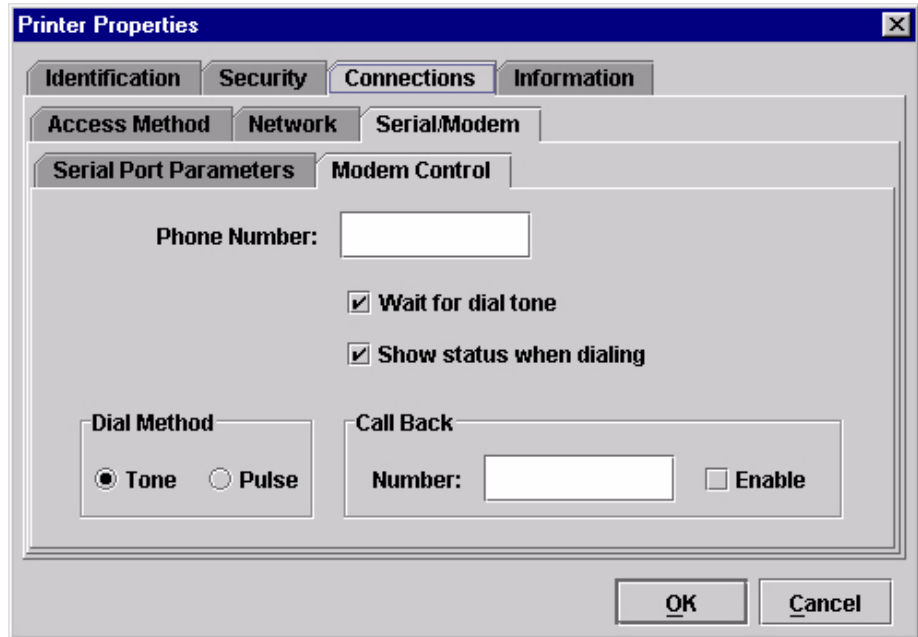
Speed: The baud rate at which data transfers. This setting must match the speed of the printer serial debug port in SERIAL under PRINTER MGMT in the SERVICE menu (6500/6400 Series) or Baud Rate in the Factory menu (6700/4400 Series). To access the SERVICE or Factory menu, see “Printer Setup” on page 12.

Word Size: The number of data bits per character. Must be set to 8 bits.

Parity: Adds an error checking bit if set to Odd or Even. Since the word size must be set to 8 for correct operation, parity should normally be set to None.

Stop Bits: Inter-character gap. Can be set to 1 or 2. The normal setting is 1.

Modem Control



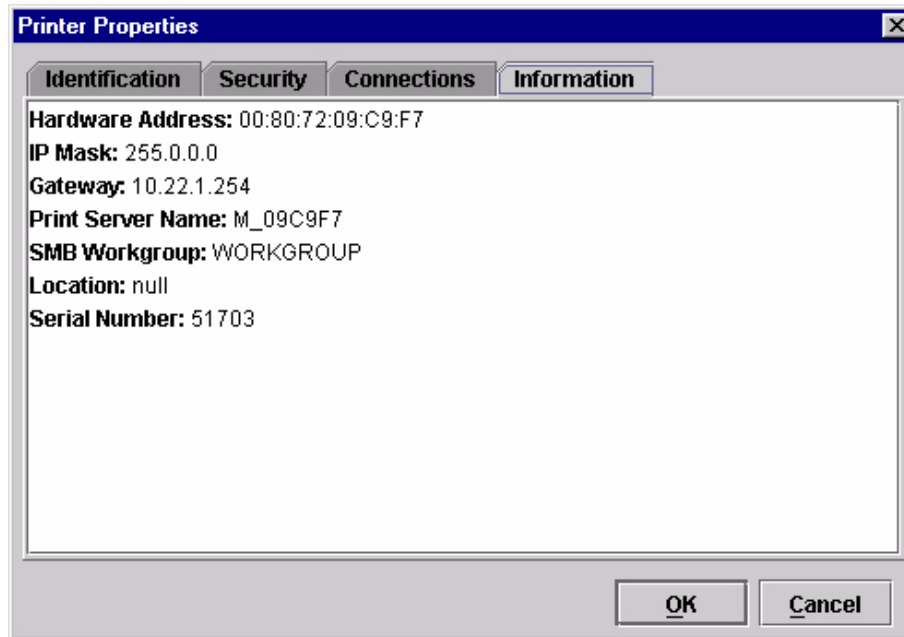
**Figure 51. Printer Properties: Connections – Serial/Modem Sub-Tab
Modem Control**

Phone Number: Enter the phone number you wish to call.

Dial Method: Choose Tone or Pulse.

Call Back: Enter your phone number, and check Enable if you want to use it as a call back number.

Information Tab



Contains information about your printer. See the *Ethernet Interface User's Manual* for more information.

3

Applications and Web Access

Configuration Editor

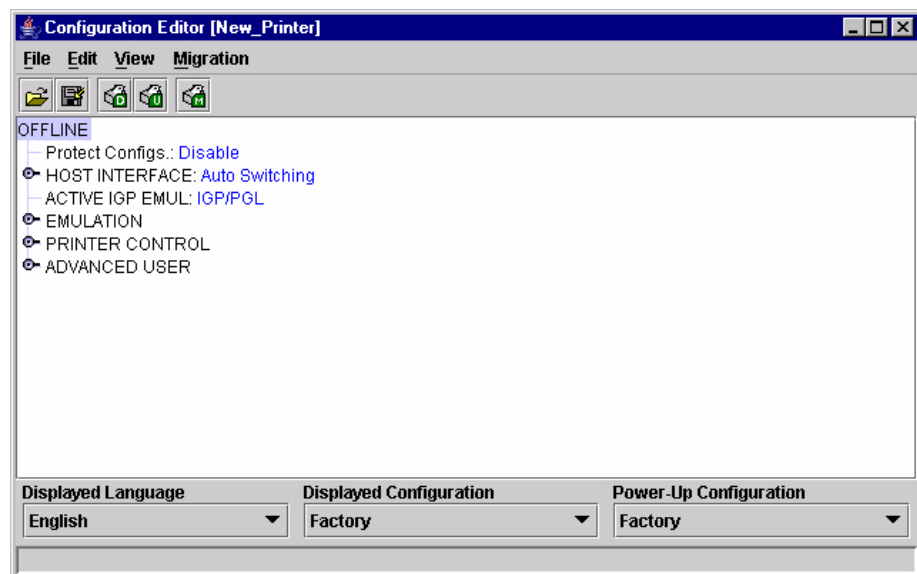



Figure 52. Configuration Editor Window



To access the Configuration Editor application, select a printer from the printer database and select **Applications** ▶ **Configuration Editor** or click the  (configuration editor) button. Select **File** ▶ **Upload From Printer** to upload configurations from the printer. The configurations upload from the printer and the active configuration displays in the Configuration Editor window. See Figure 52.

The Configuration Editor supports offline editing, allowing the editing of stored configurations. If you start the Configuration Editor without connecting to a printer, the screen will be blank. A configuration will not display until you load a configuration file from a disk or computer.

The Configuration Editor allows you to upload, modify, and download eight user-defined configurations and the factory default configuration (only if modification of the factory configuration has been enabled; see the Note on page 75). You may also save sets of configurations to your local hard drive so that they can be easily downloaded to the printer at any time.

The Configuration Editor does not change the current configuration or the active printer status until the configurations are downloaded to the printer.

Menu Tree

The Configuration Editor displays the printer configurations in a tree format (see Figure 52). The top level of the tree is the OFFLINE menu. From this level, the tree branches into the printer's submenus. Menu items that have a  or  (handle) next to them have further submenus below them. Click the handle to expand or collapse the submenus below. (You may also use the Expand Tree/Collapse Tree options in the View menu, but these options will expand or collapse all submenus.)

The Configuration Editor has three drop-down menus at the bottom. The Displayed Language option allows you to select from five or more different languages to display the configuration information. The Displayed Configuration option lets you choose between the available configurations to display. The Power-Up Configuration allows you to assign which configuration loads whenever the printer turns on.

Creating Configurations

Along with the factory configuration, your printer allows up to 8 user-defined configurations that can be downloaded to your printer's memory. You may create configurations using the printer's operator panel, or by using the Configuration Editor.

To create a configuration using the Configuration Editor:

1. Select **Edit ▶ Copy From:**. A list of configurations appears. Undefined configurations appear gray. Choose one of the configurations.
2. Click **Edit**. (Notice that the configuration you chose in step 1 now appears next to the Copy From: menu item.) Move your mouse down to **Copy To**. A list of configurations appears. Choose the number of the configuration you want to create. This new configuration is created with the settings from the configuration you chose in step 1.

NOTE: If you choose to **Copy To** a configuration which already exists, that configuration will be overwritten.

3. You may now edit the configuration settings. See "Changing Configurations" on page 75.

Changing Configurations

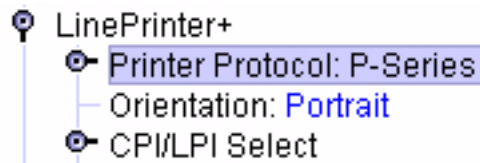
Configuration settings in the Configuration Editor can be changed two ways:

- make the changes directly on the menu tree
- use the Menu Editor

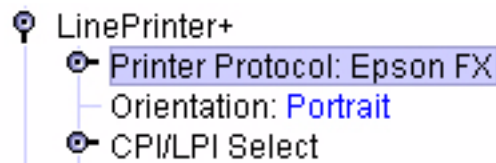
NOTE: Normally, the factory default configuration cannot be changed. However, you can enable modification of the factory configuration. Select **Edit ▶ Enable Factory Edit**. It is strongly recommended that you do *not* modify the factory default configuration. If you choose to modify the factory configuration, you should first upload it from the printer, and then save it. This way, you will have a backup copy of the factory configuration. To disable modification of the factory configuration, select **Edit ▶ Disable Factory Edit**.

Making Changes on Menu Tree

1. Using the Displayed Configuration menu at the bottom of the window, click the drop-down arrow to choose the configuration to change.
2. Expand the submenus until the configuration setting you want to change displays.
3. Select the menu item you want to change. A selection box surrounds your choice.



4. Use the < and > keys to toggle through the available options. (You may change these keys in the printer database window: select **File ▶ Preferences**, then click the **Configuration Editor** tab. See page 24.)



Menu Editor

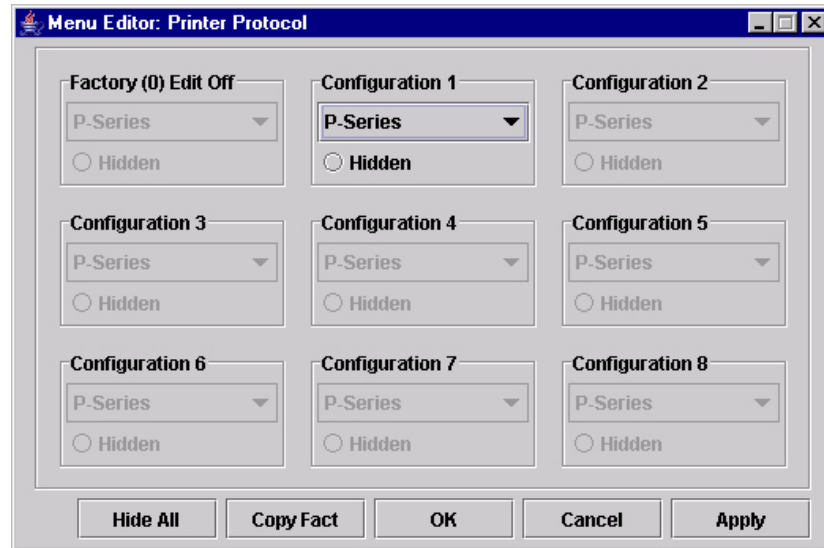


Figure 53. Menu Editor

Double-click any menu item to open the Menu Editor window. Figure 53 shows the screen you see when you double-click the Printer Protocol option. By using the Menu Editor, you may view and adjust the settings of all nine of the printer configurations at once. To change a setting, click the drop-down arrow underneath the corresponding configuration and choose an option. Grayed out configuration names and settings do not exist; you must create the configuration before you can edit it (see page 74).

To hide a menu item in the operator panel, select **Hidden** under a configuration. Click **Hide All** to hide this menu item in all configurations. (For more information on hiding, see page 77.)

Select **Copy Fact (1-8)** to set all configurations to the same value as the factory or user-defined configuration currently selected under the **Edit ▶ Copy From:** menu in the Configuration Editor (see page 74).

Click **Cancel** to exit the Menu Editor without saving your changes.

Click **Apply** to save your changes without exiting the Menu Editor.

Click **OK** to save your changes and exit the Menu Editor.

Deleting Configurations

To delete any of the configurations (except the Factory Configuration), select **Edit ▶ Delete ▶** and choose the number of the configuration to be deleted.

Naming Configurations

You may name any of the eight user-defined configurations using an alphanumeric string of 1 to 15 characters. Select **Edit ▶ Names** to open the Edit Configuration Names window.

Choose the configuration you want to name, then click **OK** to assign the name change, **Cancel** to exit this window without saving your changes, or **Reset** to restore the original configuration numbers.

Hiding/Unhiding Menu Items

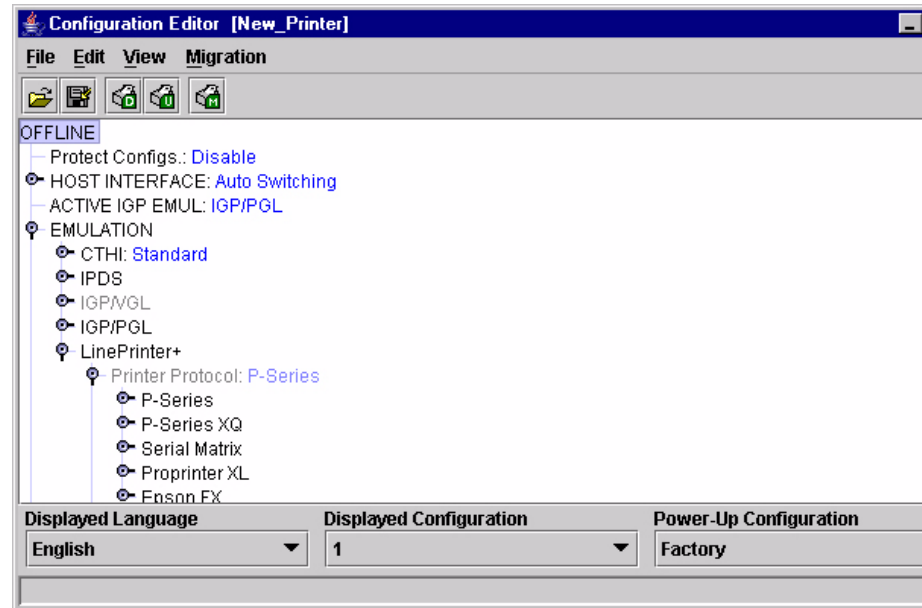


Figure 54. Hiding a Menu Item

The Configuration Editor allows you to hide menus to make the operator panel menus easier to use, or to restrict printer operators from accessing certain printer configuration menu items. If you choose to hide a menu item in the Configuration Editor, the hidden menu item still loads into the printer when the configuration downloads to it. However, the hidden menu item does not appear on the printer's front panel.

The Configuration Editor displays hidden menus in gray on the menu tree. When a menu item is hidden, all of its sub-menus are hidden as well. In Figure 54, the Printer Protocol menu item is hidden. The Printer Protocol menu item, as well as its sub-menus (P-Series, P-Series XQ, etc.) cannot be changed from the printer's operator panel.

IMPORTANT

Depending upon the active emulation, active interface, or hardware attached to the printer, some menu items cannot be hidden on the printer front panel, even though they may be defined as “hidden” in the PMU.

You can still change hidden menu items using the Menu Editor.

You can hide or unhide menu items in three ways:

1. In the menu bar, select **View ▶ Hide/Unhide Menus**. With this menu option, you may hide or unhide individual items, sub-menus or the entire configuration.
2. Using the Menu Editor. See page 76.
3. Using the keyboard. From the menu tree, select a menu item. A selection box appears around the selected menu item. Press **H** to hide the menu item or **U** to unhide the menu item. (To change these keys, select **File ▶ Preferences** in the printer database window. See page 24.)

Saving Configuration Files

Normally, your printer can save only nine configurations in its memory. You change these configurations through the printer's operator panel. However, using the PMU, you can store a nearly unlimited number of configurations on your host computer.

Once you have made your changes, you can save your configurations as a **.cfg** file on your local hard drive. This way, you can open any set of configurations from your host computer and download them into your printer quickly and easily.

To save configurations to your local hard drive, select **File ▶ Save As**. Be sure to save your configuration as a **.cfg** file.

Opening Configuration Files

To open a configuration file, select **File ▶ Open**. The Configuration Editor loads the settings from the file you choose.

Remember, these settings do not affect the current configuration or the active printer status until the configurations are downloaded to the printer.

NOTE: The Configuration Editor displays only one configuration file at a time. Be sure to save any changes before opening another configuration file.

Downloading Configurations

You may use the Configuration Editor to download into your printer any configurations you have created. Open the configuration file you want to use, then select **File ▶ Download To Printer** to send individual configurations, all configurations, or just the configuration names.

Downloading a configuration overwrites the corresponding configuration currently stored in the printer. If you want to save the configurations currently stored in the printer before overwriting them, upload them into the Configuration Editor first, and then save them as a **.cfg** file on your local hard drive.

NOTE: Be sure to calibrate your thermal printer after you download a configuration to it. See "Running Auto Calibrate" in the printer's *User's Manual*.

Uploading Configurations

The Configuration Editor can upload configurations from a printer. Select **File ▶ Upload From Printer**. Once the configurations upload, you can save them to a file. Now you can select another printer from the database and upload its configurations. The PMU prompts you to save the previously uploaded configuration before the new configuration uploads.

Migration

Over time, menus and functions changed to reflect the new features of the printers. Some printer features have been removed to provide better or more complete printer features. Older saved configurations may have used these removed features or contain settings that no longer exist or have been modified in new printer firmware. This can cause potential problems when downloading new printer firmware while preserving previously saved configurations if the saved settings are not analyzed and adjusted to work with the new firmware. This analysis and adjustment has been summarized into one word: migration.

Transferring Saved Settings

Original Method

To ensure that your settings from the saved configuration are set correctly in the printer: print out the old configurations, download the configurations to the printer, print out the new configurations, and compare the old settings with the new settings.

If you need to make changes: upload the configurations to the Configuration Editor, make changes, and re-download to the printer.

Enhanced Method

Using the migration utility in the Configuration Editor, all these things can be done without having to download the configurations to the printer until you know they are correct. No migrated settings will be downloaded to your printer until you download them. This way you can run the migration, view the results, view the report, and make any necessary changes without affecting your saved configurations or the configurations in the printer.

How To Use The Migration Utility

STEP 1:

Load the configurations settings that need to be migrated into the Configuration Editor before using the migration utility.

Migration Limitations

Only attempt to migrate saved configuration settings from printers of the same model type and the same emulations. An example of a different printer model type is a thermal printer configuration to a line matrix printer.

The printer that you are going to migrate the settings to should be a superset of or contain the same emulations as the saved configurations. For example, migrate saved settings that contain an ANSI emulation on a line matrix printer to another line matrix printer that contains ANSI and PGL. Do not migrate these same saved settings to a line matrix printer that does not contain ANSI. The migration utility does not prevent you from doing this, but the results would be useless and could cause problems if the migrated configurations were downloaded and then loaded on a different printer type.


IMPORTANT

Make sure the printer model type and emulations of the saved configurations match the printer model type and emulations of the printer you want to migrate the settings to before attempting to migrate the saved settings.

Loading Configuration Settings

The configuration settings to migrate can be opened using the Configuration Editor in the following ways:

Loading From a File

Click the  (open configuration file) button or select **File ▶ Open**. Choose your configuration file and then click **OK**.

Loading From a Printer

Select a printer in the printer database. Click the  (upload configuration) button or select the **File ▶ Upload From Printer** to upload the settings.


STEP 2:

Select a printer and begin the migration of the saved configuration settings.

Select a Printer to Use for Migration

Select a printer in the printer database. The printer you select must have new printer firmware. If it does not, exit the Configuration Editor and download new firmware to the selected printer (see “File Download” on page 87), then select the printer in the printer database.

Start the Migration

Click the  (migrate) button or select **Migration ▶ Run Migration**. Several messages will appear in the bottom left corner of the Configuration Editor that indicate the progress of the migration.

STEP 3:

View the results using the Configuration Editor.

The results will display graphically in the Configuration Editor.

Several different icons will display depending on the migration. Hover the pointer over an icon to display a short description. An icon can represent several types of changes. The migration report details these changes (page 82).

Select **Migration ▶ View Results** to see the migration results.

This menu has the following submenus:

Original Configurations

All Menus: Displays the original configuration settings with the menus that were removed from the original configurations.

Removed Menus: Displays only the menus that were removed from the original configurations.









Migrated Configurations

All Menus: Displays the migrated configuration settings including all of the menus that were modified.


Modified Menus: Displays only the menus that were modified by the migration of the saved settings.

If you select **Modified Menus** and then select **View ▶ Expand Tree**, all of the menus that were affected by the migration will display in a simplified view.

Migration Icon Definitions

-  Indicates a new menu or a new set of menus.
-  Indicates that the menu previously existed in the saved configurations and was added to another menu.
-  Indicates that the menu previously existed in the saved configurations and was moved to another menu, or removed from the current menu but still exists in the saved configurations.
-  Indicates that the menu was completely removed from the saved configurations.
-  Indicates that this menu or a submenu has changed. The change can be various things such as range or increment.
-  Indicates that additional selections have been added to this menu.
-  Indicates that selections have been removed from this menu.
-  Indicates that this menu has been replaced with another menu or the menu definition has changed.

STEP 4:**View the results using the Migration Report Viewer.**

Select **Migration** ▶ **View Report** or double-click the  **Migration Report** icon (located at the top of the migrated configurations display) to open the Migration Report Viewer.

The Migration Report Viewer displays a detailed textual report of the information that displays graphically in the Configuration Editor. Use the Migration Report Viewer to view, save, or print the report.

NOTE: It is recommended to use landscape mode when printing the migration report.

The report contains the following types of messages:

Informational Messages: Menu settings that migrated without problems. They display to inform you that there was a change during the migration.

Warning Messages: Menu settings that attempted to migrate to the new configurations and were changed. Analyze these settings to determine if they are desirable.

Intervention Messages: Menu settings that attempted to migrate to the new configurations and were changed. Analyze these settings to determine if they are desirable.

IMPORTANT

You must resolve intervention messages, or the printer may not operate properly.

STEP 5:**Post-migration.**

After you review the migrated configuration, save, delete, or download the migrated configuration file to one or more printers using the PMU.

Flash File Manager

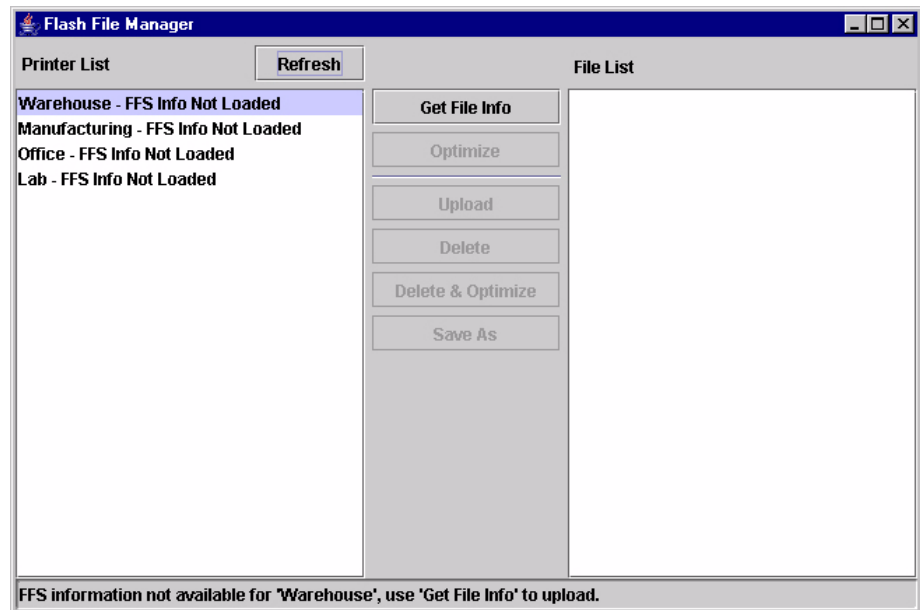



Figure 55. Flash File Manager Window

With the Flash File Manager, you can view a list of the unprotected files loaded in the printer's flash memory. You can upload the files to the host computer, save them for backup, and download them to another printer. You can also delete the files.

Select **Applications** ▶ **Flash File Manager** or click the  (flash file manager) button. See Figure 55.

The Printer List pane displays a list of printers that are selected in the printer database. If you select one printer, it appears alone in the list. If you select a folder, all active printers in the folder appear.

If you return to the printer database and select another printer or folder, click **Refresh** to update the Flash File Manager and display the newly selected printer(s).

NOTE: Cloned printers or different folders that link to the same printer do not display. Only the original printer displays.

Get File Info

Select a printer, and then click **Get File Info** to see a list of the unprotected files loaded in the printer's flash memory. Progress displays on the status bar at the bottom of the window. After you retrieve the flash memory information, the files appear in the File List pane. See Figure 56.

When complete, select another printer and click **Get File Info** to view its flash memory information.

You can only view the flash memory information from one printer at a time, but the Flash File Manager remembers what information has been retrieved. For printers that have not had flash memory information loaded, the message **FFS (Flash File System) Info Not Loaded** displays. See Figure 56.

NOTE: Although you have retrieved the flash memory information, the files have not been uploaded. Notice the message **data not loaded**. To upload the files, see "Upload" on page 85.

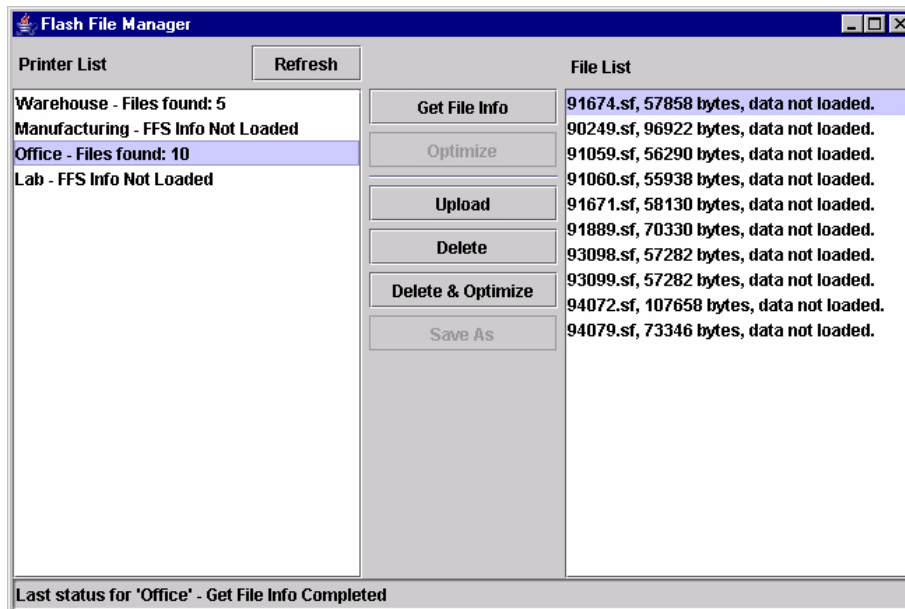


Figure 56. Get File Info

Upload

To upload unprotected files, select a printer, and then select the files you want to upload from the File List. Click **Upload** to upload the unprotected files from the flash memory. Progress displays on the status bar at the bottom of the window.

After the files upload, they appear selected in the File List pane. See Figure 57. Click **Save As** to save all the files together as one downloadable file. Save the file with a **.pff** file extension.

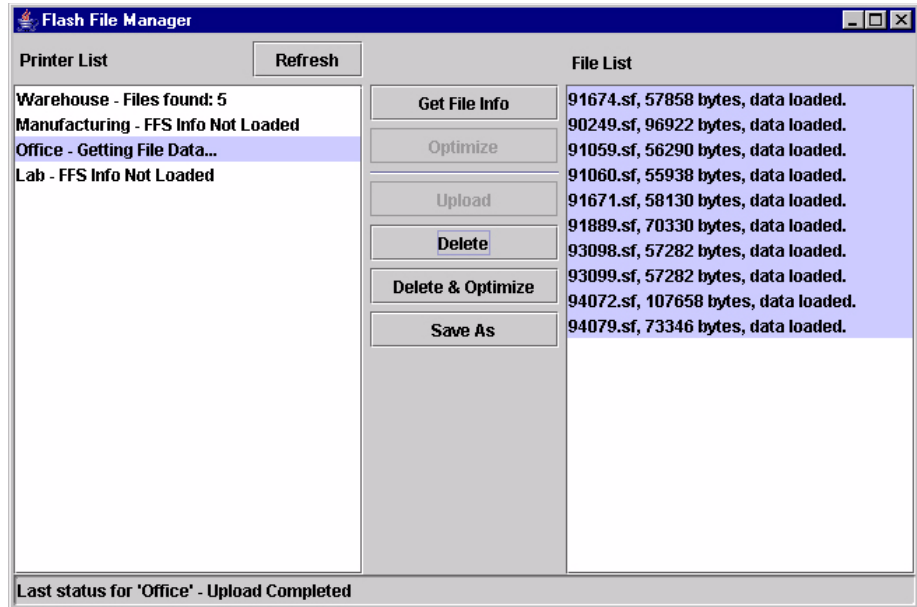


Figure 57. Uploaded Flash Files

Or, you may use the **Shift** or **Ctrl** key to select single or multiple files. See Figure 58. This way, only the selected files will save to the **.pff** file when you click **Save As**.

NOTE: You can save only uploaded files to a downloadable file.

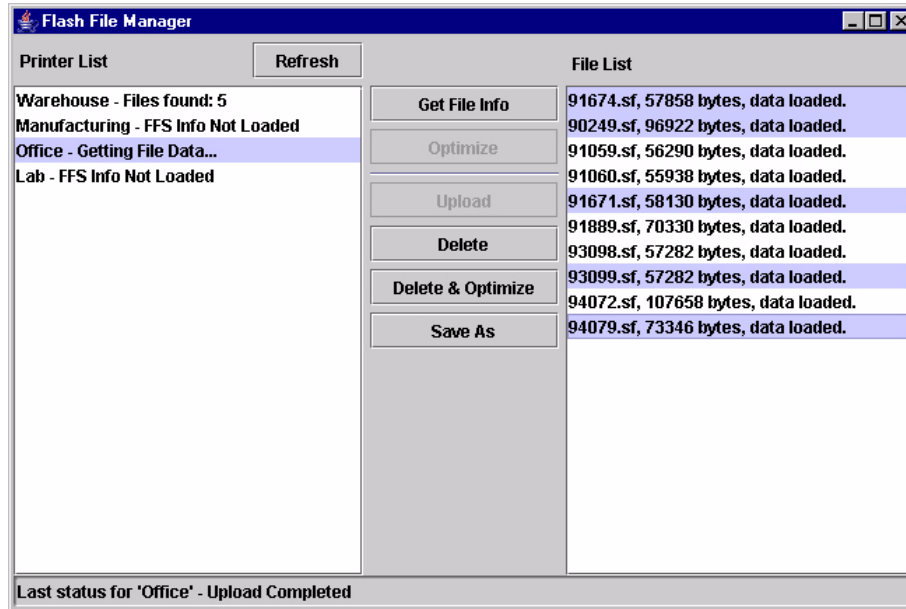


Figure 58. Selecting Multiple Files

Delete And Optimize

IMPORTANT You can not undo a flash file deletion.

You can erase files from the printer's flash memory. Select the files you want to delete from the File List, then click **Delete**. To download files back to the flash memory, see "File Download" on page 87.

Once you have deleted files, the flash memory is not optimized until you click **Optimize**. Optimizing reclaims flash space from deleted flash files.

NOTE: The printer reboots after you Optimize.

To delete and optimize in one step, select the files you want to delete from the File List, then click **Delete & Optimize**.

File Download

NOTE: The terms **download** and **upload** as used here and in the software indicate the printer's point of view. Therefore, when you download a file, you are sending information to the printer (the printer downloads). When you upload a file, you are receiving information from the printer (the printer uploads).

The File Download application allows you to download all file types (program files, configuration files, and flash files) to either a single printer or to a group of printers.

To download a file to a single printer, insert a **D** (Download file) icon below the printer (one level lower than the printer). To download a file to a group of printers, insert the Download file icon on the same level as the printers (in the same folder containing the printers). Use the printer database and insert additional Download file icons to download as many files to as many printers as you want.

NOTE: If you open a printer database that was saved using a previous version of the PMU, all **C** icons will change to **D** icons.

After you insert Download files, you must define them:

1. Double-click **D New Download File**. The Define Download File dialog box opens. See Figure 59.
2. Click **Browse**. The Open dialog box opens.
3. Navigate to a program (firmware), configuration, or flash file, select it, then click **Open**.
4. To make sure you have defined a valid file, click **Test** to test the file. A message displays confirming whether or not you have defined a valid file. Click **OK** to close the Download File Test window.
5. When you are finished, click **OK**. The database displays the path and name of the program, configuration, or flash file.

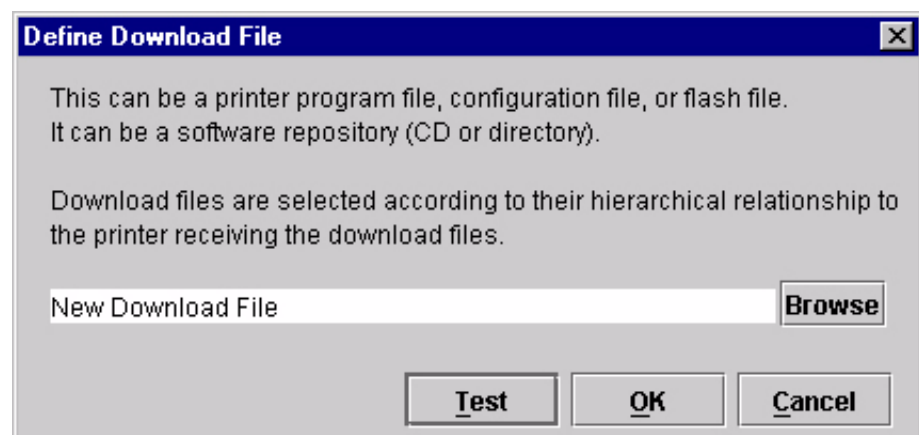


Figure 59. Define Download File

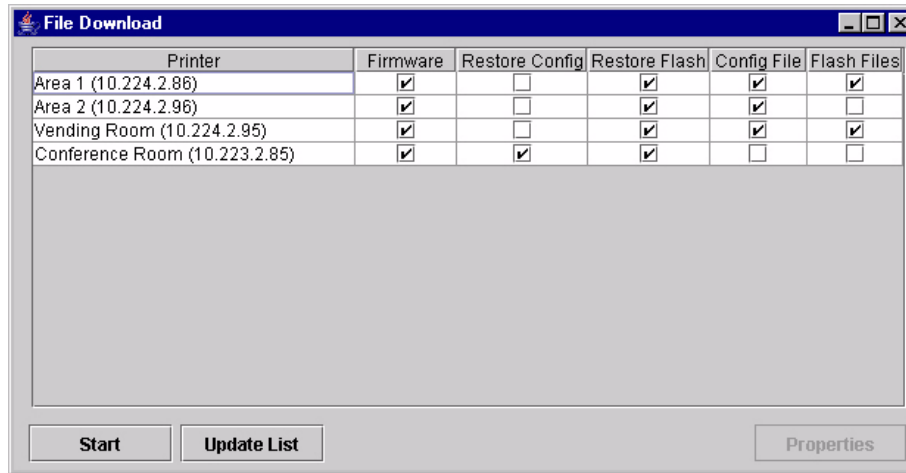


Figure 60. File Download

After you define Download files in your database, you must download them to your printer for them to affect the active print state.

NOTE: Each emulation used by the printer has its own list of valid flash files it can use. Refer to the appropriate *Programmer's Reference Manual* for details about valid flash files.

To download a file that is on the same level or one level lower than the target printer on your database tree, select the printer to receive the download and select **Applications** ▶ **File Download**. The File Download dialog box displays the printers receiving the files and the types of files that will be sent. See Figure 60.

NOTE: If you later select a different printer in the printer database without closing the File Download dialog box, click **Update List** to update the list of printers.

Whenever a printer downloads a program (firmware) file, the configurations and flash memory are erased. You can choose whether or not to restore the configurations and/or flash memory to what was previously loaded. Check or uncheck the Restore Config check box for configurations and/or the Restore Flash check box for flash files. By default, the configurations and flash memory will restore.

IMPORTANT

If you uncheck Restore Config or Restore Flash, the configurations or flash memory will erase when you initiate a program file download.

NOTE: If a download fails due to a power interrupt or a severed connection, the configurations and flash files will be lost and will not restore. You can still restore the printer using the recovery file, but only if Restore Config and/or Restore Flash was checked. See "Recovery File" on page 97.

If you are downloading a program file and flash files, the Flash Files and Restore Flash check boxes will be checked. The flash files will restore, but they will be overwritten if the new flash files you are downloading have the same name.

NOTE: You can double-click a field name (e.g., Firmware, Config File, etc.) to check or uncheck the check boxes for all displayed printers at once.

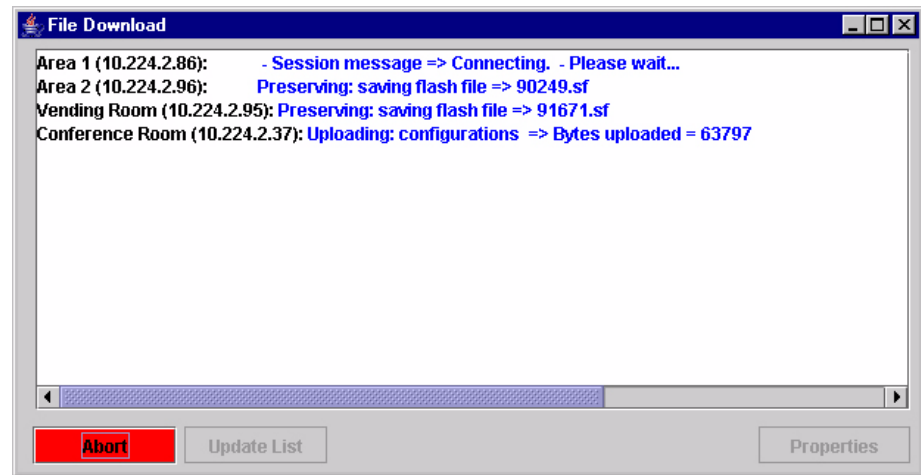


Figure 61. Download in Progress

Confirm that the correct files will be sent to the appropriate printers. Close the dialog box to cancel the download and start over.

Click **Start** to begin the download. Once the download is in progress, click **Abort** or close the dialog box to abort the download. See Figure 61.

IMPORTANT

Aborting a download may leave the printer in an unstable state.

NOTE: Be sure to calibrate your thermal printer after you download a configuration to it. See "Running Auto Calibrate" in the printer's *User's Manual*.

You can also download a series of files to several printers at once using folders. Select a folder and select **Applications** ▶ **File Download**. All of the appropriate files inside the selected folder download to all of the printers inside that folder.

NOTE: Downloading a configuration file does not immediately update the printer's active configuration. You must activate a downloaded configuration using the **Load Config.** setting in the printer's operator panel. See the printer's *User's Manual* for details.

See page 90 for examples of using the printer database and the File Download application to download files.

Downloading Examples

Figure 62 shows a sample printer database.

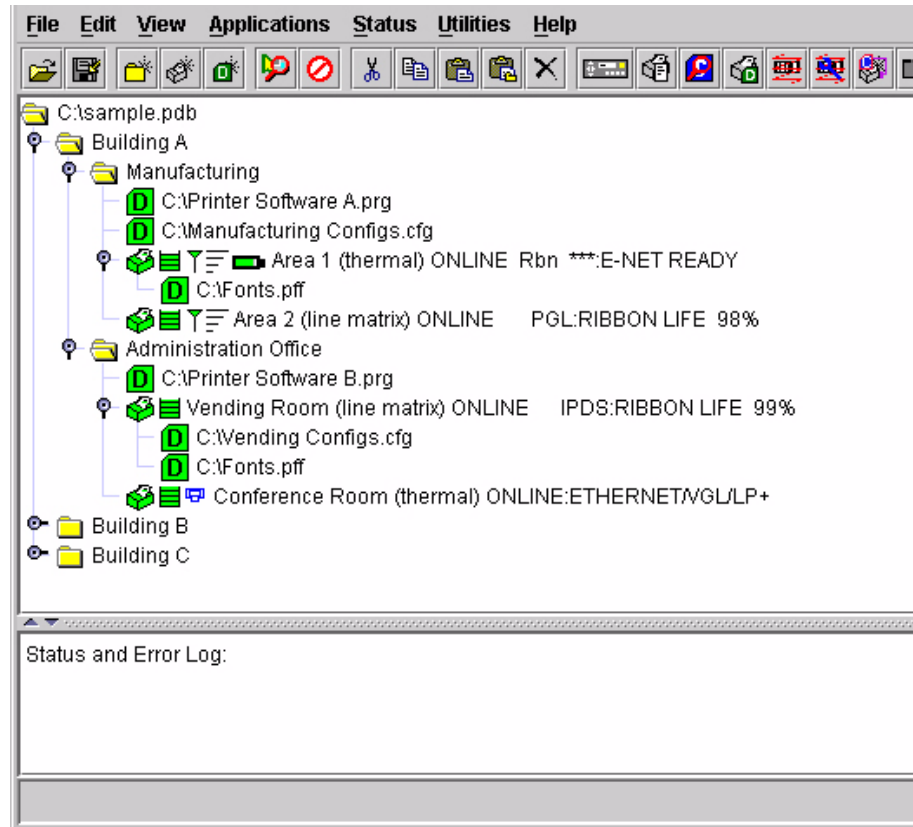


Figure 62. Sample Database


In the sample printer database, the printers are organized according to different parts of the building. Each area contains its own printers and Download files.

In the Manufacturing folder, two printers share the same program and configuration Download files, the Area 1 printer has a flash Download file (in this example, a fonts file), and the Area 2 printer has no flash Download file.

In the Administration Office folder, two printers share a program Download file, the Vending Room printer has a configuration and a flash Download file, and the Conference Room printer has no configuration or flash Download file.

The Building B and Building C folders are collapsed.

Example 1

In this example, the user selected the Conference Room printer, then selected **Applications** ▶ **File Download** or clicked the  (file download) button. The File Download dialog box opens. See Figure 63.

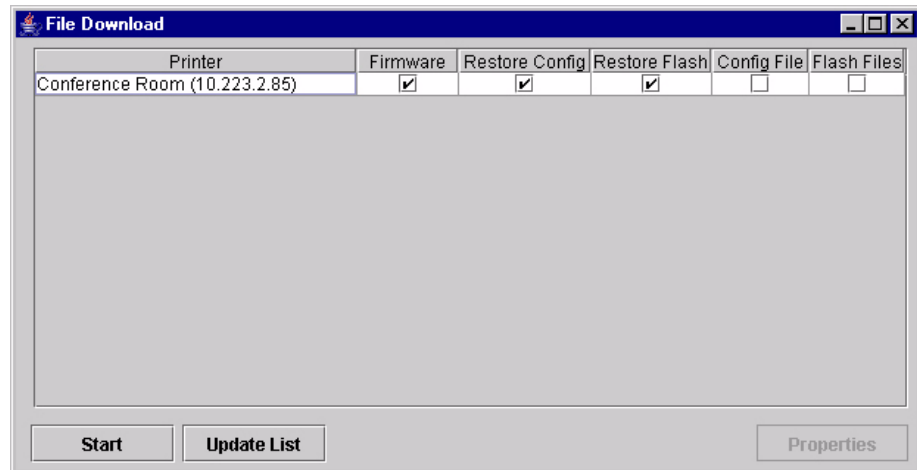



Figure 63. File Download: Conference Room Printer

The Conference Room printer will download a program (firmware) file, and the configurations and flash memory will restore

IMPORTANT If you uncheck **Restore Config** or **Restore Flash**, the configurations or flash memory will erase when you initiate a program file download.

Example 2

In this example, the user selected the Vending Room printer, then selected **Applications** ▶ **File Download** or clicked the  (file download) button. The File Download dialog box opens. See Figure 64.

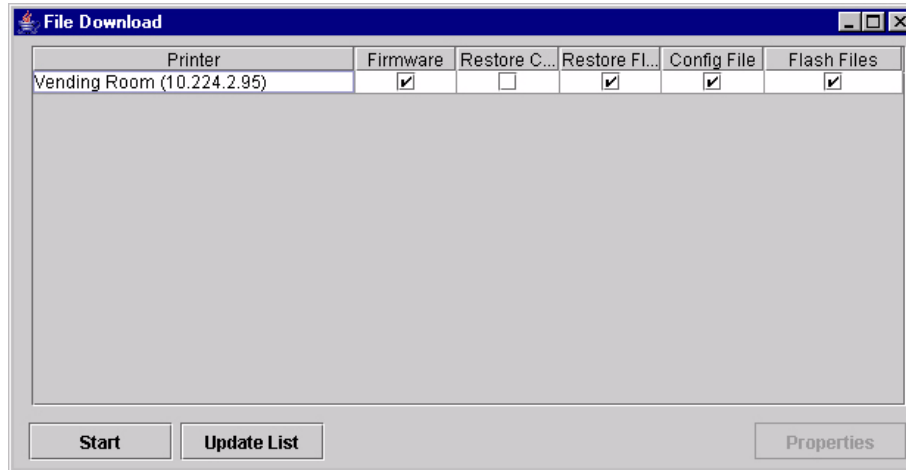


Figure 64. File Download: Vending Room Printer

The Vending Room printer will download a program (firmware), configuration, and flash file, and the flash memory will be restored.

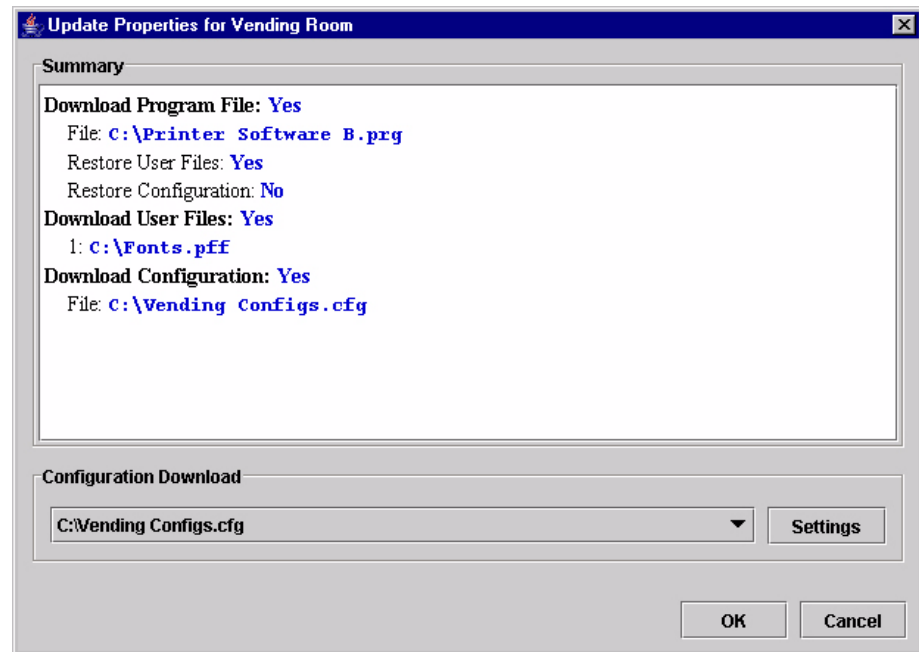


Figure 65. Update Properties for the Vending Room Printer

To see a summary of the files the printer will download, double-click the printer or select the printer and click **Properties**. The Update Properties dialog box opens. See Figure 65.

In this example, the Vending Room printer will download the **Printer Software B.prg** program file, the **Vending Configs.cfg** configuration file, and the **Fonts.pff** flash file.

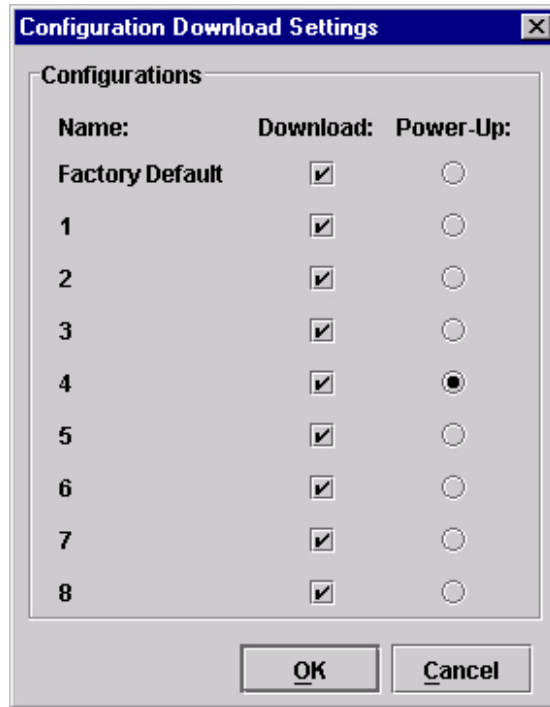



Figure 66. Configuration Download Settings

Since the printer will download a configuration file, you can click **Settings** to open the Configuration Download Settings dialog box. See Figure 65.

You can select or deselect specific configurations within the configuration file you want to download. Only the selected configurations will download. You can also select which of the configurations will be set as the Power-Up configuration.

In this example, the printer will download all configurations, and the Power-Up configuration will be set to configuration 4.

Example 3

In this example, the user selected the Manufacturing folder, then selected **Applications** ▶ **File Download** or clicked the  (file download) button. The File Download dialog box opens. See Figure 67.

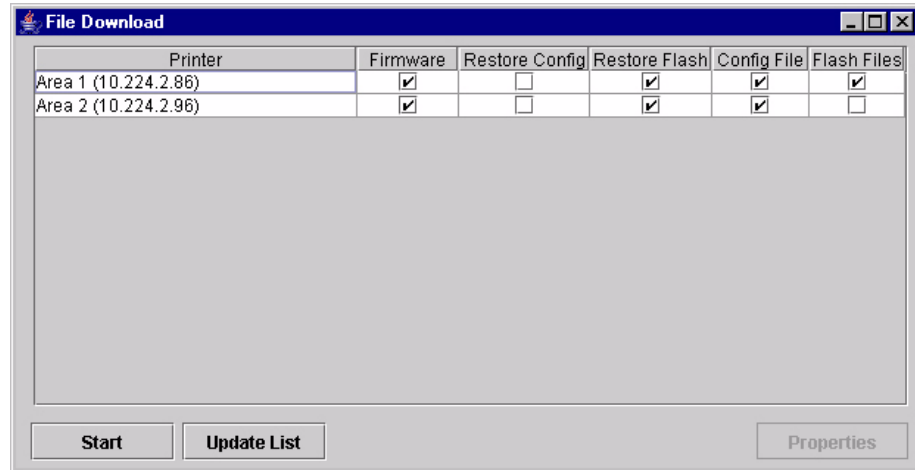



Figure 67. File Download: Manufacturing

In this example, the Area 1 and Area 2 printers will download the same program (firmware) file and a configuration file, since both files are in the same folder as the two printers (see Figure 62). In addition, the Area 1 printer will download a flash file.

Both printers will have their flash memories restored.

Example 4

In this example, the user selected the Building A folder, then selected **Applications** ▶ **File Download** or clicked the  (file download) button. The File Download dialog box opens. See Figure 68.

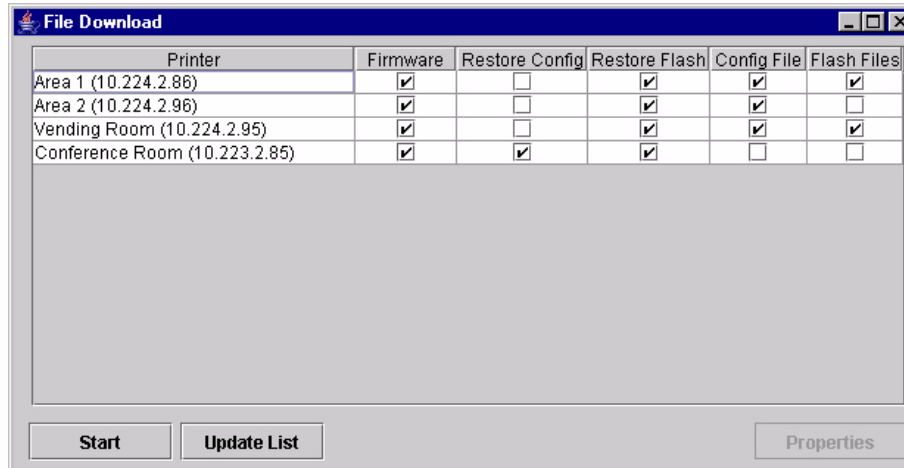


Figure 68. File Download: Manufacturing and Administrative Office

In this example (see Figure 62):

- The Area 1 and Area 2 printers will download the same program (firmware) and configuration files, and their flash memories will be restored.
- The Area 1 printer will download a flash file.
- The Vending Room and Conference Room printers will download the same program file.
- The Vending Room printer will download a configuration and a flash file, and its flash memory will be restored.
- The Conference Room printer will not download a flash or configuration file, but its configurations and flash memory will be restored.

IMPORTANT

Make sure the same printer is not listed more than once in the File Download dialog box.

Recovery File

Whenever a printer downloads a program (firmware) file, the configurations and flash memory are erased. You can choose to restore the configurations and/or flash memory, but if during the download the power interrupts or the connection severs, the files will be lost and will not restore.

The PMU makes a recovery file of the configurations and flash memory before they are erased. The recovery file is located in the PMU's program folder.

If a download fails, the Status and Error Log will display the location of the recovery file. The file is named after the printer name in the printer database, followed by a **.par** extension.

The **.par** file is a compressed zip file, and can be opened by any program that can uncompress zip files.

The **.par** archive contains the configuration file, which is named after the name of the printer in the printer database. The archive also contains the flash files, which are named exactly as they appeared in the flash memory.

Once you uncompress the **.par** file, you can add the uncompressed files to the printer database and download them using File Download to restore the printer.


Operator Panel

The PMU includes a virtual operator panel that simulates all the functions of the actual operator panel on your printer. See Table 2 below which lists the different virtual operator panels.

Table 2. Virtual Operator Panels

Figure	Page	Printer
Figure 69	page 98	6500 Series line matrix
Figure 70	page 99	6400 Series line matrix
Figure 71	page 99	6700/4400 Series thermal

The layout of the operator panel changes to visually simulate the printer being used (line matrix or thermal), but the keys and indicators function as described on page 100, regardless of the type of printer used.

To access the operator panel, select the appropriate printer from the printer database and then select **Applications > Operator Panel** or click the  (operator panel) button.

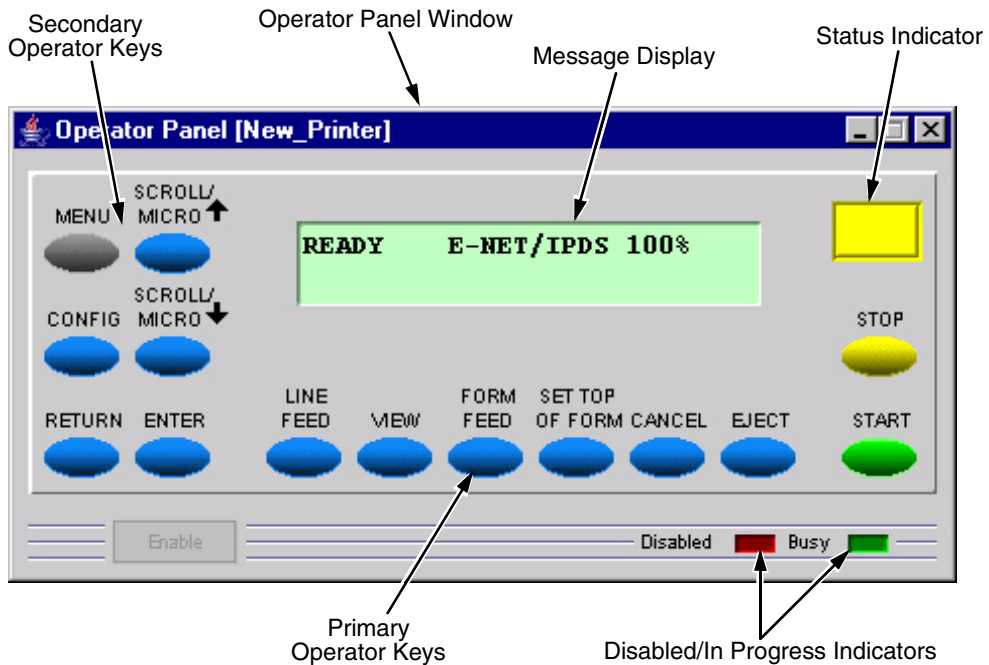


Figure 69. 6500 Series Line Matrix Printer Operator Panel

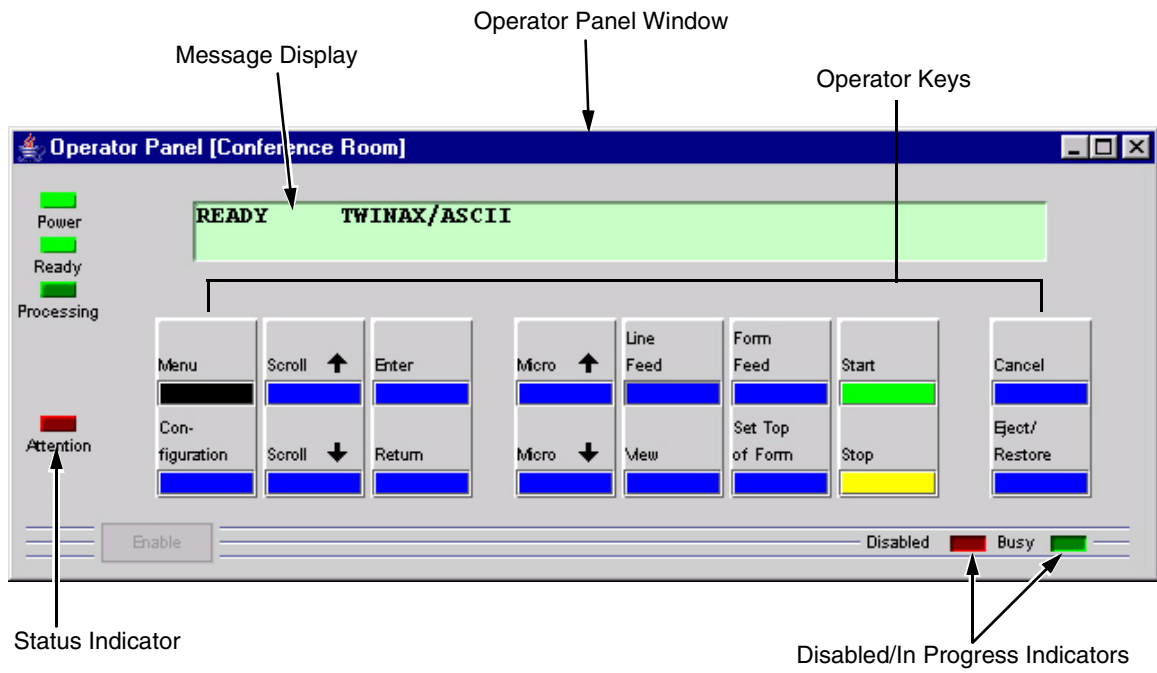


Figure 70. 6400 Series Line Matrix Printer Operator Panel

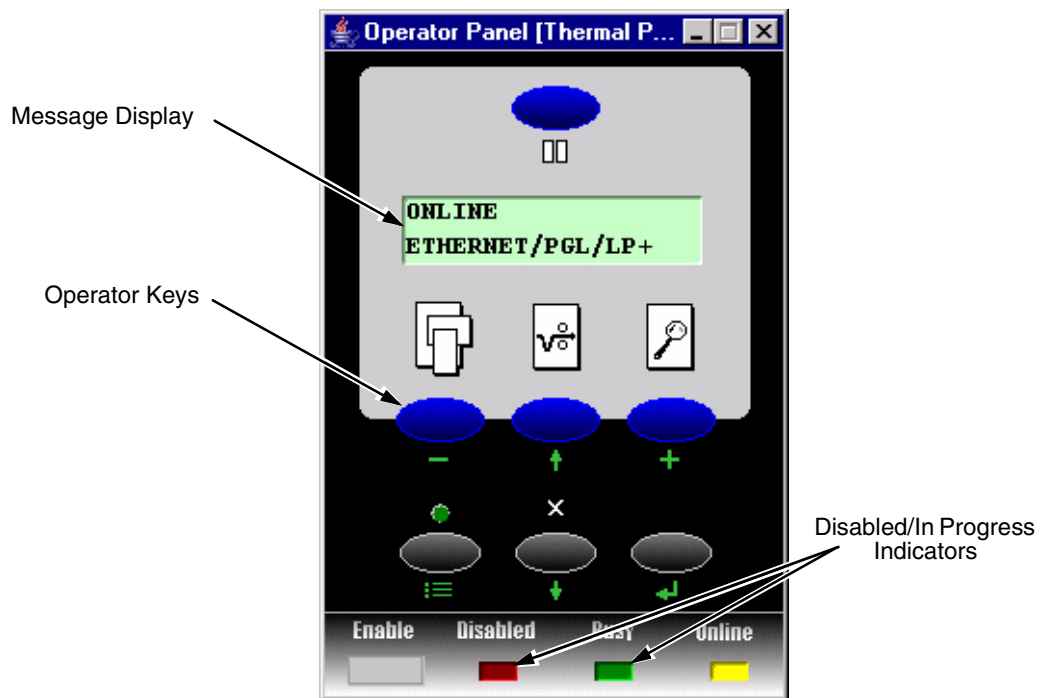


Figure 71. 6700/4400 Series Thermal Printer Operator Panel

Primary/Secondary Operator Keys

Clicking the primary and secondary operator keys in the operator panel causes the printer to perform the same actions as if you were physically pressing the keys on the printer's operator panel. For example, when the printer is online, click the **STOP** key (6700/6500 Series) or the **PAUSE** key (6700/4400 Series) to take the printer offline. Click the **START** (or **PAUSE**) key to place the printer back online.

Some functions require pressing multiple keys at the same time. To simulate this, hold down the **Shift** key on your host keyboard as you select each key. The selected keys change color to indicate that they are part of the multiple key press. Release the **Shift** key, and the selected keys on the operator panel activate as if they were pressed simultaneously.

For example, to unlock the ENTER (↵) key, hold down the **Shift** key on your keyboard, then click **RETURN** and **ENTER** (6500 Series), ↑ and ↓ (6400 Series), or ↓ and ↵ (6700/4400 Series). Release the **Shift** key, and the ENTER (↵) key unlocks.

NOTE: For an explanation of the functions of each primary and secondary operator key, see the printer's *User's Manual*.

Message Display

The message display shows what is displayed on the printer's LCD. Use the message display to configure menu options and read error messages.

Status Indicator

The status indicator displays the current operating mode:

Online mode: The indicator displays bright green.

Offline mode: The indicator displays black.

Fault mode: The indicator flashes.

Disabled Indicator

Normally, when you control the printer via the operator panel, the Disabled light is off, and the Enable button underneath the status indicator is grayed out. While the PMU has control of the printer's operator panel, the message **PRINTER UNDER REMOTE CONTROL** appears on the printer's LCD to alert others that the printer is being controlled remotely.

However, if someone presses a key on the printer, the virtual operator panel disables. The Disabled indicator lights up, and the Enable button activates. Click the **Enable** button to give control of the printer back to the virtual operator panel.

In Progress Indicator

This light flashes when the printer is working on a job or moving paper.

Information Capture

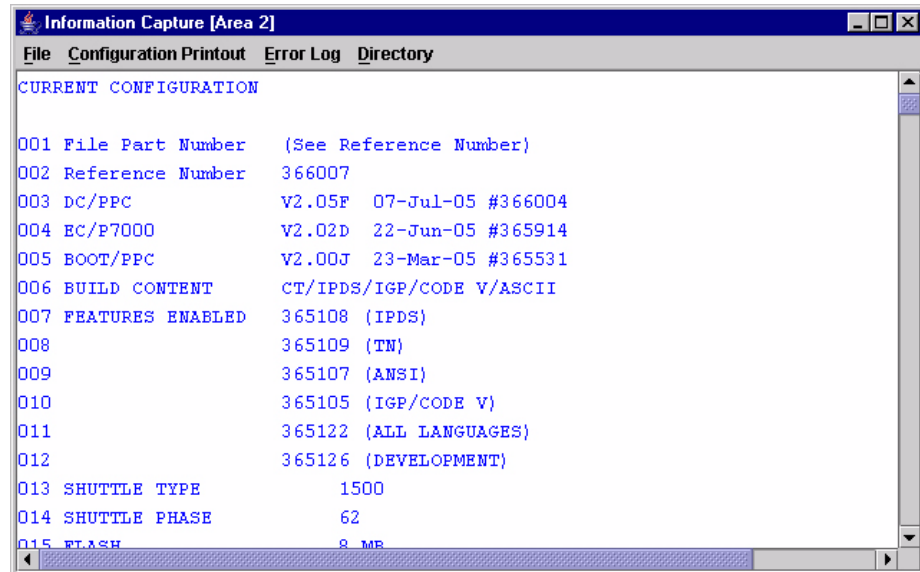



Figure 72. Information Capture Window

To access the Information Capture application, select a printer from the printer database and select **Applications** ▶ **Information Capture** or click the  (information capture) button. The Information Capture application allows you to view the configurations or error logs saved in the printer's memory and save them as a text file to your local hard drive.

Loading a configuration into the Information Capture does NOT change the active configuration — this is a *view only* application. If you want to change the active configuration, use the Configuration Editor (see page 73) or the operator panel.

The following are descriptions of the Information Capture menus.

File

Save As: Saves the configuration or error log displayed in the Information Capture window as a **.txt** text file on your local hard drive. This **.txt** file can be opened in any word processing program.

Print: Prints the text of the information captured to the host computer's default printer.

Clear Window: Clears the Information Capture window of any displayed configurations or error logs.

Close: Closes the Information Capture window.

Configuration Printout

Current/Factory/Power-Up/All/1-8: Choose which configuration you want to view. If you choose more than one configuration without clearing the window, each additional configuration adds to the end of the display.

Error Log

All Errors: Displays the printer's error log.

Clear: Clears all errors from the printer's memory.

NOTE: The printer's error log and the Status and Error Log at the bottom of the main printer database window of the PMU are separate. Clearing the printer's error log does not clear the Status and Error Log.

Directory

Flash File System: Displays the file system information for your printer.

Data Validation

The screenshot shows a window titled "Data Validation Telemetry Viewer [New_Printer]". It contains a table with the following data:

Identifier	Failure	Deviation	Data
B1.1	Pass	■	[ST]000[ST]
B1.2	Pass	■	[ST]001[ST]
B1.3	Pass	■	[ST]002[ST]
L1.3	Pass (Label)		
B2.1	Pass	■	[ST]003[ST]
B2.2	Pass	■	[ST]004[ST]
B2.3	Pass	■	[ST]005[ST]
L2.3	Pass (Label)		
B3.1	Pass	■	[ST]006[ST]
B3.2	Pass	■	[ST]007[ST]
B3.3	Pass	■	[ST]008[ST]
L3.3	Pass (Label)		
B4.1	Pass	■	[ST]009[ST]
B4.2	Pass	■	[ST]010[ST]
B4.3	Pass	■	[ST]011[ST]
L4.3	Pass (Label)		
B5.1	Pass	■	[ST]012[ST]

At the bottom of the window, it shows "Connection Status: collecting" and two checkboxes: "Labels Only" (unchecked) and "Auto Scroll" (unchecked).

Figure 73. Data Validation Window

NOTE: To collect telemetry data, the printer's Telemetry Path (in the VALIDATOR menu) must be set to Network Port. See "Set Telemetry Path (6700/4400 Series Only)" on page 14.

NOTE: Your screens will contain less data than shown in Figure 73 if Telemetry Data (in the VALIDATOR menu) is not set to Full Report or Validation Mode. Your screens will contain less data than shown in Figure 74 if Telemetry Data is not set to Full Report. See the *Online Data Validator User's Manual*.

Use the Data Validation application for printers equipped with a bar code validator. Validation data transmits over an ethernet connection to the PMU, which interprets the data and displays statistical information based on the data received.

NOTE: Data Validation is printer specific, and not all printer models have Data Validation support.


To access the Data Validation application, first select a printer from the printer database that has a bar code validator. Then select **Applications ▶ Data Validation** or click the  **Data Validation** button.

Figure 73 shows an example of the Data Validation screen after a print job runs. The printer sends the bar code report to the PMU.

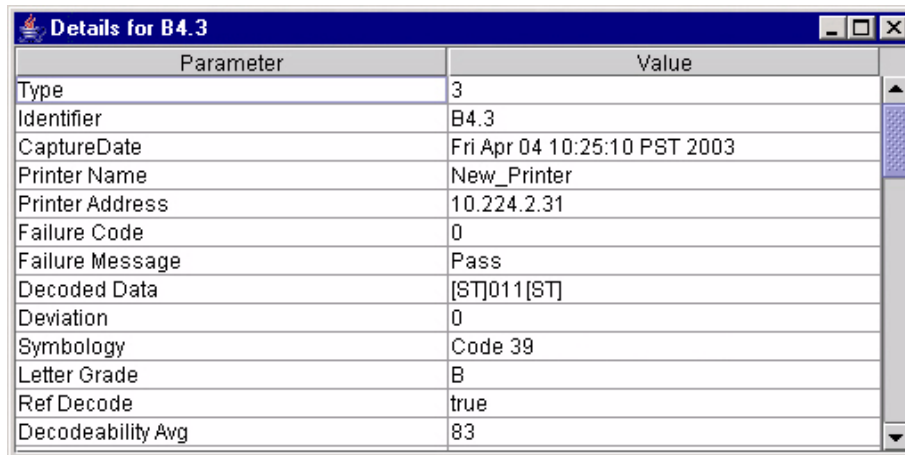
The Failure column indicates if each bar code passes validation standards. If one does not, the reason for the failure appears. The Deviation column gives a graphic representation of the bar code deviation. The Data column indicates the bar code data.

Check the **Labels Only** check box to display label information only (e.g., L1.3, L2.3, L3.3, etc.).

Check the **Auto Scroll** check box to automatically display the current bar codes and labels.

For more information about a bar code or label, double-click it (or click it and select **View ▶ Details of Selected Item**). Figure 74 shows the details for bar code 3 on label 4 from Figure 73.

NOTE: You cannot save validation data to a file.



Parameter	Value
Type	3
Identifier	B4.3
CaptureDate	Fri Apr 04 10:25:10 PST 2003
Printer Name	New_Printer
Printer Address	10.224.2.31
Failure Code	0
Failure Message	Pass
Decoded Data	[ST]011[ST]
Deviation	0
Symbology	Code 39
Letter Grade	B
Ref Decode	true
Decodeability Avg	83

Figure 74. Bar Code Details Window

ODV Quality Wizard

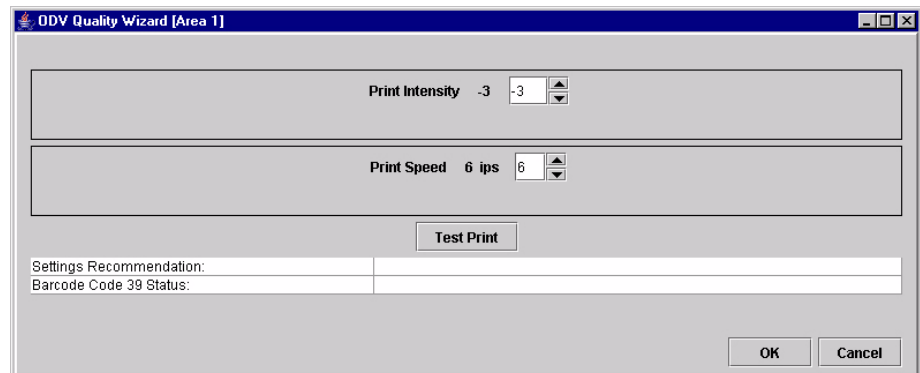


Figure 75. ODV Quality Wizard Window

NOTE: To use the ODV (Online Data Validation) Quality Wizard, Telemetry Data (in the VALIDATOR menu) must be set to Full Report or Validation Mode.

The ODV Quality Wizard is a function that helps you select the best combination of print speed and print intensity that will produce optimal bar code output. It displays controls that allow you to select a print speed and a print intensity.

Click the **Test Print** button to print and validate a test bar code pattern. Based on the validation results, the ODV Quality Wizard provides setting suggestions to optimize the bar code quality.

IMPORTANT Do not follow any suggestions if “Barcode Code 39 Status” does not display “Pass.”

Click **OK** to save these changes in Configuration 1. Configuration 1 then becomes the Power-Up configuration (see page 73). Click **Cancel** to not save the changes.

IMPORTANT Clicking the  Close button in the upper-right corner functions the same as clicking **OK**.

NOTE: If Telemetry Data (in the VALIDATOR menu) is set to Short Report, then

NOTE: The ODV Quality Wizard is printer specific, and not all printer models have ODV Quality Wizard support. Printers without ODV Quality Wizard support display the error message:
Operation not allowed on this type of printer.

Speed Keys

The Speed Keys are single buttons that allow you to perform a specific operation without having to traverse the printer's front panel menu structure. The Speed Keys assist you in performing repetitive functions associated with printer configuration or maintenance.

To access Speed Keys, select a printer then select **Applications** ▶ **Speed Keys** or click the  **Speed Keys** button. See Figure 76.

Changes made using Speed Keys are changed in the printer and saved in Configuration 1. Configuration 1 then becomes the Power-Up configuration (see page 73).

NOTE: Speed Keys are printer specific, and not all printer models have Speed Key support. Printers without Speed Key support display the error message:
Operation not allowed on this type of printer.

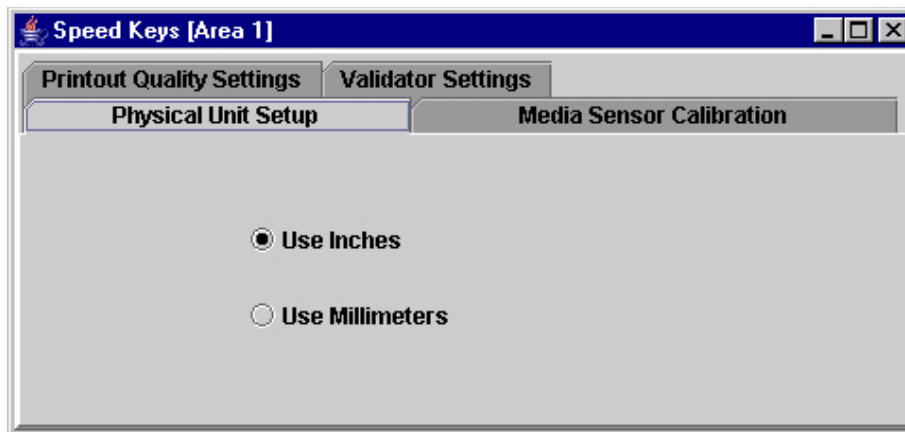


Figure 76. The Speed Keys Window

The Speed Keys are grouped according to their use:

- Physical Unit Setup
- Media Sensor Calibration
- Printout Quality Settings
- Validator Settings

NOTE: For an explanation of the functions the Speed Keys perform, see the printer's *User's Manual*.

Job Capture

Job Capture is an application that captures host datastreams through a specified host interface. This aids in debugging and diagnosing printer errors when working with technical specialists.

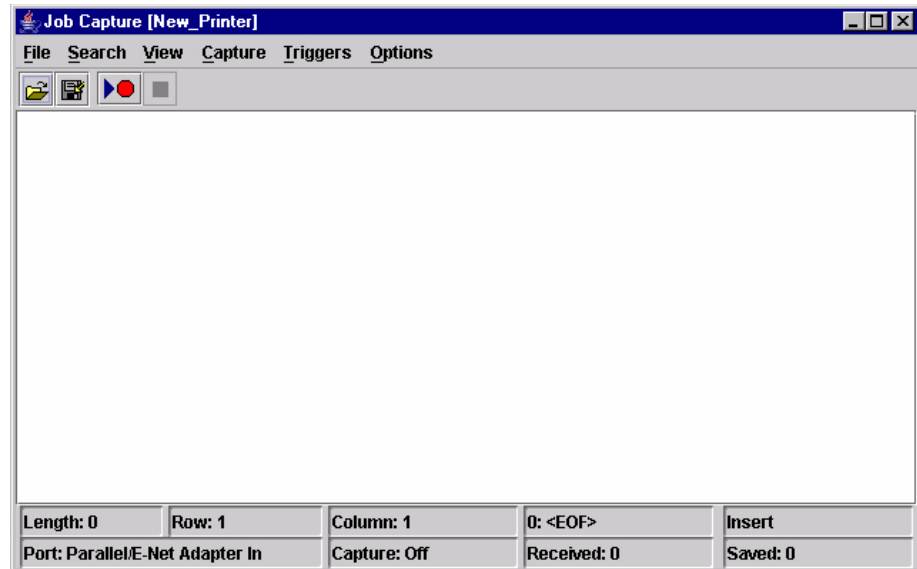



Figure 77. Job Capture Window

To access the Job Capture application, select a printer from the printer database and select **Applications ▶ Job Capture** or click the  (job capture) button.

Job Capture allows you to capture, modify, analyze, and save information to a file.

To use Job Capture:

1. Be sure the computer running the PMU is connected to the printer using the diagnostic port selected under PRINTER MGMT in the SERVICE menu (6400 Series) or in the Factory menu (6700/4400 Series), or using the ethernet port selected in the PRINTER MANAGEMENT PORT in the PRINTER CONTROL menu (6500 Series). To access the SERVICE or Factory menu, see “Printer Setup” on page 12.
2. Select **Capture ▶ Data From** and then select the interface the printer will use to receive the file you want to capture.
3. Select **Capture ▶ Start** to place the PMU in capture mode. The interface sends the information to the terminal window until you turn off capture mode.
4. Select **Capture ▶ Stop** to stop the capture.

The capture window displays the capture information in three formats: Text, Hex, and Capstone. Select **View ▶ Display Format** to choose the information format. Select **View ▶ Display Control Codes** to view the control codes embedded in the file.

Once you capture the file and choose the display options, you can save the information to your local hard drive. Select **File ▶ Save As** and enter a file name. The PMU saves the captured information as a **.cap** text file. You can open a **.cap** file in any word processing program.

Select **File ▶ Clear Window** to clear all capture information from the terminal window. Select **File ▶ Quit** to close the Job Capture application.

Job Capture Features

File

Open

Opens a Job Capture file.

Save/Save As

You can save captured data to disk for later reference or for use in another program. To save the captured data, select **File ▶ Save** or **File ▶ Save As**. Data from Twinax sources can be saved in either Hex or Capstone format.

Clear Window

To erase captured data, select **File ▶ Clear Window**. If you have not already saved the data, a prompt appears and asks if the data should be erased without saving.

Quit

Exits the Job Capture program.

Search

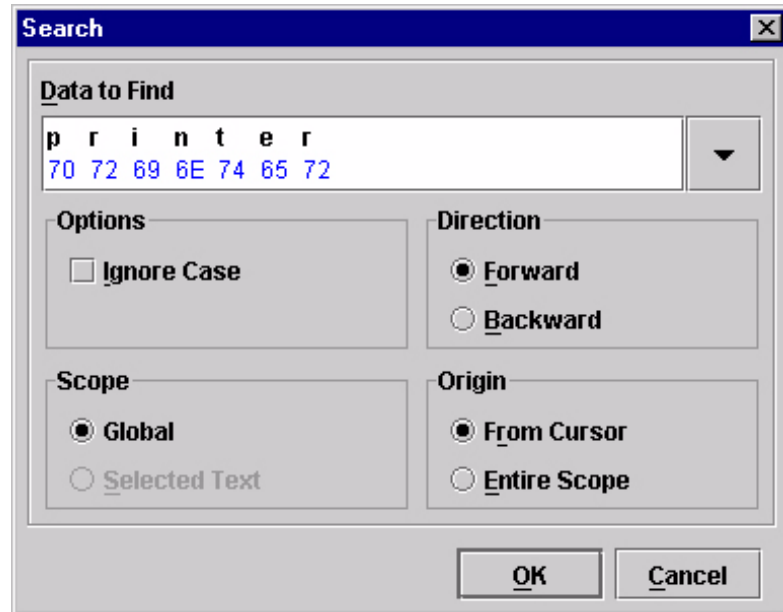


Figure 78. Search Captured Data

Search Captured Data

You can search captured data for specific sequences. Select **Search ▶ Search Captured Data**. Enter the data as a hex or text string. Click **OK**, and the matching data highlights.

To further refine your search, you can choose whether or not to ignore the case, and specify the direction and origin of the search. If you have text selected, you can also choose whether to search the selected text or all text (Global). Use the down arrow in the upper-right corner to see a history of your searches. See Figure 78.

Search Again

To continue searching, click **Search Again**. A message appears if the search is unsuccessful.

View

Display Format

Data displays in three ways:

- Text
- Hex
- Capstone


Capstone is for Coax/Twinax applications. You can edit Capstone data in Hex mode only.

Display Command Codes


- **Normal:** Codes do not display.
- **Dots:** Dots represent the code.
- **Mnemonics:** Codes display within brackets. For example, Line Feed is <LF>, Carriage Return is <CR>, etc.

Capture

Start

Starts the capture. You can also use the  (start capture) button.

Stop

Stops the capture. You can also use the  (stop capture) button.

Data From

Selects the capture source of data. Options include:

- Parallel/E-Net Adapter In
- Serial In
- Serial Out
- Twinax Host Data
- Coax Host Data
- C/T Base Emulation
- PCI Ethernet In
- USB In

NOTE: The USB port is available only on 6700 Series printers.

Triggers

A Trigger allows a selective capture of host data. You need to specify two triggers, a start trigger and an end trigger. Select **Triggers** ▶ **Configure**. See Figure 79.

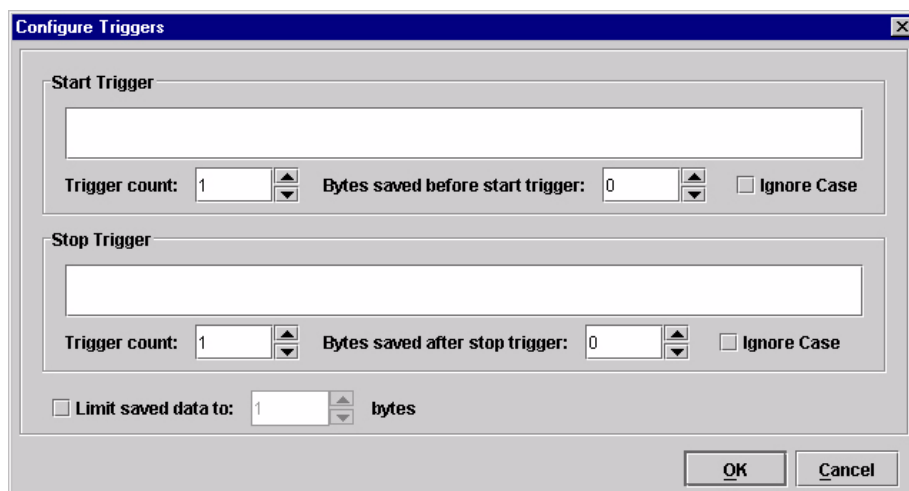


Figure 79. Configure Triggers Window

Enter triggers as text or hex strings with a maximum length of 256 characters. Job Capture scans received data for the start trigger sequence. Once found, data capture begins and continues until Job Capture finds the end trigger. If you do not set a start trigger, all data is captured when the Job Capture starts. If you do not set an end trigger, the data will continue to capture until you stop it.

A second trigger option is a trigger count. You can set Job Capture to start or stop once it finds a set number of start and/or stop triggers. The window that displays captured data shows any lines containing start triggers and highlights the start trigger strings. You can also use the Search feature to search through captured data.

The Ignore Case check box allows character case to be ignored. Check the box to search for a string regardless of character case, and the data will capture once the string is found.

NOTE: You cannot apply triggers to Coax/Twinax and TCP/IPDS jobs.

Options

Disable Printing

Select **Options** ▶ **Disable Printing** to capture data without printing.

Web Access

You can access your printers using a web browser. You can monitor the status, open an operator panel, check the configurations, access Speed Keys, open the ODV Quality Wizard, and access the printer web page.

NOTE: To access your printer using a web browser, you must enable the Web Server and XML Server services (see page 25). Remember to exit and restart the PMU to enable the service.

The PMU Web Site URL Address

Open a web browser. In the URL address field, type `http://`, followed by the host name (computer name, not case-sensitive) or the host IP address of the workstation running the PMU, followed by a colon (:), and then the port number.

For example:

`http://lab21042:8080`

or:

`http://10.224.5.121:8080`

NOTE: Make sure the port number does not conflict with another port number designated for a different purpose.

Press **Enter**, and the web page for your designated printer appears. See Figure 81.

(To find the host name using Windows, right-click **Network Neighborhood** on your desktop and select **Properties**. The Network dialog box opens, and the computer name appears in the Identification tab. See Figure 80.)

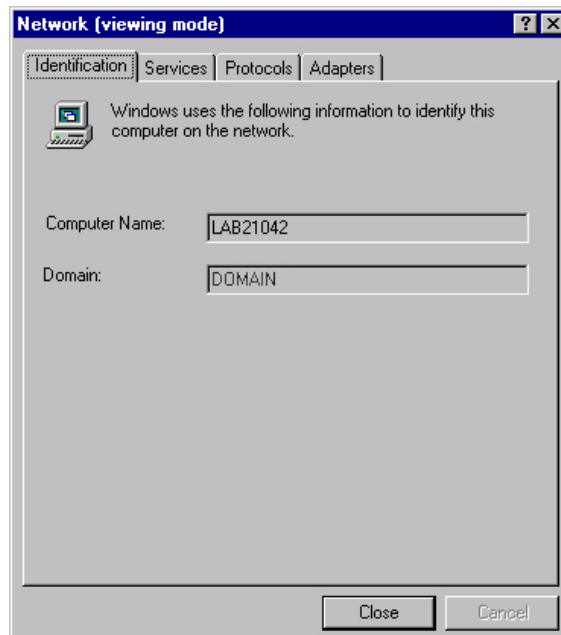


Figure 80. Finding Your Host Name In Windows

Login To The PMU Web Site



Figure 81. The PMU Web Site

By default, three categories of login privileges are available. See Table 3 for a list of categories and their corresponding user names and passwords.

Table 3. User Login Options

Login Category	User name	Password
Standard	standard	standard
Supervisor	super	super
Administrator	admin	admin

Type **admin** for the user name and password, then click **Login**. The Select Desired Page web page appears. See Figure 82.



Figure 82. The Select Desired Page Web Page

Changing The User Password

You can change the default password. Click **Change Password Page**, and the Change Password web page appears. See Figure 83.



Figure 83. The Change Password Web Page

Enter a new password in the New Password and Retype Password fields, then Click **Change Password**. Your password changes and you return to the Select Desired Page web page.

The Printer List Page

Click **Printer List Page**. The Printer List web page appears and lists the same printers found in the database pane. See Figure 84.

This page will refresh once a minute. Time: 15:11

Sort Printers by

Printer ID	Address	Status	Message	Configuration	Operator Panel	Speed Keys	ODV Quality Wizard	Printer Web Page
Thermal	10.224.2.35	ERROR	Thermal (Building A) OFFLINE:POWER SAVER MODE	Current	Open	Open	Open	Open
Line Matrix	10.224.2.29	OK	Line Matrix (Building B) ONLINE:ETHERNET/PGL/LP+	Current	Open	Open	Open	Open

Figure 84. The Printer List Web Page

By default, printers are sorted by Status (Errors). You can also sort printers by Status (Warnings), Status (Online), Address (Ascending), and Address (Descending).

In the above example, the thermal printer displays an error because it is offline. Any printer not ready to print displays an error status.

For an explanation of the Printer List Page options, find the option in Table 4 and follow the corresponding reference.

Table 4. Printer List Page Options

Web Page Option	Reference
Configuration	displays the printer's current configuration
Operator Panel	page 98
Speed Keys	page 106
ODV Quality Wizard	page 105
Printer Web Page	opens the Ethernet Interface Home Page; refer to chapter three of the <i>Ethernet Interface User's Manual</i>

NOTE: Administrators and Supervisors can access all five options. Standard users can access only Configuration and Printer Web Page.

Changing User Settings, IP Addresses, and IP Address Ranges

The PpmLogin.xml file, located in the PMU program directory, contains user settings and the included/excluded IP addresses and IP address ranges. See Figure 85.

To modify this file, open it using a text editor.

IMPORTANT The PpmLogin.xml file should only be modified by expert users. Incorrect entries in this file could render the Web Server service unusable.

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE ppmXML (View Source for full doctype...)>
- <ppmXML>
- <LoginDatabase>
  <!-- For some user to access the printer information, they need to be
  added by userid. -->
  <!-- The IP address of their machine also needs to be authorized. -->
- <UserDatabase>
  <!-- All the user names, their privilege type (standard, super, admin)
  needs to be added here -->
  <userid password="standard" privilege="standard">standard</userid>
  <userid password="super" privilege="super">super</userid>
  <userid password="admin" privilege="admin">admin</userid>
</UserDatabase>
- <MachineDatabase>
  <!-- Individual address can be included or excluded from accessing the
  printer information. -->
  <!-- ipAddressIncluded and ipAddressExcluded are used for individual
  addresses. -->
  <ipAddressIncluded>10.22.1.121</ipAddressIncluded>
  <ipAddressExcluded>100.100.100.100</ipAddressExcluded>
  <!-- Use ipAddressIncludeRange and its start and end attributes to
  define the access range. -->
  <ipAddressIncludeRange start="00.00.00.00" end="255.255.255.255" />
  <!-- Use ipAddressExcludeRange and its start and end attributes to
  define the invalid access range. -->
  <ipAddressExcludeRange start="00.00.00.00" end="00.00.00.1" />
</MachineDatabase>
</LoginDatabase>
</ppmXML>
```

Figure 85. The PpmLogin.xml File

User Settings

The user name, password, and privilege category are defined in the <UserDatabase> section of the file.

```
- <UserDatabase>
  <!-- All the user names, their privilege type (standard, super, admin)
  needs to be added here -->
  <userid password="standard" privilege="standard">standard</userid>
  <userid password="super" privilege="super">super</userid>
  <userid password="admin" privilege="admin">admin</userid>
</UserDatabase>
```

The diagram shows three arrows pointing from labels above to specific attributes in the XML code: 'Password' points to 'password', 'Privilege category' points to 'privilege', and 'User name' points to the text value of the 'userid' element.

Figure 86. User Login Parameters

Password: Defines the password for the designated user name. When you change the password using the Change Password web page, this information updates.

Privilege Category: Defines the privilege for the designated user name. The available options are: standard, super, and admin.

User name: Defines the user name. You can only change the user name by modifying this attribute.

You can add additional users by duplicating the following line in the <UserDatabase> section:

```
<userid password="standard" privilege="standard">
standard</userid>
```

IP Addresses and IP Address Ranges

You can define which IP addresses are available to the PMU for access. Any IP address not included or defined in the included range will be unavailable to the PMU. In addition, any IP address excluded or defined in the excluded range will also be unavailable. The included and excluded IP addresses are defined in the <MachineDatabase> section of the file.

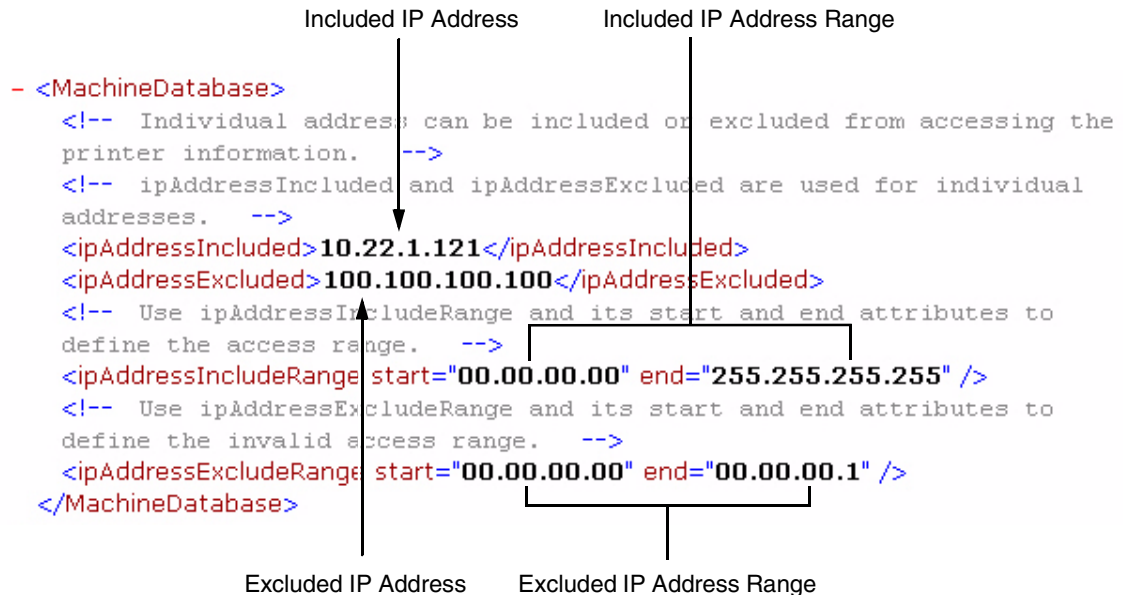


Figure 87. Include/Exclude IP Address Options

Address Included: Defines which IP address to include.

Address Excluded: Defines which IP address to exclude.

Address Include Range: Defines the range of IP addresses to include.

Address Exclude Range: Defines the range of IP addresses to exclude.

You can add additional included/excluded IP addresses or IP address ranges by duplicating the corresponding lines in the <MachineDatabase> section:

```

<ipAddressIncluded>10.22.1.121</ipAddressIncluded>
<ipAddressExcluded>100.100.100.100</ipAddressExcluded>
<ipAddressIncludeRange start="00.00.00.00"
end="255.255.255.255"></ipAddressIncludeRange>
<ipAddressExcludeRange start="00.00.00.00"
end="00.00.00.1"></ipAddressExcludeRange>

```

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