



7130cdn Professional Color Printer
System
Administrator
Guide



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Overview

1

This chapter includes:

- [Resources](#)
- [Status Monitor Alerts](#)
- [Online Diagnostics Technical Support](#)
- [Embedded Web Server](#)
- [Finding the Printer's IP Address](#)
- [Finding the Printer's Serial Number](#)

Resources

You can obtain information regarding your printer and its capabilities from the following resources.

Information	Source
<i>Installation Guide*</i>	Packaged with printer
<i>Quick Use Guide*</i>	Packaged with printer
<i>User Guide (PDF)*</i>	Packaged with printer (<i>Software and Documentation CD</i>)
Product Information Guide	Packaged with printer (<i>Software and Documentation CD</i>)
Video Tutorials	www.support.dell.com
Online Diagnostics	www.fixyourprinter.com/printerdiagnostics
Technical Support	www.support.dell.com
Information about menu selection or error messages on the control panel	Control panel Help (?) button
Information pages	Control panel menu
*Also available on the Support website.	

Status Monitor Alerts

Status Monitor software is installed with the Dell printer driver. It automatically checks the printer status when a print job is sent. If the printer is unable to print a job, Status Monitor displays an alert on your computer screen to let you know that the printer needs attention. You can click the alert to view instructions explaining how to fix the problem. Status Monitor provides real-time support to users, while eliminating many of the help calls requesting printer support. Status Monitor saves you time for more critical tasks.

Online Diagnostics Technical Support

Online Diagnostics Technical Support is an automated, Internet-based support system that uses your default Web browser to send diagnostic information from your printer to the Dell website for analysis. Online Diagnostics Technical Support examines the information, diagnoses the problem, and proposes a solution. If the problem is not resolved with the solution, Online Diagnostics Technical Support assists you in opening a Service Request with Customer Support.

Online Diagnostics provides support to users, while eliminating many of the help calls requesting printer support. Online Diagnostics Technical Support saves you time for more critical tasks.

Accessing Online Diagnostics

Use one of the following options to access Online Diagnostics Technical Support:

- Status Monitor
- Dell website
- Embedded Web Server (EWS)
- The printer driver

Using Status Monitor Software

If Status Monitor displays an alert on your screen, do the following:

1. Click the alert to view instructions explaining how to fix the problem.
2. Follow the instructions on the screen.

Using a Web Browser

To access Online Diagnostics Technical Support from the Web:

1. Open your browser and go to www.fixyourprinter.com/printerdiagnostics.
2. Enter your printer's IP address in the browser window. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Follow the instructions on the screen.

Using the Embedded Web Server

To access Online Diagnostics Technical Support from the Embedded Web Server:

1. Launch your Web browser.
2. Enter your printer's IP address in the browser's **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click the **Support** tab.
4. Select the **Online Diagnostic Tool** link.
5. Follow the instructions on the screen.

Using a Windows Printer Driver

To access Online Diagnostics Technical Support from your printer driver:

1. Select **Start**, and then select **Printer and Faxes**.
2. Right-click the printer name, and then select **Printing Preferences**.
3. Click the **Advanced** tab.
4. Click the **Dell Web Links** button.
5. Select the **Online Diagnostics Technical Support** link.
6. Follow the instructions on the screen.

Embedded Web Server

The Embedded Web Server (EWS) enables you to easily manage, configure, and monitor network printers using a Web browser on a network computer. EWS gives administrators access to printer status, configuration, security settings, and diagnostic functions. It also provides access to special printing functions such as printing saved jobs.

The EWS enables you to:

- Check supplies status from your computer, saving a trip to the printer. Access job accounting records to allocate printing costs and plan supplies purchases.
- Define a network printer search and view a list of printers using Printer Neighborhood. The list provides current status information and allows you to manage printers independent of network servers and operating systems.
- Configure printers from your computer. The EWS makes it easy to copy settings from one printer to another.
- Set up and use a simple Web browser-based printing system. Marketing collateral, sales materials, business forms, or other standardized, frequently used documents can be saved as a group with their original driver settings then reprinted on demand at high speed from any user's browser. A printer with a hard drive is required to support these functions. In some printer models, a cdn configuration is required to support these functions.
- Troubleshoot print-quality problems using built-in diagnostics.
- Define a link to your local Web server's support page.
- Access online manuals and technical support information located on the Dell website.

Note: The EWS requires a Web browser and a TCP/IP connection between the printer and the network (in Windows, Macintosh, or UNIX environments). TCP/IP and HTTP must be enabled in the printer. JavaScript is required to access the pages in Printer Neighborhood. If JavaScript is disabled, a warning message appears and the pages may not function properly.

For complete information about the EWS, click the **Help** button in the EWS to go to the *EWS Online Help*.

Finding the Printer's IP Address

To access your printer's settings from Online Diagnostics, and to install the printer drivers for a network-connected printer, you need to know your printer's IP address. The printer's IP address is printed on the Configuration page and appears on the printer control panel.

To print the Configuration page:

1. On the printer control panel, select **Information**, then press **OK**.
2. Arrow down to **Information Pages**, then press **OK**.

The printer's IP address is listed in the TCP/IPv4 or TCP/IPv6 section of the page.

Note: The first time you plug in your printer, it will automatically print the Configuration page. If the IP address listed on the page is 0.0.0.0, the printer has not had time to acquire an IP address from the DHCP server. Wait a minute or two and then print the Configuration page again.

To get the printer's IP address from the printer control panel:

1. On the printer control panel, select **Information**, then press **OK**.
2. Arrow down to **Printer Identification**, then press **OK**.
3. Arrow down to **TCP/IPv4** or **TCP/IPv6**.

The printer's IP address is displayed.

Finding the Printer's Serial Number

To find the printer's serial number:

1. On the printer's control panel, select **Information > Printer Identification**.
2. The serial number is displayed.

Network Installation Features

2

This chapter includes:

- [Using a Startup Network Configuration File](#)
- [Printer Driver Installation Features](#)
- [Discovery Protocols](#)

Using a Startup Network Configuration File

This section includes:

- [About the Configuration File](#)
- [Configuration File Requirements](#)
- [Specifying the Location of the Configuration File](#)

About the Configuration File

To configure printer settings or to perform other tasks, such as loading fonts, color tables, and job patches, you can create a startup network configuration file. Every time the printer is turned on or reset, the TFTP service on the TFTP server downloads the configuration file once an IP address is acquired and confirmed in the printer. The TFTP service processes the data in the configuration file as if it were a standard print job.

Configuration File Requirements

The configuration file must be:

- A valid PostScript or PCL file that contains the appropriate PostScript, PCL, or PJJ commands. For a list of additional PCL and PJJ commands, see [Printer Commands](#) on page 69.
- Stored on a TFTP server that the printer can access over the TCP/IP network.

Specifying the Location of the Configuration File

To specify the location of the configuration file, do one of the following:

- If the printer is connected to a TCP/IP network in a DHCP/BOOTP environment:
 - Use DHCP option 66 to specify the TFTP server IP address or host name.
 - Use DHCP option 67 to specify the pathname of the configuration file.For information on how to set these parameters, refer to your DHCP or BOOTP server documentation.
- If the printer is connected to a TCP/IP network in a non-DHCP environment, use the EWS.

Using the EWS

1. Click the **Properties** tab and expand the **Protocols** menu.
2. Select **TFTP**.
3. On the **TFTP Settings** page, set the following:
 - In the **TFTP Server Name** field, type the TFTP server IP address or host name.
 - In the **Boot File Name** field, type the pathname of the configuration file.
4. Click the **Save Changes** button.

For more information, click the **Help** button to view the *EWS Online Help*.

Printer Driver Installation Features

Installation from the Printer's Hard Drive or the Web

You can install the printer driver from the printer's hard drive. This is especially useful if you do not have the *Software and Documentation CD*.

Note: If the printer doesn't have a hard drive but is connected to the Internet, you can use this procedure to automatically connect to the Web to install the driver.

To install the printer driver either from the hard drive or the Web:

1. Launch your Web browser.
2. Enter your printer's IP address in the browser's **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Support**.
4. Select **Software Installation** on the left navigation pane.
5. Select the **Printer Management Software** link.
6. Click the **Drivers Home** link and follow the instructions on the page to install the driver.

Auto-Configuring Driver

During installation, the bi-directional communication between the driver and a printer connected to a network identifies the printer's configuration and the features available with the configuration, such as automatic 2-sided printing capability, additional trays, or a hard drive. The controls for settings, such as 2-sided printing, tray selection, and secure printing are displayed or hidden/unavailable, and the image displays the correct printer configuration. This driver feature prevents users from making incorrect selections during installation.

Walk-Up[®] Installation

The Dell Installer enables quick and easy installation of the printer driver. The installer is included on the *Software and Documentation CD*, supplied with the printer, and is available on the Web. When you run the installer, the main screen lists the Dell printers of that model discovered on the network or connected using USB. You can choose one of the discovered printers, type in the IP address of the desired printer, or use Walk-Up Technology. This technology is especially helpful when there is more than one Dell printer on the discovered printers list and you do not know the printer's IP address.

To use Walk-Up installation:

1. On the main installer screen, select **Walk-Up Technology**, then click the **Next** button.
2. On the printer control panel, select **Walk-Up Features > Select for Installation**.

The installer connects the computer to the printer, completes the driver installation, then the printer prints a confirmation page.

Discovery Protocols

This section includes:

- [DNS/WINS](#)
- [Service Location Protocol](#)
- [UPnP \(Universal Plug and Play\)](#)
- [WSD \(Web Services on Devices\)](#)

DNS/WINS

DNS/WINS settings can be obtained from the BOOTP or DHCP server, if enabled. These settings enable the printer to register its IP name and address so other devices on the network can refer to it by name.

Note: Dynamic DNS lets you specify whether the printer will update the DNS server. This should be enabled only if your DNS server supports dynamic address updates.

To change the DNS/WINS settings:

1. Launch your Web browser.
2. Type your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click the **Properties** tab.
4. On the left navigation pane, expand the **Protocols** folder.
5. Select **TCP/IP**.
6. If prompted, type your Admin or Key User name and password.
7. At the top of the **Properties** tab, click **DNS/WINS**.
8. On the **DNS/WINS Settings** page, you can modify the DNS/WINS settings. Follow the instructions on the page.
9. Click the **Save Changes** button.

For more information, including a description of the fields, click the **Help** button at the top of the EWS page to view the *EWS Online Help*.

Service Location Protocol

To change the configuration of the Service Location Protocol (SLP) Service Agent in the printer:

1. Launch your Web browser.
2. Type your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Protocols** folder.
5. On the left navigation pane, select **SLP**.
6. If prompted, type in your Admin or Key User name and password.

7. Under **Service Location Protocol (SLP) Settings**, in the **SLP Enable** field, select **On** or **Off**.
8. If you selected **On**, follow the instructions on the page.
9. Click the **Save Changes** button.

For more information, including a description of the fields, click the **Help** button at the top of the EWS page to view the *EWS Online Help*.

UPnP (Universal Plug and Play)

UPnP provides a simplified method to obtain an IP Address for a printer, locate devices on the network, and display those devices on desktop computers.

1. Launch your Web browser.
2. Type your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Protocols** folder.
5. If prompted, type in your Admin or Key User name and password.
6. On the left navigation pane, select **UPnP**.
7. On the **UPnP Settings** page, in the **SSDP Enable** field, select **On** or **Off**:
 - **On**: Will enable the printer to send and receive SSDP (Simple Device Discovery Protocol) announcements and requests.
 - **Off**: The printer will not issue nor respond to SSDP requests.
8. In the **SSDP TTL** field, set the **SSDP TTL** value. This value specifies the multicast radius, often referred to as *hop count* or *time-to-live*, for SSDP. The valid range is between 0-255.
9. Click the **Save Changes** button.

WSD (Web Services on Devices)

Web Services on Devices (WSD) is technology from Microsoft that provides a standard method for discovering and using network connected devices. It is supported in Windows Vista and Windows Server 2008 operating systems. WSD is one of several supported communication protocols.

1. Launch your Web browser.
2. Type your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Protocols** folder.
5. On the left navigation pane, select **WSD**.

Network Installation Features

6. If prompted, type in your Admin or Key User name and password.
7. On the **WSD Settings** page, you can modify the WSD settings. Follow the instructions on the page.
8. Click the **Save Changes** button.

For more information, including a description of the fields, click the **Help** button at the top of the EWS page to view the *EWS Online Help*.

Network Administration Features

3

This chapter includes:

- [Printer Neighborhood](#)
- [Job Accounting](#)
- [Usage Profile Reports](#)
- [Protocol Control](#)
- [Cloning](#)

Printer Neighborhood

Printer Neighborhood is a function in the EWS that enables you to search for printers on your network, check their status, and manage them remotely. You can also install and manage printers, and view printer usage information. Access to the embedded server in each printer enables you to perform other management tasks.

The default printer search mode is **Quick Search**, which quickly finds the Dell printers on your local subnet. To search for all types of printers or to change other defaults, click the **Preferences** tab.

Note: JavaScript is required to access and use pages in Printer Neighborhood. If JavaScript is disabled, a warning message is displayed and the pages may not function properly.

To access Printer Neighborhood:

1. Launch your Web browser.
2. Type your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. At the top of the page, click the **Printer Neighborhood** button.
A list of network printers is displayed.

Job Accounting

Job accounting is available through the EWS. The printer stores information about print jobs. The log file is stored either in the printer's RAM memory or on the hard drive if one is installed in the printer. Each job record contains fields such as user name, job name, pages printed, job times, and toner or ink used. Not all fields are supported by all printers. For more information about the fields supported, go to the *EWS Online Help*.

The job accounting values reported vary depending on the protocol and print command used when each job was printed. For example, using NPRINT over NetWare provides the printer with the most information about the job being printed. When using Windows and NetWare, the job name is often LST: or LST:BANNER. Other jobs from other ports may provide even less information about the job.

Dell recommends that a hard drive be used for job accounting.

- With a hard drive, the printer can store information about 5000 print jobs. The data in the log file is saved when the printer is turned off or reset.
- Without a hard drive, the printer can store information about the most recent 500 print jobs. The data in the log file is not saved when the printer is turned off or reset.

Note: Data in job accounting records may be a security risk because the names of users, as well as the titles, date, time, and length of printed jobs can be exposed. The content of print job pages is not stored in the job accounting system.

Job accounting can be enabled or disabled through the EWS.

Using the EWS to Access Job Accounting

To access job accounting information using the EWS:

1. Launch your Web browser.
2. Type the printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click the **Jobs** tab.

The Jobs Accounting Links page is displayed.

The Job Accounting Links page provides links that enable you to browse, download, clear, or disable job accounting records. For complete information on the EWS job accounting, including clearing job information, downloading job information to a file, and job accounting file formats, click the **Help** button in the EWS to view the *EWS Online Help*.

To Enable or Disable Job Accounting

1. Launch your Web browser.
2. Type the printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click the **Properties** tab.
4. On the left navigation pane, select **Security**.
5. On the left navigation pane under Security, select **Printing Security Settings**.
6. In the **Job Accounting Record** field, enabled is checked by default. To disable all job accounting, uncheck the **enabled** check box.
7. Click the **Save Changes** button.

Usage Profile Reports

Usage Profile reports provide information on many aspects of printer usage gathered during the life of the printer.

Usage Profile reports track multiple items, including:

- Printer information, such as printer name, date installed, total pages printed, options installed, and network ID.
- Supplies usage data, such as toner or ink. By tracking supplies usage, you can order supplies before they reach their end of life.
- Media and tray information, such as how often prints are made on paper compared to transparencies, and how often each tray is used.
- Job characteristics, such as size and timing of jobs.

The reports are accessible through the EWS. From the Usage Profile Properties page, you can view or print a report, and also send it to an email address or to users who are specified in the page.

Setting Up Usage Profile Reporting

To set up usage profile reporting:

1. Launch your Web browser.
2. Type the printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click the **Jobs** tab.
4. On the left navigation pane, click the **Usage Profile Reports** link.
5. Follow the instructions on the page to set up reports.
6. Click the **Save Changes** button.

For more information, including a description of the report fields, click the **Help** button in the EWS to view the *EWS Online Help*.

Sending Usage Profile Reports

To send a usage profile report using the EWS:

1. Launch your Web browser.
2. Type the printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click the **Jobs** tab.
4. On the left navigation pane, select **Usage Profile Reports**.
5. Select the **Send to Specific Address** option and then type the desired email address in the **Send to Specific Address** field.
6. Click the **Send Usage Profile Report** button.

Note: To send usage profile reports using email, MaiLinX must be properly set up. See [MaiLinX Remote Printing](#) on page 32.

Protocol Control

This section includes:

- HTTP
- TCP/IP
- Port 9100
- LPR
- IPP (Internet Printing Protocol)
- SNMP (Simple Network Management Protocol)
- FTP (File Transfer Protocol)
- Email Server or SMTP (Simple Mail Transfer Protocol)
- MaiLinX Remote Printing
- MaiLinX Alerts

See also:

[Discovery Protocols](#) on page 18

All network protocols, including network printing, printing services, printer discovery, and management protocols can be enabled or disabled on the printer. If a protocol is enabled, you can set configuration parameters.

Note: To secure protocols, disable any protocols you are not using. This prevents unauthorized access through applications that use these protocols. For example, if you want to use IPP for a secure printing channel, disable the other printing protocols, Port 9100 and LPR.

HTTP

By default, HTTP is enabled. For information on disabling HTTP, see the Dell Technical Support website www.support.dell.com.

See also:

[HTTP, HTTPS, and SSL/TLS](#) on page 38

TCP/IP

Both IPv4 and IPv6 are supported. If both are turned off, you will lose access to the EWS.

To change TCP/IP settings:

1. Launch your Web browser.
2. Type your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, expand the **Protocols** folder.
5. Select **TCP/IP**.
6. If prompted, type in your Admin or Key User name and password.
7. Ensure you are on the **TCP/IP (v4) Settings** page (if necessary, click the **TCP/IP (v4)** link at the top of the page).
8. For changing **TCP/IP (v6)** settings, refer to the help: click the **Help** button in Online Diagnostics to view the *EWS Online Help*.
9. In the **BOOTP/DHCP** field, select one of the following:
 - **On**: The printer issues BOOTP and DHCP requests on startup.
 - **Off**: The printer does not issue BOOTP or DHCP requests on startup.
10. Click the **Save Changes** button.

Port 9100

The Port 9100 protocol is also known as AppSocket, RAW, or Windows TCPmon.

To change Port 9100 settings:

1. Launch your Web browser.
2. Type your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, expand the **Protocols** folder.
5. Select **Port 9100**.
6. If prompted, type in your Admin or Key User name and password.
7. In the **Port 9100** field, select **On** or **Off**.
8. If you selected **On**, follow the instructions on the page to select Port 9100 settings. For more information, including a description of the fields, click the **Help** button in the EWS to view the *EWS Online Help*.
9. Click the **Save Changes** button.

LPR

LPR is an application-level printing protocol that uses TCP/IP to establish connections between printers and workstations on a network.

To change LPR settings:

1. Launch your Web browser.
2. Type your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Protocols** folder.
5. Select **LPR**.
6. If prompted, type in your Admin or Key User name and password.
7. In the **LPR** field, select **On** or **Off**.
8. If you selected **On**, follow the instructions on the page to select LPR settings. For more information, including a description of the fields, click the **Help** button in the EWS to view the *EWS Online Help*.
9. Click the **Save Changes** button.

IPP (Internet Printing Protocol)

IPP is an industry standard protocol for printing as well as managing print jobs and media sizes, and supports authentication and encryption, making it a capable and secure printing solution. IPP is an IP-based protocol used locally or over the Internet.

Note: To configure IPP for secure/encrypted printing, specify a user name, password, and digest authentication (for Windows only). Every client that tries to print to the printer over IPP must enter this information. The user name and password are sent in plain text to the printer. If you specify digest authentication, the password is secured before it is sent to the printer.

To change IPP settings:

1. Launch your Web browser.
2. Type your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Protocols** folder.
5. Select **IPP**.
6. If prompted, type in your Admin or Key User name and password.
7. Select **On** or **Off** in the **IPP (Internet Printing Protocol)** field.
8. If you selected **On**, follow the instructions on the page to select IPP settings. For more information, including a description of the fields, click the **Help** button in the EWS to view the *EWS Online Help*.
9. Click the **Save Changes** button.

SNMP (Simple Network Management Protocol)

Simple Network Management Protocol (SNMP) is used in network management systems to monitor network-attached devices for conditions that require administrative attention. It consists of a set of standards for network management including an application layer, a database schema, and a set of data objects. Agents, or software modules, reside in the printer's SNMPv3 engine. A manager is an SNMPv3 management application such as OpenView, that is used to monitor and configure devices on the network. The agent responds to read (GET) and write (SET) requests from the manager and can also generate alert messages, or Traps, based on certain events.

SNMP settings can be configured in the EWS. You can also enable or disable Authentication Failure Generic Traps on the printer. SNMPv3 can be enabled to create an encrypted channel for secure printer management.

If your printer is locked, you must log in as a system administrator. For details, see [Embedded Web Server](#) on page 12.

For information on configuring SNMP, see [Configuring SNMP](#) on page 53.

FTP (File Transfer Protocol)

FTP is a protocol for exchanging files over any network supporting the TCP/IP protocol, such as the Internet or an intranet. You can use FTP to send print-ready files to the printer or to retrieve job accounting records from the printer.

To change FTP settings:

1. Launch your Web browser.
2. Type your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, expand the **Protocols** folder.
5. Select **FTP**.
6. If prompted, type in your Admin or Key User name and password.
7. Select **On** or **Off** in the **FTP** field.
8. If you selected **On**, follow the instructions on the page to select FTP settings. For more information, including a description of the fields, click the **Help** button in the EWS to view the *EWS Online Help*.
9. Click the **Save Changes** button.

Retrieving the Job Accounting file via HTTP or FTP

To access the job accounting file using FTP:

1. Connect to your printer via FTP using the following command **FTP Printer_IP_Address**.
2. Type **get jobacct.log** to retrieve the job accounting file.

Note: The files on the printer cannot be displayed using the dir/lsc commands.

To access the job accounting file via HTTP:

Type **http://Printer_IP_Address/jobacct.dat** in your Web browser.

Email Server or SMTP (Simple Mail Transfer Protocol)

The Email Server settings page enables you to configure email server settings and to specify a return email address for undeliverable email.

You can configure email server settings in the EWS by one of the following methods:

- Automatically identifying the SMTP email server (recommended),
- Manually specifying the SMTP email server.

You can also specify a return email address for undeliverable email, such as MailinX alerts and usage profile reports, to your email address.

To configure email server settings:

1. Launch your Web browser.
2. Type the printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Protocols** folder.
5. Select **Email Server**.
6. If prompted, type in your Admin or Key User name and password.
7. Do one of the following:
 - To automatically identify the SMTP email server, click the **Use DNS to Identify SMTP Server (Automatic)** option and then type in the **Primary Name Server IP Address** and the **Secondary Name Server IP Address** using the 4-byte IP address of the email server.
 - To manually specify the SMTP email server, click the **Specify SMTP Server Manually** option and then type in the information for the email server into the field provided. Set the 4-byte IP address of the SMTP Email Server to send alert notifications. If there is no DNS server, then only the IP Address is allowed.

- (Optional) To specify an email address for returning undeliverable email, type your email address in the **Return Email Address** field.
- Click the **Save Changes** button.

See also:

[MaiLinX Alerts](#) on page 33

[Usage Profile Reports](#) on page 25

MaiLinX Remote Printing

MaiLinX Remote Printing provides the following key features:

- The ability to send print jobs to a group of printers.
- Print services across firewalls and proxies.
- Status reporting using email messages.

MaiLinX Remote Printing consists of two parts:

- Client software installed on each user's workstation or PC enables users to send print jobs from Windows applications to Dell printers over the Internet. The client software enables users to set up their Internet-connected printers and create groups and subgroups of printers for easy distribution of print jobs.
- An EWS Printing Service on a Dell printer processes the print jobs from the clients.

System Requirements

- The client software requires an SMTP-capable email server/forwarder through which the client software on the user's computer can send email.
- Each printer requires an account on a POP3-capable email server from which it can retrieve email.

Setting Up MaiLinX Remote Printing

To set up your printer for remote printing:

- Launch your Web browser.
- Type the printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
- Click **Properties**.
- On the left navigation pane, select the **Protocols** folder.
- Click **Remote Printing**.
- If prompted, type in your Admin or Key User name and password.
- In the **MaiLinX Remote Printing** field, select **On**.
- Follow the instructions on the **MaiLinX Remote Printing** page to set up your printer for remote printing. For more information including a description of the fields, click the **Help** button in the EWS to view the *EWS Online Help*.
- Click the **Save Changes** button.

MaiLinX Alerts

MaiLinX alerts enable the printer to automatically send email to you or specified users under the following conditions:

- When the printer requires attention or when service is needed.
- When the printer displays an error, warning, or alert.
- When a reply to MaiLinX Remote Printing message is desired.

For more information, click the **Help** button in the EWS to go to the *EWS Online Help*.

Setting Up MaiLinX Alerts

To enable MaiLinX alerts:

1. Launch your Web browser.
2. Type the printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select **Mail Alerts**.
5. If prompted, type in your Admin or Key User name and password.
6. In the **MaiLinX (and Usage Profile Properties)** field, select **On**.
7. Follow the instructions on the page to specify up to three users to receive messages: Admin, Key User, and Service.
8. Under **Advanced Settings**, you can also select advanced settings for:
 - Specifying email server settings.
 - Reading or changing default messages.
 - Reading or changing conditions and trigger settings.
9. Click the **Save Changes** button.

EtherTalk

To change EtherTalk settings:

1. Launch your Web browser.
2. Type the printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Protocols** folder.
5. Select **EtherTalk**.
6. If prompted, type in your Admin or Key User name and password.
7. In the **EtherTalk** field, select **On** or **Off**.
8. If you selected On, follow the instructions on the page to select EtherTalk options. For more information, including a description of the fields, click the **Help** button in the EWS to view the *EWS Online Help*.
9. Click the **Save Changes** button.

Cloning

Cloning enables you to configure one printer and then copy that configuration to another printer on the same network. Use the EWS to select the settings you want to clone from one printer to another.

To clone settings from one printer to another printer using the EWS:

1. Launch your Web browser.
2. Type your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select **Clone Printer**.
5. If prompted, type in your Admin or Key User name and password.
6. On the **Clone Printer** page, select the settings you want to clone from the source printer or click **Check All** to select all the settings. The settings are:

802.1X	ColorTrack
Control Panel Lockout	Custom Paper Types
Date and Time	DNS/WINS
Email Server	E-Supplies
EtherTalk	FTP
HTTPS	Information Forwarding
Input Trays	Interfaces
IPP	IPsec
LPR	Mail Alerts
PCL	Port 9100
PostScript	Printer Defaults
Printing Security Settings	Remote Printing
Security	SLP
SNMP	TCP/IP Settings
TCP/IP (v6) Settings	TFTP
UPnP	Usage Profile Properties
Warmup	Web Links

7. Type the IP address or DNS Name of the destination printer in the **IP Address or DNS Name** field.

8. (Optional) To assign a printer name to the destination printer, type this name in the **Printer Name (SNMP System Name)** field.
9. If the destination printer is located in a different domain/zone, modify the information in the **EtherTalk Zone** and/or **IP Domain Name** fields.
10. Click the **Clone Selected Settings** button.
A list of the selected settings to clone is displayed.
11. Click the **Clone** button to clone the destination printer with the selected settings from the source printer.

Security Features

4

This chapter includes:

- [Basic Concepts](#)
- [Securing the Printer in a High-Security Environment](#)
- [Managing Certificates](#)
- [Configuring SSL](#)
- [Configuring Administrator and Key User Settings](#)
- [Configuring the Print Host Access List](#)
- [Securing the Hard Drive](#)
- [IPsec](#)
- [Configuring 802.1X](#)
- [Locking the Control Panel Menus](#)
- [Configuring SNMP](#)

Basic Concepts

This section includes:

- [Admin and Key User Accounts](#)
- [HTTP, HTTPS, and SSL/TLS](#)
- [Certificates](#)
- [ColorTrack Lists](#)

Admin and Key User Accounts

Admin and Key User accounts in the EWS enable you to limit access to specific printer functions by specifying passwords for user classes. The EWS requires a name and password before access to the controlled printer functions is allowed.

The user classes are:

- **Administrator:** The person with the ultimate management responsibility and authority for controlling some or all of the printer functions.
- **Key User:** A person who has some administrative responsibilities and who manages some or all of the printer functions.
- **Any User:** Includes the majority of people who will be sending print jobs to the printer.

Once the passwords are set, select the printer functions from the Feature Authorization list that each user class has the right to access. The three categories of printer functions are:

- Administrative
- Web Server Printing
- Printer Neighborhood

See also:

[Configuring Administrator and Key User Settings](#) on page 44

HTTP, HTTPS, and SSL/TLS

HTTP (Hyper Text Transfer Protocol) is used to communicate across the Internet between the printer Web server and the Web browser (clients). Because the data is transmitted in plain text and passwords are only slightly encrypted, it is not secure; the data can be read or intercepted by other people.

HTTPS (Secure Hyper Text Transfer Protocol) is a secure version of HTTP. HTTPS provides authentication and encrypted communication to preserve the confidentiality of your data. Instead of using plain text, HTTPS uses either the SSL (Secure Socket Layer) protocol or the TLS (Transport Layer Security) protocol to encrypt data, thus ensuring reasonable protection from eavesdroppers and man-in-the-middle attacks.

Before using HTTPS, you must set up a certificate and select when to use SSL to encrypt data. You can set the printer to use SSL either to secure Web pages that use passwords or to secure all Web pages.

See also:

[Certificates](#) on page 39

[Managing Certificates](#) on page 42

[Configuring SSL](#) on page 43

Certificates

A certificate is an electronic message containing information about the printer and a digital signature.

Before configuring passwords, set up a certificate and then configure SSL to encrypt data, including passwords, for maximum security. You can set up a self-signed certificate or download a root-signed certificate, depending on your requirements.

Device Certificates

A device certificate is stored in the printer and is used to validate the identity of the printer to clients and network servers and to allow encrypted communication. If you do not install a device certificate signed by a Certificate Authority (CA), a default self-signed device certificate is automatically established on the printer when it is needed. A CA signed device certificate is needed to log into the network when using 802.1X EAP authentication with TLS.

Self-Signed Certificates

Setting up a self-signed certificate is a quick and easy way to establish a certificate on the printer. The printer automatically generates a default self-signed certificate when the printer is turned on for the first time. To modify the certificate so it is specific to your printer, use the EWS to enter information about the location of the printer.

While self-signed certificates are safe for most applications and allow data encryption, they do not ensure valid authentication. Self-signed certificates are not necessarily secure because the certificate owner is only confirming his own identify instead of verification by a trusted third party. Although self-signed certificates encrypt the data that is exchanged, they do not prevent man-in-the-middle attacks.

If you want to use HTTPS, each printer must have a unique certificate that is accepted by each browser used to access the printer. This allows the printer Web server to use HTTPS and encrypt data between the Web browser and the printer. In addition, because each printer's certificate is unique, you must load a different certificate into the browser for each printer the browser will access.

Root-Signed Certificates

Root-signed certificates are from a trusted Certificate Authority (CA). Using a certificate signed by a CA enables you to load one certificate into each browser, allowing access to all printers. Certificates from a trusted third party are considered more secure than self-signed certificates. Unlike self-signed certificates, root-signed certificates are not susceptible to man-in-the-middle attacks.

See also:

[Managing Certificates](#) on page 42

[Configuring SSL](#) on page 43

ColorTrack Lists

ColorTrack lists enable you to limit access to devices, as well as device configuration and management features. By default, ColorTrack lists are unrestricted, which means all computers and host systems are allowed access.

The printer has four ColorTrack lists that may be configured using the EWS:

- **Print Host Access List:** The computers from which users can print. For information on setting up the Print Host Access List, see [Configuring the Print Host Access List](#) on page 45.
- **Administrator Access List:** The computers from which you can change printer settings. For information on setting up the Administrator Access List, see [Configuring Administrator and Key User Settings](#) on page 44.
- **Key User Access List:** The computers from which key users can change printer settings. For information on setting up the Key User Access List, see [Configuring Administrator and Key User Settings](#) on page 44.
- **SNMP ColorTrack List:** The host machines that are authorized to access the printer using SNMP. For information on setting up the SNMP Access List, see [Configuring the SNMP ColorTrack List](#) on page 58.

Securing the Printer in a High-Security Environment

If you are concerned about the security of your printer in a high-security environment, such as a college or printing kiosk, you can configure settings in the EWS to fully secure the printer. If you are not concerned about the security of your printer, you may only need to set up a certificate and then configure SSL to encrypt data including passwords.

To fully secure a printer:

1. In the EWS, set up a certificate. For details, see [Managing Certificates](#) on page 42.
2. Select when to use SSL, see [Configuring SSL](#) on page 43.

Note: The following steps may be completed in any order.

3. Select the **Administrator and Key User Settings**. For details, see [Configuring Administrator and Key User Settings](#) on page 44.

Note: To prevent users from changing settings, clear the **Modify Configuration Web Pages** check box. To prevent users from viewing settings, clear the **View Configuration Web Pages** check box.

4. Set up the Print Host Access List. For details, see [Configuring the Print Host Access List](#) on page 45.
5. Set up the removal of Unprinted Personal, Secure, and Proof Print Jobs. For details, see [Selecting the Automatic Removal of Secure, Personal, and Proof Jobs Option](#) on page 47.
6. Select the **Hard Drive Overwrite** option. For details, see [Securing the Hard Drive](#) on page 46.
7. Select the **Jam Recovery** option. For details, see [Jam Recovery](#) on page 62.
8. Lock the control panel menus. For details, see [Locking the Control Panel Menus](#) on page 52.
9. Configure SNMP. For details, see [Configuring SNMP](#) on page 53.
10. Disable unused protocols. For details, see [Protocol Control](#) on page 27.
11. Disable **Job Accounting**. For details, see [To Enable or Disable Job Accounting](#) on page 24.

Note: To secure protocols, disable any protocols you are not using. This prevents unauthorized access through applications that use these protocols. For example, if you want to use IPP for a secure printing channel, disable the other printing protocols, Port 9100 and LPR. Disabling some protocols also disables some printer functions, such as printer discovery and Status Monitor.

Managing Certificates

To modify a self-signed certificate so it is specific to your printer or to install a downloaded root-signed certificate on the printer:

1. Launch your Web browser.
2. Enter your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, expand the **Security** folder and then select **Certificates**.
5. If prompted, enter your Admin or Key User name and password.
6. All of the certificates created will appear in the **Friendly Name** list. From here you can delete existing certificates or add or create a new certificate.

To create a new certificate or CSR:

1. Click the **Add/Create Certificate** button.
2. Select from one of the following:
 - **Install a new Root Certificate:** Installs a new root certificate that is needed to validate the authentication server's certificate when using 802.1X EAP authentication.
 - **Install a CA signed Device Certificate:** Installs a device certificate signed by a certificate authority (CA) that validates the identity of the printer to the network.
 - **Create Certificate Signing Request (CSR):** Once a CSR is created, you can send it to a trusted CA for signing, and when returned, install the CA signed device certificate on the printer.
 - **Create Self-Signed Device Certificate:** Modifies the default self-signed device certificate that is automatically established on the printer by adding the details of your organization and location, etc.
3. Click the **Next** button, and follow the on-screen prompts.

For information on configuring certificates, click the **Help** button in the EWS to go to the *EWS Online Help*.

See also:

[Certificates](#) on page 39

Configuring SSL

Once a certificate is set up, you can select when to use SSL to secure the connection between the printer and the server.

Note: You can restrict user access to SSL pages in the EWS. For more information, see [Configuring Administrator and Key User Settings](#) on page 44.

To configure SSL:

1. Launch your Web browser.
2. Enter your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Security** folder.
5. Select **HTTPS**.
6. If prompted, enter your Admin or Key User name and password.
7. In the **Use SSL** box, select one of the following options:
 - **Never** (the default): SSL authentication is not required.
 - **To Secure Passwords**: Secures Web pages that use passwords. A certificate must exist on the printer before you can use this setting.
 - **To Secure Pages and Passwords**: Secures all Web pages.
8. Click the **Save Changes** button.

For more information, click the **Help** button in the EWS to go to the *EWS Online Help*.

See also:

[Managing Certificates](#) on page 42

Configuring Administrator and Key User Settings

To prevent unauthorized changes to printer settings:

1. Launch your Web browser.
2. Enter your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Security** folder.
5. Select **Administrative Security Settings**.
6. If prompted, enter your Admin or Key User name and password.
7. In the **Administrator Settings** box, do one or both of the following:
 - In the **Host Access List** field, enter the IP addresses or host names of the computers allowed to change printer settings. Separate entries with a blank or a comma, specify ranges with a hyphen (-), and use an asterisk (*) to represent a group of numbers (e.g., 13.62.156.*). The default setting is **Unrestricted**, which allows all users to change printer settings.
 - In the **User Name** and **Password** fields, enter your user name and password (up to 10 alphanumeric characters). In **Verify Password**, re-enter the password. The user name and password should be kept secure.
8. Repeat Step 7 in the **Key User Settings** box. When entering the user name and password, enter the user name and password for key users.

Note: If you want to use the Key User account, you must configure an Administrator account. If the Administrator account is empty, then Any User has the same permissions as the Administrator user.
9. In the **Feature Authorization** box, select the check boxes next to the settings you want to enable for each type of user. Clear the check boxes next to the settings you want to prevent users from changing. The administrator has full rights and access to all functions. The Any User class may not have greater access to a function than the Key User class.

Note: If you want to prevent users in the **Key User** or **Any User** classes from using the EWS to change printer settings, clear the **Modify Configuration Web Pages** check box. If you want to prevent users in the **Key User** or **Any User** classes from viewing the EWS pages that control printer settings, clear the **View Configuration Web Pages** check box.
10. Click the **Save Changes** button.

See also:

[Admin and Key User Accounts](#) on page 38

Configuring the Print Host Access List

To prevent unauthorized printing to your printer:

1. Launch your Web browser.
2. Enter your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Security** folder.
5. Select **Printing Security Settings**.
6. If prompted, enter your Admin or Key User name and password.
7. Enter the IP addresses or host names of the computers allowed printing access in the **Host Access List** field. Separate entries with a blank or a comma, specify ranges with a hyphen (-), and use an asterisk (*) to represent a group of numbers (e.g., 13.62.156.*). The default setting is **Unrestricted**, which allows all users to access the printer to print their jobs.
8. Click the **Save Changes** button.

See also:

[ColorTrack Lists](#) on page 40

Securing the Hard Drive

This section includes:

- [Selecting the Hard Drive Overwrite Security Option](#)
- [Selecting the Automatic Removal of Secure, Personal, and Proof Jobs Option](#)

Selecting the Hard Drive Overwrite Security Option

When a file is deleted from the printer's hard drive, only the file name is deleted; the data in the file remains on the hard drive, regardless of the operating system. An unauthorized person could, possibly, retrieve the data in the file that was deleted.

Printers with a hard drive have a Hard Drive Overwrite Security option. This option overwrites the data stored on the hard drive of a file marked for deletion using DOD5200.28-M, a U.S. Department of Defense three-pass overwriting process: first with a pattern of 0s (zeros), next with a pattern of 1s, and finally with a random pattern of bits. This is done before the file's directory entry is removed and the storage space on the hard drive is marked as available for reuse. The random pattern of bits stays on the hard drive until it is overwritten by another file.

By default, the Hard Drive Overwrite Security option is disabled. To select the Hard Drive Overwrite Security option, use one of the following methods:

- The printer control panel
- EWS

Using the Control Panel

To select the automatic removal of secure, personal, and proof print files from the hard drive:

1. On the control panel, select **Printer Setup**, then press the **OK** button.
2. Select **File Security**, then press the **OK** button.
Note: If File Security is locked on the control panel, use the EWS to select the **Hard Drive Overwrite Security** option.
3. To remove all secure, personal, and proof print job files, select **Overwrite Removals**, then press the **OK** button to select **On** or **Off**.

Note: The option Remove Job Files does not remove saved or protected print job files.

Using the EWS

To select the Hard Drive Overwrite Security option:

1. Launch your Web browser.
2. Enter the printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Security** folder.
5. Select **Printing Security Settings**.
6. If prompted, enter your Admin or Key User name and password.
7. Under **Hard Drive Overwrite Security Options**, select one of the following options:
 - **Never overwrite files/jobs**: Disables the printer's overwrite feature.
 - **Always overwrite when deleting files/jobs**: Sets the printer to always overwrite the files on the hard drive when they are deleted.
8. Click the **Save Changes** button.

Selecting the Automatic Removal of Secure, Personal, and Proof Jobs Option

The printer enables you to store secure, personal, and proof jobs on the hard drive and then print them later. You can choose how long these jobs remain on the hard drive. This feature is useful when someone:

- Forgets about an unprinted secure, personal, or proof job that was stored on the hard drive.
- Sends a secure job to the printer, but does not walk to the printer to print the job.
- Stores a proof job, prints it once and then forgets to delete it.

To set the automatic removal of secure, personal, and proof print files from the hard drive, use one of the following methods:

- The printer's control panel
- EWS

Using the Control Panel

To select the automatic removal of secure, personal, and proof print files from the hard drive:

1. On the control panel, select **Printer Setup**, then press the **OK** button.
2. Select **File Security**, then press the **OK** button.

Note: If File Security is locked on the control panel, use the EWS to select the Hard Drive Overwrite Security option.
3. To remove all secure, personal, and proof print job files, select **Overwrite Removals**, then press the **OK** button to select **On** or **Off**.

Note: The option Remove Job Files does not remove saved or protected print job files.

4. To remove all secure, personal, and proof print files every day at a set time:
 - a. Select **Daily Removal**, then press the **OK** button to select **On** or **Off**.
 - b. Select **Remove At HH:MM**, then press the **OK** button.
 - c. Enter the hour, then press the **OK** button.
 - d. Enter the minute, then press the **OK** button.
5. To remove all secure, personal, and proof print files after the files are a certain age or older:
 - a. Select **Age-based Removal**, then press the **OK** button to select **On** or **Off**.
 - b. If you selected **On**, select **Remove At Age**, then press the **OK** button.
 - c. Enter **1** to **999** hours, then press the **OK** button.

Note: To reset all items in the File Security menu to their default values, select **Reset File Security**.

Using the EWS

To select the automatic removal of secure, personal, and proof print files from the hard drive:

1. Launch your Web browser.
2. Enter the printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Security** folder.
5. Select **Printing Security Settings**.
6. If prompted, enter your Admin or Key User name and password.
7. Under **Remove Unprinted Personal, Secure and Proof Jobs**, select one or more of the following options:
 - **Upon Save Changes:** All personal, secure, and proof jobs are removed when you click the **Save Changes** button.
 - **At this time each day (24hr):** All unprinted personal, secure, and proof jobs are removed at this time each day.
 - **When jobs are:** All unprinted, personal, secure, and proof jobs are removed when they are this age or older.

Note: Files deleted using one of these options are overwritten if the Hard Drive Overwrite Security option has been enabled. For more information, see [Selecting the Hard Drive Overwrite Security Option](#) on page 46.

8. Click the **Save Changes** button.

IPsec

Internet Protocol Security (IPsec) is a group of protocols used to secure Internet Protocol (IP) communications by authenticating and encrypting each IP data packet. It allows you to control IP communication by creating protocol groups, policies, and actions. Secure HTTP (SSL) must be enabled with an installed digital certificate before you can enable IPsec.

1. Launch your Web browser.
2. Enter your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. On the left navigation pane, select the **Security** folder.
4. On the left navigation pane, select the **IPsec** folder.
5. If prompted, enter your Admin or Key User name and password.
6. For more information, including a description of the fields, click the **Help** button in the EWS to view the *EWS Online Help*.

Configuring 802.1X

Introduction to 802.1X and EAP

The 802.1X IEEE standard defines port-based, authenticated network ColorTrack for Ethernet local area networks (LANs). With 802.1X, the user or device must pass network ColorTrack by successfully authenticating with credentials, such as a name and password, or else network access is denied. 802.1X uses the Extensible Authentication Protocol (EAP) to relay port access requests between LAN stations/the clients being authenticated (supplicants), Ethernet switches or wireless access points (authenticators), and RADIUS servers (authentication servers).

EAP is the standard authentication mechanism carried over 802.1X. The EAP method is an inner authentication protocol that provides the secure mechanism for the authentication exchange. Multiple EAP methods can be used. EAP methods are defined in International Engineering Task Force (IETF) Requests for Comments (RFC) documents, RFC drafts, or they can be proprietary. EAP methods have a significant influence on how your network is designed and implemented, because not all supplicants, not all access points, and not all RADIUS servers support all EAP methods. A careful evaluation of standards can help with selecting appropriate LAN components that will avoid vendor lock-in or dead-end technology.

802.1X Configuration in the EWS

Use the 802.1X configuration pages in the EWS to perform the following tasks. Required information varies depending on the EAP method(s) that you select.

Note: Access to the 802.1x configuration pages in the EWS can be restricted by the passwords and feature authorization settings under Administrative Security.

1. Launch your Web browser.
2. Enter the printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, expand the **Security** folder and select **802.1X**.
5. If you are a more experienced user, click the **Advanced** button; otherwise, click the **Configuration Wizard** button which will guide you through the setup.

For more information, click the **Help** button in the EWS to view the *EWS Online Help*.

6. Select **EAP authentication method(s)** – Select one or more authentication methods:
 - MD5 Challenge
 - TLS
 - PEAP-MS-CHAPv2 (PEAP)

If you selected a method that uses X.509 security certificates (**TLS** or **PEAP**), you can use a root certificate to validate the authenticating server's certificate.

If you have selected **TLS** authentication, you must either install a signed device certificate that is trusted by the authenticating server, or add the device's self-signed certificate to the authenticating server's trusted certificate store.

7. **Install root certificate** – If you select **EAP** method(s) that require a root certificate, you can:

- Install a new root certificate.
 - Use the already existing root certificate.
 - Choose not to validate the server.
8. **Install device certificate** – If you select EAP method(s) that require a device certificate, you can:
- Install a new device certificate.
 - Use the default self-signed certificate.
 - Use a custom self-signed certificate.
 - Use the already existing signed device certificate if one exists.
9. **Enter credentials** – If you select EAP method(s) that require credentials, specify the user name and password that users must provide.

Locking the Control Panel Menus

To prevent others from changing settings in the printer setup menus, you can lock some of the control panel menus. This is useful when printers are located in public places, such as schools, libraries, and office/print centers.

Use the EWS to lock or unlock the control panel menus:

1. Launch your Web browser.
2. Enter your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Security** folder.
5. Select **Control Panel Lockout**.
6. If prompted, enter your Admin or Key User name and password.
7. Select the check box of each control panel menu item you want to lock.

Note: If you lose the Admin password and Reset NVRAM is locked on the control panel, a Fee-For-Service call is required to reset the password and to enable changes to printer settings. When the password is reset, you must reconfigure the printer settings because all the stored data is deleted.

8. Click the **Save Changes** button.

Configuring SNMP

This section includes:

- [Configuring SNMP for Maximum Security](#)
- [Configuring SNMP v1/v2c](#)
- [Configuring SNMP v3](#)
- [Configuring the SNMP ColorTrack List](#)
- [Disabling SNMP](#)

If you are using SNMP, you must configure it using the EWS. If you are not using SNMP, disable it to prevent unauthorized access through applications that use SNMP. For information on disabling SNMP, see [Disabling SNMP](#) on page 58.

SNMP is a set of protocols designed to help manage complex networks. SNMP-compliant devices store data about themselves in MIBs and return this data to the SNMP requestors. The SNMP configuration pages provide control over SNMP security, including the methods to configure:

- Administrative and Key User Accounts with privacy and authentication protocols and keys associated with each account.
- SNMP user account read or read/write access.
- An ColorTrack list that limits SNMP access to the printer specific hosts.

Note: The Current State field on the SNMP Configuration page identifies the SNMP enable/disable status. Possible values include SNMP v3 Enabled, SNMP v1/v2c Enabled, and All SNMP Protocols Disabled.

Configuring SNMP for Maximum Security

Note: An SSL certificate must be established on the printer to enable SNMP v3. In most cases, a certificate is automatically established when the printer is first turned on and no other action is required.

Use the EWS to configure SNMP for maximum security:

1. Launch your Web browser.
2. Enter the printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click the **Properties** tab.
4. For selecting SSL:
 - a. On the left navigation pane, expand the **Security** folder, then select **HTTPS**.
 - b. If prompted, enter your Admin or Key User name and password.
 - c. On the HTTPS page, in the **Use SSL** field of the **Configure HTTPS** box, select **To Secure Pages and Passwords**.

5. Restrict access to the EWS SNMP and SSL pages:
 - a. On the **Properties** tab, select **Security**.
 - b. On the left navigation pane, select **Administrative Security Settings**.
 - c. If prompted, enter your Admin or Key User name and password.
 - d. On the **Administrative Security Settings** page under **Feature Authorization**, clear the **View Configuration Web Pages** and **Modify Configuration Web Pages** check boxes for users who should not have access to these pages.
6. Configure SNMP v3 by setting up the SNMP Administrative and Key User accounts:
 - a. Select the **Protocols** folder on the left navigation pane and then select **SNMP**.
 - b. If prompted, enter your Admin or Key User name and password.
 - c. On the **SNMP Configuration** page, click the **Configure SNMP v3** button and set up the SNMP Administrative account. For more information, see [Configuring SNMP v3](#) on page 56, or click the **Help** button in the *EWS Online Help*.

Configuring SNMP v1/v2c

Configuring SNMP v1/v2c Community Names

To configure SNMP v1v2c community names:

1. Launch your Web browser.
2. Enter the printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Protocols** folder.
5. Select **SNMP**.
6. If prompted, enter your Admin or Key User name and password.
7. On the **SNMP Configuration** page, click the **Configure SNMP v1/v2c** button.
8. To set community names for GET/SET SNMP queries and traps, enter information (up to 32 alphanumeric characters) in one or more of the following fields:

Note: These names are not displayed on this page, but are shown as a row of asterisks (*).

- **GET Community Name:** Allows a host to perform SNMP GETS on the printer using this community name.
- **SET Community Name:** Allows a host to perform SNMP SETS on the printer using this community name.
- **Trap Community Name:** Allows a host to receive traps from the printer using this community name.

Note: Hosts must have these community names configured in their applications to access the printer using **SNMP v1/v2c**.

9. Click the **Apply** button to save the changes.

Adding or Editing Traps for SNMP v1/v2c

To add or edit traps for SNMP v1/v2c:

1. On the **SNMP Configuration** page: Click the **Configure SNMP v1v2c** button, then click the **Configure Traps** button.

The **Configure Traps** page lists the current Trap Destination Addresses for the SNMP protocol.

- The **Address** column lists the Trap Destination IP address or DNS Name.
 - The **Version/Type** column lists the SNMP Trap version or Inform Request for sending to the specified trap address. SNMP Trap versions include SNMP v1 Traps, SNMP v2c Traps, and SNMP v2c Inform Requests.
 - The **Traps** column lists the types of traps to send to the Trap Destination Address. Traps to be received include Printer Traps, Job Monitoring Traps, Cold Start, and Authentication Traps.
2. Do one of the following:
 - To add traps for SNMP v1/v2c, click the **Add Destination** button, then go to Step 3.
 - To edit the settings for a Trap Destination Address, click the corresponding **Edit** button, then go to Step 3.
 - To delete a Trap Destination Address, click the corresponding **Delete** button.
 3. To add or edit a Trap Destination IP Address, click the IP Address radio button, then enter the IP Address in the fields.
 4. To add or edit a Trap Destination DNS Name, click the **DNS Name** radio button, then enter the DNS Name in the field.
 5. For a non-standard UDP port, enter the UDP Port Number in the field.
 6. Select the SNMP trap version to send to the specified address. SNMP versions include SNMP v1 Traps (default), SNMP v2c Traps, and SNMP v2c Inform Requests.
 7. Enter the community name of the destination device in the **Community Name** field.
 8. For **Traps to be received**, select the check boxes of the different types of traps to send to the specified address. Traps to be received include Printer Traps (default), Job Monitoring Traps, Cold Start Traps, and Authentication Traps.

Note: At least one trap type must be selected.
 9. Click the **Apply** button to save the changes.

Configuring SNMP v3

When configuring SNMP v3, you can set up:

- Administrative, Key, Any User, and Driver accounts with Privacy and Authentication Keys associated with each account.
- SNMP user read and write access.
- An ColorTrack list that limits SNMP printer access to the specific hosts. See [Configuring the SNMP ColorTrack List](#) on page 58.

To configure and enable SNMP v3:

1. Launch your Web browser.
2. Enter the printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Protocols** folder.
5. Select **SNMP**.
6. If prompted, enter your Admin or Key User name and password.
7. On the **SNMP Configuration** page, click the **Configure SNMP v3** button.
8. Click the **Configure Account(s)** button. A series of pages displays that enable you to configure SNMP v3 and the **Administrative User**, **Key User**, and **Any User/Driver** settings. The first page displays Administrative User account information after the account has been created.
9. Do one of the following:
 - To create the Administrative User account and to enable SNMP v3, enter a user name or accept the default name **admin**, then click the **Create** button.
 - To configure the Key User and other account settings, click the **Next** button.
 - To delete the Administrative User account and disable SNMP v3, click the **Delete** button.

Note: Deleting the Administrative User account and disabling SNMP v3 also deletes all other accounts, including the Key User and Any User settings.

Administrative User Account Settings

- **User Name:** The Administrative User account name defined on the **Configure SNMP v3: Administrative User Account** page.
- **Authentication Protocols:** The protocol associated with the Authentication Key; selected on the **Configure SNMP v3: Administrative User Account** page.
- **Authentication Key:** The Authentication Key defined on the **Configure SNMP v3: Administrative User Account** page is displayed as a row of asterisks (*) here.
- **Privacy Protocol:** The protocol associated with the Privacy Key; selected on the **Configure SNMP v3: Administrative User Account** page.
- **Privacy Key:** The Privacy Key defined on the **Configure SNMP v3: Administrative User Account** page is displayed as a row of asterisks (*) here.
- **MIB Access:** The Administrative User account's MIB access permissions, which are set to **Read/Write** by default.

Key User Account Settings

- **User Name:** The Key User account name defined on the **Configure SNMP v3: Key User Account** page.
- **Authentication Protocol:** The protocol associated with the Authentication Key; selected on the **Configure SNMP v3 Key User Account** page.
- **Authentication Key:** The **Authentication Key** defined on the **Configure SNMP v3: Key User Account** page is displayed as a row of asterisks (*) here.
- **Privacy Protocol:** The protocol associated with the Privacy Key; selected on the **Configure SNMP v3: Key User Account** page.
- **Privacy Key:** The privacy key defined on the **Configure SNMP v3: Administrative User Account** page is displayed as a row of asterisks (*) here.
- **MIB Access:** The Key User account's MIB access permissions selected on the **Configure SNMP v3: Key User Account** page. MIB access for the Key User account can be set to **Read** or **Read/Write**.

Note: SNMP Read and SNMP Write access for the Any User account must be equal to or less than the read and write access privileges set for the Key User account. Once the Key User account is created, if the Any User account is set to have read and/or write access, but the Key User account access is not set, the Key User account is set with the same access privileges as the Any User account by default. Similarly, if the Key User account does not have SNMP Write access, the Any User account cannot be set with write access.

Any User/Driver Account Settings

- **User Name:** Displays **anyuser** by default and cannot be changed.
- **MIB Access:** Displays the Any User account's MIB access permissions selected on the **Configure SNMP v3: Other Account Settings** page. This can be set to **Read** or **Read/Write**.
- **SNMP Read:** Displays a check symbol if SNMP Read access is enabled. SNMP Read access can be enabled for the Any User account after the Key User account is created.
- **SNMP Write:** Displays a check symbol if SNMP Write access is enabled. SNMP Write access can be enabled for the Any User account after the Key User account is created.
- **Driver Account Enabled:** Displays a check symbol if the **Driver Account** is enabled (default).

Note: If the **Driver Account** is disabled, it breaks communication between the printer and any applications using SNMP v3, such as Dell printer drivers and Status Monitor. For a complete list of applications disabled, see [Disabling SNMP](#) on page 58.

Configuring the SNMP ColorTrack List

To set up a list of hosts that are authorized to access the printer using SNMP:

1. Launch your Web browser.
2. Enter your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Protocol** folder.
5. Select **SNMP**.
6. If prompted, enter your Admin or Key User name and password.
7. Enter up to 10 host IP addresses in the **Host Access List** field of the **SNMP ColorTrack List** box. Separate entries with a blank or a comma, specify ranges with a hyphen (-), and use an asterisk (*) to represent a group of numbers (e.g., 13.62.156.*).
8. Click the **Save Changes** button.

See also:

[ColorTrack Lists](#) on page 40

Disabling SNMP

If you are not using SNMP, disable it to prevent unauthorized access through applications that use these protocols. If you disable SNMP, the following driver features are also disabled:

- Status Monitor alerts
- Walk-Up[®] Installer
- Smart Trays
- Online Diagnostics
- Auto supplies ordering
- Consumable levels
- Warning and error status
- Synchronization with installed options, such as hard drive, memory, and extra trays

To disable SNMP:

1. Launch your Web browser.
2. Enter your printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click **Properties**.
4. On the left navigation pane, select the **Protocols** folder.
5. Select **SNMP**.
6. If prompted, enter your Admin or Key User name and password.
7. Click the **Disable SNMP Now** button.
8. Click the **Save Changes** button.

Printing Features

5

This chapter includes:

- [Secure, Personal, Personal Saved, Proof, Print With, and Saved Print Jobs](#)
- [Smart Trays](#)
- [Jam Recovery](#)

Secure, Personal, Personal Saved, Proof, Print With, and Saved Print Jobs

These features are available if your printer has an internal hard drive. These jobs are stored on the hard drive and remain in the printer even when it is turned off.

Select one of the following special job types:

- **Personal Print:** Prints the job when you select your user name on the control panel or in the EWS from the Personal Jobs page on the Print tab. The job is deleted after printing.
- **Personal Saved Print:** Stores the job on the hard drive with your four-digit numeric password so you can print it on demand from the control panel or in the EWS from the Personal Jobs page on the Print tab. The job is not deleted after printing.
- **Secure Print:** Prints the job only after you enter the four-digit numeric password on the control panel. The job is deleted after printing.
- **Proof Print:** Prints only one copy of the job so that you can proof the copy. If you want to print the remaining copies, select the job name on the control panel. The job is deleted after printing.
- **Saved Job:** Stores the job on the hard drive so you can print it on demand from the control panel. The job is not deleted after printing. This is useful for any document you frequently print, such as tax forms, personnel forms, or requisition forms. The job is not deleted after printing.
- **Print With:** Prints the current job with existing Saved and Personal Saved jobs that are stored on the printer's hard drive. Specify the selection in the **Print With Settings** dialog box when you click the **Print With** button in the printer driver. The job is deleted after printing.

Smart Trays

The Smart Trays feature in the Windows drivers enables you to view the size and type of media in each tray of the printer before sending the job. In Windows environments, when you access the printer properties, the driver queries the printer for the current paper and tray configuration and displays that information on the **Paper/Output** tab.

Jam Recovery

Note: Jam recovery is not available on all printers. Check the documentation that came with your printer for more information.

The jam recovery settings enable you to select how the printer handles jobs that are in the process of printing when a media jam occurs. Jam recovery settings are especially important to consider when printing checks. Normally when a media jam occurs, you can pull out the jammed media and the printer reprints that page and then the rest of the job. While printing checks, someone could cause a media jam as the media is exiting the printer so that a check is reprinted. To prevent the printer from printing two copies of the same check, you can set the printer to begin printing the job from the point where the media jammed through the end of the job, or cancel the job completely.

To configure the jam recovery setting, use one of the following methods:

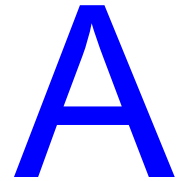
- The printer's control panel
- EWS

Using the EWS

To configure jam recovery settings:

1. Launch your Web browser.
2. Enter the printer's IP address in the browser **Address** field. For details, see [Finding the Printer's IP Address](#) on page 13.
3. Click the **Properties** tab.
4. On the left navigation pane, expand the **Security** folder.
5. Select **Printing Security Settings**.
6. If prompted, enter your Admin or Key User name and password.
7. Under **Jam Recovery Options**, select one of the following options:
 - **Reprint the jammed page and continue printing the rest of the job:** After the jam is cleared, the printer begins printing the job from the point where the media jammed, including the jammed page, through the end of the job.
 - **Do not reprint jammed page, but do continue printing the rest of the job:** After the jam is cleared, the printer cancels the rest of the print job.
8. Click the **Save Changes** button.

Configuration Card



The printer has a configuration card that stores network parameters and configuration data. The configuration card is hot swappable, enabling you to share or replace it, providing an alternative to onsite service.

Network settings are saved on the configuration card. If the configuration card is removed from an old printer and inserted into a new printer, the saved settings on the configuration card are copied to the new printer when it is powered on. The new printer assumes the identity of the old printer, eliminating the need to reconfigure network settings.

This appendix includes:

- [General Information Parameters](#)
- [PostScript Parameters](#)
- [PCL Parameters](#)
- [USB 2.0 Parameters](#)
- [Hard Drive Parameters](#)
- [Network Information Parameters](#)
- [Ethernet Network Parameters](#)
- [EtherTalk Parameters](#)
- [TCP/IP Parameters](#)
- [DNS Parameters](#)
- [SLP Parameters](#)
- [SSDP Parameters](#)
- [NBNS \(WINS\) Parameters](#)
- [ColorTrack Parameter](#)
- [LPR Parameters](#)
- [AppSocket \(Port 9100\) Parameters](#)
- [IPP \(Internet Printing Protocol\) Parameters](#)
- [SNMP Parameters](#)
- [EWS \(HTTP\) Parameters](#)
- [FTP Parameters](#)
- [Status Notification Parameter](#)
- [MaiLinX Remote Printing Parameters](#)

Configuration Card Parameters

General Information Parameters

- Printer Name
- Startup Page Enabled
- Printer ID
- Sys/Start Job
- Job Timeout
- Load Paper Timeout
- Menu Timeout
- Power Saver
- Power Saver Timeout
- Intelligent Ready
- Paper Source
- Tray 1 (MPT) Size and Type
- Tray 2 Size and Type
- Tray 3 Size and Type
- Tray 4 Size and Type
- Tray 5 Size and Type

Note: The Tray 3, Tray 4, and Tray 5 parameters are only stored on the printer configuration card if the optional trays are available for your printer and installed.

- Tray 1 (MPT) Mode
- Tray 1 (MPT) Prompt
- Tray 2 - N Prompt
- Tray 2 - N Mode
- Letter/A4 Substitution
- Two-sided Printing
- Metric Defaults

PostScript Parameters

- Printer Quality
- Color Correction
- Error Info

PCL Parameters

- Font Number
- Pitch
- Point Size
- Symbol Set
- Orientation
- Form Length
- Line Termination
- Color Mode
- Wide A4

USB 2.0 Parameters

- Enabled
- Language
- Wait Timeout

Hard Drive Parameters

The hard drive parameters are stored on the configuration card only if the printer has an internal hard drive.

- Overwrite Deleted Files
- Daily Removal
- Daily Removal Time
- Removal Age
- Age-based Removal

Network Information Parameters

- Wait Timeout
- Sys Admin Contact
- Printer Location

Ethernet Network Parameters

- Network Speed/Type
- Network Address

Certificates

- Device Certificate
- Friendly Name
- Root Certificate

802.1x

Enabled

EtherTalk Parameters

- Enabled
- Language
- Filtering
- Name
- Printer Type
- Zone
- Network Node

TCP/IP Parameters

IPv4

- Enabled
- Auto IP
- BOOTP/DHCP
- DHCP Server Address
- DHCP Lease Expiration
- DHCP Lease Renewal
- IP Address
- Network Mask
- Router/Gateway

IPv6

- Enabled
- Interface ID
- Automatic Address Assignment
- DHCPv6
- Manual Address Assignment
- Address Precedence

DNS Parameters

- Primary Server
- Secondary Server
- Multicast DNS (Bonjour) Enable

SLP Parameters

- Enabled
- Directory Agent Discovery Enable
- Directory Agent
- Scope 1
- Scope 2
- Scope 3
- SLP Multicast Enable
- SLP Multicast TTL
- SLP MTU

SSDP Parameters

- Enabled
- SSDP TTL

NBNS (WINS) Parameters

- Node Type
- WINS Servers

ColorTrack Parameter

Host Access List

LPR Parameters

- Enabled
- Filtering
- Enable Banners

AppSocket (Port 9100) Parameters

- Enabled
- Language
- Filtering

IPP (Internet Printing Protocol) Parameters

- Enabled
- Language
- Filtering
- Network Path

SNMP Parameters

- Enabled
- SNMP v1/v2c
- SNMP v3
- Host Access List

EWS (HTTP) Parameters

- Enabled
- Custom Link
- Refresh Delay
- Administrator Password
- Key User Password
- Use SSL

FTP Parameters

- Enabled
- Language
- Filtering
- Login Password

Status Notification Parameter

- Enabled
- Sys Admin Email Address
- Service Email Address
- Key User email Address

MaiLinX Remote Printing Parameters

- Language
- Filtering
- POP3 Server
- POP3 User Name
- POP3 Password
- POP3 Polling Interval
- Printing Password
- Authorized Users

Printer Commands

B

Printer Control Language (PCL) and Printer Job Language (PJM) commands can be used to control print job settings and printer defaults. In addition to the standard PCL and PJL commands, Dell printers support additional PCL and PJL commands. This appendix lists the most commonly used standard and additional PCL and PJL commands.

This appendix includes:

- [Additional PCL Commands](#)
- [Additional PJL Commands](#)

See also:

HP PCL 5 Printer Language Reference Manual for standard PCL commands.

Additional PCL Commands

This section includes:

- [Media Size](#)
- [Media Type](#)
- [Input Trays](#)

Media Size

The following table lists the PCL commands for supported media sizes. For information on which media sizes are supported in your printer, and the trays that support them, print the Paper Tips page from your printer control panel.

Media Size	PCL 5 Command*
A3 (297 x 420 mm)	<Esc>&l27A
A4 (210 x 297 mm)	<Esc>&l26A
A5 (148 x 210 mm)	<Esc>&l25A
A6 (105 x 148 mm)	<Esc>&l24A
B4-JIS (176 x 257 mm)	<Esc>&l46A
B5 Envelope (176 x 250 mm)	<Esc>&l100A
B5-ISO (176 x 250 mm)	<Esc>&l100A
B5-JIS (182 x 257mm)	<Esc>&l45A
SRA3 (320 x 450 mm)	<Esc>&l112A
Statement (5.5 x 8.5 in.)	<Esc>&l143A
Tabloid (11 x 17 in.)	<Esc>&l6A
Tabloid Extra (12 x 18 in.)	<Esc>&l148A
Executive (7.25 x 10.5 in.)	<Esc>&l1A
Letter (8.5 x 11 in.)	<Esc>&l2A
US Folio (8.5 x 13 in.)	<Esc>&l18A
Legal (8.5 x 14 in.)	<Esc>&l3A
A7 Envelope (5.25 x 7.25 in.)	<Esc>&l174A
#10 Commercial Envelope (4.1 x 9.5 in.)	<Esc>&l81A
Monarch Envelope (3.8 x 7.5 in.)	<Esc>&l80A
C4 Envelope (162 x 229 mm)	<Esc>&l171A

Media Size	PCL 5 Command*
C5 Envelope (162 x 229 mm)	<Esc>&l91A
C6 Envelope (114 x 162 mm)	<Esc>&l170A
DL Envelope (110 x 220 mm)	<Esc>&l90A
Custom	<Esc>&l101A
* The character that follows the “&” in the command is the lowercase letter “L.”	

Media Type

The following table lists the most common PCL commands for supported media types. For information on which media sizes are supported in your printer, and the trays that support them, print the Paper Tips page from your printers control panel.

Media Size	PCL 5 Command*
Plain Paper	<Esc>&n6WdPaper
Card Stock	<Esc>&n10WdCardStock
Heavy Plain Paper	<Esc>&n11WdHeavyPaper
Transparency	<Esc>&n13WdTransparency
Thin Card Stock	<Esc>&n14WdThinCardStock
Thick Card Stock	<Esc>&n15WdThickCardStock
Extra Thick Card Stock	<Esc>&20WdExtraThickCardStock
Envelope	<Esc>&n9WdEnvelope
Labels	<Esc>&n6WdLabel
Letterhead	<Esc>&n11WdLetterhead
Glossy Paper	<Esc>&n12WdCoatedPaper
Thin Glossy Paper	<Esc>&n16WdThinGlossyPaper
Thick Glossy Paper	<Esc>&n17WdThickGlossyPaper
Colored Paper	<Esc>&n13WdColoredPaper
Preprinted	<Esc>&n11WdPreprinted
Prepunched	<Esc>&n11WdPrepunched
Custom 1 through 5	<Esc>&n12WdCustomType1 through <Esc>&n12WdCustomType5

Input Trays

The following table lists the most common PCL commands for the input trays supported by your printer. The table also lists the alternate tray used if the optional input tray is not installed.

Note: When more than one command is listed, you can use either command.

Input Trays		Dell 7130cdn
	PCL 5 Command	Alternate Tray
Tray 1	n/a	n/a
Tray 1 (MPT) in multi-sheet mode	<Esc>&I4H <Esc>&I6H	n/a
Tray 1 (MPT) in manual feed mode	<Esc>&I2H <Esc>&I3H	n/a
Tray 2	<Esc>&I1H	n/a
Tray 3	<Esc>&I5H <Esc>&I23H	Tray 2
Tray 4	<Esc>&I8H <Esc>&I20H <Esc>&I24H	Tray 1
Tray 5	<Esc>&I21H	Tray 1
Autoselect	<Esc>&I7H	n/a
Current tray/page eject	<Esc>&I0H	n/a
*The character that follows the "&" in the command is the lowercase letter "L."		

Additional PJL Commands

The following table lists the most commonly used HP PJL and additional PJL commands.

See also:

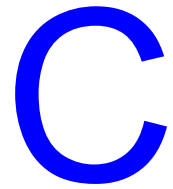
HP Printer Job Language Technical Reference for the standard set of PJL commands.

PJL Command	Values	Description
@PJL FSAPPEND	n/a	Appends data to an existing file, or if the file doesn't exist, creates the file and loads it with the given data.
@PJL FSDELETE NAME=" <i>pathname</i> "	*	Deletes a file from the internal hard drive.
@PJL FSDIRLIST NAME=" <i>pathname</i> "	*	Lists PJL system files and directories.
@PJL FSDOWNLOAD FORMAT:BINARY SIZE= <i>size</i> NAME=" <i>pathname</i> "	*	Downloads a file to the internal hard drive.
@PJL FSINIT VOLUME= <i>value</i>	*	Initializes the internal hard drive.
@PJL FSMKDIR NAME=" <i>pathname</i> "	*	Creates the specified directory on the internal hard drive.
@PJL FSQUERY NAME=" <i>pathname</i> "		Responds with information about the file or directory.
@PJL FSUPLOAD NAME=" <i>pathname</i> "	*	Uploads file from the printer to the host.
@PJL USTATUS	*	Allows the printer to send unsolicited status messages for device status changes, end-of-job status, and pages printed. Status can be sent at specified time intervals.
@PJL USTATUSOFF	n/a	Turns off all status responses.
@PJL XCLIENTJOBID= <i>value</i>	Exactly 48 bytes (first byte is 8 and the 8 last bytes represent a time in the format <i>hhmmsshs</i>)	Sets the client job ID used with Status Monitor.
@PJL XJAFilename=" <i>filename</i> "	Roman-8 characters 1-255	Sets the file name for Job Accounting.

PJL Command	Values	Description
@PJL XJAHOSTNAME=" <i>hostname</i> "	Roman-8 characters 1-255	Sets the file name for Job Accounting.
@PJL XJAJOBNAME=" <i>jobname</i> "	Roman-8 characters 1-255	Sets the file name for Job Accounting.
@PJL XJAUSERNAME=" <i>username</i> "	Roman-8 characters 1-255	Sets the file name for Job Accounting.
@PJL XJOBPASSWORD= <i>value</i>	4-digits	Assigns the job password used by Secure Print.
@PJL XPERSONALJOB	n/a	Starts a Personal Print job.
@PJL XPROOFJOB	n/a	Starts a Proof Print job.
@PJL XSAVEDJOB	n/a	Starts a Saved Print job.
@PJL XSECUREJOB	n/a	Starts a Secure Print job.
@PJL XIGNOREFF= <i>value</i>	ON, OFF	Ignores FormFeed commands when printing PCL blank pages.
@PJL XLINETERMINATION= <i>value</i>	ON, OFF	Terminates a line.
@PJL XMBFSIZE= <i>value</i>	ANY or any supported media size, such as LETTER, STATEMENT, and EXECUTIVE	Sets the media size for Tray 1.
@PJL XMEDIASOURCE= <i>value</i>	ANY, TRAYn	Sets the media source.
@PJL XMEDIATYPE= <i>value</i>	ANY or any supported media type, such as PAPER and LABEL	Sets the media type.
@PJL XPCLTRAYSWITCH= <i>value</i>	ON, OFF	Switches trays when a tray becomes empty. If AutoSelect is chosen as the paper source (tray) in PCL, then tray switching is always active, regardless of the value. When the current tray becomes empty, the printer attempts to switch to another tray containing the same size and type of paper. This command only takes effect when a specific tray, such as Tray 2, is selected in the job. When this command is ON, tray switching still occurs when the tray becomes empty. When this command is OFF, no switching occurs and the user is prompted to load paper.

PJL Command	Values	Description
@PJL XPCLPAPERSRCx = y	x is 0, 1, 2, 3, 4, 5, 6, 7, 8, 20, 21, 22, 23, which is the number in the <Esc>#H tray selection commands y is -1 for AutoSelect, 0 for the current tray (eject page), 1 for Tray 1, 2 for Tray 2, etc., and 99 for the factory defaults	Overrides the tray selected in the <Esc>#H PCL tray selection commands.
* See the <i>HP Printer Job Language Technical Reference</i> for the values.		

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