Printing System Driver
User Guide

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Examples of the operations given in this guide support the Windows XP printing environment. Essentially the same operations are used for Microsoft Windows 7, Windows Vista, Windows Server 2003, Windows Server 2008 and Windows 2000 environments.

User Interface screen captures shown in this guide may differ depending on your printing device.

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1 Installation

A printer driver is an application that manages communication between a printer and your computer. Once installed, the printer driver settings must be configured in the printer **Properties** and **Printing Preferences**.

> **Note:** In Windows operating systems, you must be logged in with administrator rights to install the printer driver. If you connect a USB (Universal Serial Bus) cable before printer driver installation, it is strongly recommended that you cancel the Found New Hardware Wizard and install the software through the **Product Library CD** menu. Browsing the CD and installing each driver separately is not recommended.

Preparing to Install the Driver

This section describes the initial steps to take before you install the printer driver, and based on your operating system, the next procedure you can follow.

1 Turn on the computer and the printer. If you have a USB connection, the Windows **Found New Hardware Wizard** appears. Click **Cancel**.

2 Insert the **Product Library CD** into the CD drive.

After the installation wizard begins, the **Main Menu** appears.

> **Note:** If the **Product Library** fails to start after inserting the **Product Library CD** into the CD drive, use Windows Explorer to locate **Setup.exe** on the local drive and double-click to open.

3 Click **View License Agreement** to read the license agreement.

4 Click **Accept** to proceed.

5 To begin the installation, click **Install Software**.

> **Note:** If the **Windows Security** warning dialog box appears at any point during the installation process, click **Install this driver software anyway**.

6 The **Installer** wizard appears with several installation methods displayed.

Selecting an Installation Method

You can select **Express Mode** for a network or USB connection and the installation wizard will discover your printers. You can also select **Custom Mode** for a network or USB connection and either manually select installation packages and specify utilities or let the installation wizard discover your printer.

Express Mode Installation

Custom Mode Installation

> **Note:** **Port Set Up** installs a client port monitor that lets Windows TCP/IP print from any network card connected to a printing system. **Port Set Up** supports LPR and IPP printing. For the **Port Set Up Guide** instructions, refer to your **Product Library CD**. **Port Set Up** uses a stand-alone installer.

Installing Utilities

On the **Installation Method** screen, click **Utilities** to install printer utilities. You can also select utilities to install during the **Custom Installation** procedure.

Upgrading Driver Components

If the installation wizard detects older driver or utility components, the **Software Component Upgrade** page appears.

1 Choose the component to upgrade. Click **Next**.

2 Confirm your upgrade settings. To start the upgrade, click **Upgrade**.

3 When the upgrade completes, click **Next**. The **Installation Method** page appears.

Express Installation

Express Mode applies to driver installation for a USB or network connection only. The installation wizard discovers printers that are turned on, and connected by USB and network cable. In **Custom Mode**, you are able to select the installation packages and specify the port.

Installing in Express Mode

This section describes the express installation procedure of the driver software in Windows operating systems.

1 Ensure that your printer and computer are turned on and connected by USB or network cable.

Note: With Windows XP, if the **Found New Hardware Wizard** dialog box appears during the installation process, click **Cancel**. If the **Hardware Installation** warning dialog box appears, click **Continue Anyway**. In Windows 7 and Windows Vista with a USB connection, a driver installation will be made from the Microsoft Windows Update site if a certified driver is available and the system is connected to the web. We recommend you continue with the steps to install the Printing System Driver for an expanded feature set.

2 On the **Installation Method** page, click **Express Mode**.

3 The **Discover Printing System** page opens, searching for your printing system.

If Discover finds your printing system, select your model from the list and click **Next**.

If Discover does not find your printing system, a message appears. Remove and reinsert the USB or network cable, and ensure it is connected properly. Click **Refresh** to retry the discovery. If the system still cannot find your printing system, contact your system administrator.

4 Select **Use host name for port name** to use a host name for the Standard TCP/IP port. If the installation wizard still displays the IP address, contact your system administrator. *(Not available with a USB connection.)*

5 Click **Information** if you want to open a dialog box with details about IP Address, Host Name, Printer Model, Contact, Location, and Serial Number. Click **OK**. Click **Next**. *(Not available with a USB connection.)*

6 On the **Printer Settings** page, you can assign a name to your printing system.

Note: With a first time USB connection, the **Printer Settings** page does not appear.

You can also choose to share this printer with others or set this printer as the default printer. Make your selections, and then click **Next**.

7 On the **Confirm Settings** page, click **Install** if the settings are correct. Click **Back** to correct the settings.

8 The **Installation Completed** page appears displaying the following driver options.

Print a test page

This selection verifies a connection with the printer and creates a print out of the installed driver components.

Show Quick Print Tab

This selection lets you define basic print options into group profiles that can be accessed easily. The **Show Quick Print tab** option also appears in the **Administrator Settings** in the **Device Settings** tab.

Enable Status Monitor

The **Status Monitor** displays system status messages on your computer screen during printing tasks. The **Status Monitor** button appears on the **Advanced** tab.

Device Settings

Select **Device Settings** to open the **Device Settings** tab where you can choose installed options for your printing system. (The **Device Settings** check box appears only with Windows XP with a network connection.)

When the installation completes successfully, click **Finish** to exit the installation wizard and return to the **Product Library CD** menu.

Software installation failures generate the following message:

One or more software installations have failed.

Click **Finish**, and retry the installation. If the same message appears again, contact your system administrator.

The installation of the printer is now complete. If prompted, restart your computer.

Custom Installation

Custom Mode applies to driver installation for a USB or network connection. The installation wizard can discover printers that are turned on, and connected by USB and network cable, or you can manually select the driver from the drivers that are available. You can specify the printer port, fonts, and the utilities you want to install.

Printer drivers that ship with Windows operating systems are called minidrivers. The minidriver is available separately for PCL and KPDL and provides basic support for your printer.

Installing in Custom Mode with a Network Connection using Discover

This section describes the custom installation procedure of the driver software in Windows operating systems using a network connection.

1 Ensure that your printer and computer are connected to a network.

2 On the **Installation Method** page, select **Custom Mode**.

3 The **Discover Printing System** page opens searching for your printing system. The **Discover** button is automatically selected. A list of models appears.

If Discover does not find your printing system, a message appears. Remove and reinsert the network cable, and ensure it is connected properly. Click **Refresh** to retry the discovery. If the system still cannot find your printing system, contact your system administrator.

4 On the **Custom Installation** page, select the driver and software packages you want to install from the **Driver** and **Utility** tabs, and clear those not intended for installation. Click **Next**.

If you only select software packages from the **Utility** tab, you will skip to the **Confirm Settings** page.

5 On the **Printer Settings** page, you can assign a name for your printing system. You can also choose to share this printer with others or set this printer as the default printer. Make your selections, and then click **Next**.

6 On the **Confirm Settings** page, click **Install** if the settings are correct. Click **Back** to correct the settings.

> **Note:** If the **Hardware Installation** warning dialog box appears, click **Continue**.

7 The **Installation Completed** page appears displaying the following driver options.

> **Print a test page**
>
> This selection verifies a connection with the printer and creates a print out of the installed driver components.
>
> **Show Quick Print Tab**
>
> This selection lets you define basic print options into group profiles that can be accessed easily. The **Show Quick Print tab** option also appears in the **Administrator Settings** in the **Device Settings** tab.
>
> **Enable Status Monitor**
>
> The **Status Monitor** displays system status messages on your computer screen during printing tasks. The **Status Monitor** button appears on the **Advanced** tab.
>
> **Device Settings**
>
> Select **Device Settings** to open the **Device Settings** tab where you can choose installed options for your printing system. (The **Device Settings** check box appears only with Windows XP.)

When the installation completes successfully, click **Finish** to exit the installation wizard and return to the **Product Library CD** menu.

Software installation failures generate the following message:

One or more software installations have failed.

Click **Finish**, and retry the installation. If the same message appears again, contact your system administrator.

The installation of the printer is now complete. If prompted, restart your computer.

Installing in Custom Mode with a USB Connection using Discover

This section describes the custom installation procedure of the driver software in Windows operating systems using a USB connection. With **Discover**, all devices available for the driver installation are found automatically. This is the recommended Custom Mode USB installation method.

1 Ensure that your printer and computer are turned on and connected using a USB cable.

> **Note:** In Windows 7 and Windows Vista, a driver installation will be made from the Microsoft Windows Update site if a certified driver is available and the system is connected to the web. We recommend you continue with the steps to install the Printing System Driver for an expanded feature set.

2 On the **Installation Method** page, select **Custom Mode**.

3 The **Discover Printing System** page opens, searching for your printing system. The **Discover** button is automatically selected.

Select your device and click **Next**.

If Discover does not find your printing system, a message appears. Remove and reinsert the USB cable, and ensure it is connected properly. Click **Refresh** to retry the discovery. If the system still cannot find your printing system, contact your system administrator.

4 On the **Custom Installation** page, select the driver and software packages you want to install from the **Driver** and **Utility** tabs, and clear those not intended for installation. Click **Next**.

If you only select software packages from the **Utility** tab, you will skip to the **Confirm Settings** page.

5 On the **Printer Settings** page, you can assign a name to your printing system.

Note: With a first time USB connection, the **Printer Settings** page does not appear.

You can also choose to share this printer with others or set this printer as the default printer. Make your selections, and then click **Next**.

6 On the **Confirm Settings** page, click **Install** if the settings are correct. Click **Back** to correct the settings.

Note: If the **Hardware Installation** warning dialog box appears, click **Continue Anyway**.

7 The **Installation Completed** page appears displaying the following driver options.

Print a test page

This selection verifies a connection with the printer and creates a print out of the installed driver components.

Show Quick Print Tab

This selection lets you define basic print options into group profiles that can be accessed easily. The **Show Quick Print tab** option also appears in the **Administrator Settings** in the **Device Settings** tab.

Enable Status Monitor

The **Status Monitor** displays system status messages on your computer screen during printing tasks. The **Status Monitor** button appears on the **Advanced** tab.

When the installation completes successfully, click **Finish** to exit the installation wizard and return to the **Product Library CD** menu.

Software installation failures generate the following message:

One or more software installations have failed.

Click **Finish**, and retry the installation. If the same message appears again, contact your system administrator.

The installation of the printer is now complete. If prompted, restart your computer.

Installing in Custom Mode with a Network Connection using Custom Select

This section describes the custom installation procedure of the driver software in Windows operating systems using a network connection.

1 Ensure that your printer and computer are connected to a network.

2 On the **Installation Method** page, select **Custom Mode**.

3 The **Discover Printing System** page opens searching for your printing system. The **Discover** button is automatically selected. Choose **Custom select** and click **Next**.

4 The **Printing System** page appears. Select your printing system model from the list and click **Next**. If there is only one driver model, this page does not appear. Proceed to the next step.

5 On the **Printer Port** page, select the port connected to your printing system, or add a port connected to your system by clicking **Add Port**. Click **Next**.

6 On the **Custom Installation** page, select the driver and software packages you want to install from the **Driver** and **Utility** tabs, and clear those not intended for installation. Click **Next**.

If you only select software packages from the **Utility** tab, you will skip to the **Confirm Settings** page.

7 On the **Printer Settings** page, you can assign a name for your printing system. You can also choose to share this printer with others or set this printer as the default printer. Make your selections, and then click **Next**.

8 On the **Confirm Settings** page, click **Install** if the settings are correct. Click **Back** to correct the settings.

Note: If the **Hardware Installation** warning dialog box appears, click **Continue**.

9 The **Installation Completed** page appears displaying the following driver options.

Print a test page

This selection verifies a connection with the printer and creates a print out of the installed driver components.

Show Quick Print Tab

This selection lets you define basic print options into group profiles that can be accessed easily. The **Show Quick Print tab** option also appears in the **Administrator Settings** in the **Device Settings** tab.

Enable Status Monitor

The **Status Monitor** displays system status messages on your computer screen during printing tasks. The **Status Monitor** button appears on the **Advanced** tab.

Device Settings

Select **Device Settings** to open the **Device Settings** tab where you can choose installed options for your printing system. (The **Device Settings** check box appears only with Windows XP.)

When the installation completes successfully, click **Finish** to exit the installation wizard and return to the **Product Library CD** menu.

Software installation failures generate the following message:

One or more software installations have failed.

Click **Finish**, and retry the installation. If the same message appears again, contact your system administrator.

The installation of the printer is now complete. If prompted, restart your computer.

Installing in Custom Mode with a USB Connection using Custom Select

This section describes the custom installation procedure of the driver software in Windows operating systems using a USB connection. With the **Custom select** option, you manually select the printing system and printer port to install.

In **Custom mode**, **Custom Select** is not recommended for USB in environments where printing systems are connected and reconnected using USB ports. The **Discover** method provides a more reliable installation path.

1 Ensure that your printer and computer are turned on and connected using a USB cable.

Note: In Windows 7 and Windows Vista, a driver installation will be made from the Microsoft Windows Update site if a certified driver is available and the system is connected to the web. We recommend the **Custom Mode** using Discover for USB connections to ensure a reliable installation.

2 On the **Installation Method** page, select **Custom Mode**.

3 The **Discover Printing System** page opens, searching for your printing system. The **Discover** button is automatically selected. Choose **Custom select** and click **Next**.

4 The **Printing System** page appears. Select your printing system model from the list and click **Next**.

5 On the **Printer Port** page, select an existing port connected to your printing system. Click **Next**.

6 On the **Custom Installation** page, select the driver and software packages you want to install from the **Driver** and **Utility** tabs, and clear those not intended for installation. Click **Next**.

If you only select software packages from the **Utility** tab, you will skip to the **Confirm Settings** page.

7 On the **Printer Settings** page, you can assign a name to your printing system.

You can also choose to share this printer with others or set this printer as the default printer. Make your selections, and then click **Next**.

8 On the **Confirm Settings** page, click **Install** if the settings are correct. Click **Back** to correct the settings.

> **Note:** If the **Hardware Installation** warning dialog box appears, click **Continue Anyway**.

9 The **Installation Completed** page appears displaying the following driver options.

Print a test page

This selection verifies a connection with the printer and creates a print out of the installed driver components.

Show Quick Print Tab

This selection lets you define basic print options into group profiles that can be accessed easily. The **Show Quick Print tab** option also appears in the **Administrator Settings** in the **Device Settings** tab.

Enable Status Monitor

The **Status Monitor** displays system status messages on your computer screen during printing tasks. The **Status Monitor** button appears on the **Advanced** tab.

When the installation completes successfully, click **Finish** to exit the installation wizard and return to the **Product Library CD** menu.

Software installation failures generate the following message:

One or more software installations have failed.

Click **Finish**, and retry the installation. If the same message appears again, contact your system administrator.

The installation of the printer is now complete. If prompted, restart your computer.

Optional Printer Components

You can expand the functionality of your printer driver by installing optional components from the **Product Library CD** > **Advanced Tools** menu.

Installing Optional Printer Components

1 On the **Product Library CD** menu, select **Advanced Tools**.

2 On the **Advanced Tools** page, select **Optional Printer Components**.

3 Select a printer, and click **Next** to install optional components.

4 On all **Select** pages, choose your components, and click **Next**.

5 On the **Confirm Settings** page, if the displayed settings are correct, click **Install**. Click **Back** to correct any settings.

6 The **Printer Components Installation Completed** page appears. Click **Finish**.

When you have completed installing printers and optional components, if prompted, restart your computer.

Adding a Printer Driver Through the Wizard

The **Add Printer Wizard** displays a series of screens that guide you through printer installation. You are prompted to make installation choices on each screen.

Installing a Printer Driver in Windows 7 and Windows Vista

This section describes how to install a printer driver using the **Add Printer Wizard** in Windows 7 and Windows Vista.

1 Click **Start** and click **Devices and Printers** (Windows 7), or click **Control Panel** and double-click **Printers** (Windows Vista).

2 Click **Add a printer**.

3 The **Add Printer Wizard** appears. The wizard provides you with step by step driver installation instructions. Click either **Add a local printer** or **Add a network, wireless or Bluetooth printer**. Follow the instructions on each page, then click **Next** to proceed to the next page.

> **Note:** If the **Windows Security** warning dialog box appears, click **Install this driver software anyway**.

4 The last page of the wizard appears with a message that you've successfully added the printer you selected. Installation of the printer driver is now complete. Click **Print a test page** if you want to produce sample print output from the newly installed printer. To close the **Add Printer Wizard**, click **Finish**.

Installing a Printer Driver in Windows XP and Windows 2000

This section describes how to install a printer driver using the **Add Printer Wizard** in Windows XP and Windows 2000.

1 Click **Start** and **Printers and Faxes**.

2 Click **Add a printer**.

3 The **Add Printer Wizard** appears. The wizard provides you with step by step driver installation instructions. Follow the instructions on each page, and then click **Next** to proceed to the next page.

> **Note:** If the **Found New Hardware Wizard** page appears, click **Cancel**. If the **Hardware Installation** warning dialog box appears, click **Continue Anyway**.

4 When the **Completing the Add Printer Wizard** page appears, installation of the printer driver is now complete. To close the **Add Printer Wizard**, click **Finish**. If prompted, restart your computer.

Printer Driver Settings Access

The printer driver software can be accessed from the **Print** dialog box of an application, or from **Start**. If accessed from an application, then changes made to driver settings remain in effect until the application ends. If accessed from **Start**, changes are maintained as the default printer settings.

Changing the Default Driver Settings

Default driver settings apply to print jobs, though you can change the settings temporarily when printing from an application.

1   Click **Start** and click **Devices and Printers** (Windows 7), or click **Control Panel** and double-click **Printers** (Windows Vista), or **Printers and Faxes** (Windows XP).

2   Right-click on your printing system icon.

3   Click **Printing Preferences**.

4   In the **Printing Preferences** dialog box, select the desired features in all tabs.

5   Click **OK** to save the settings.

2 Device Settings

In the **Device Settings** tab, you can select installed printing system options so the associated features can be used with the printer driver. You can also match the memory setting in the driver with the memory installed in your printing system, which lets the driver manage font downloads more efficiently. Administrator, User, PDL (Page Description Language), and Compatibility settings can also be selected.
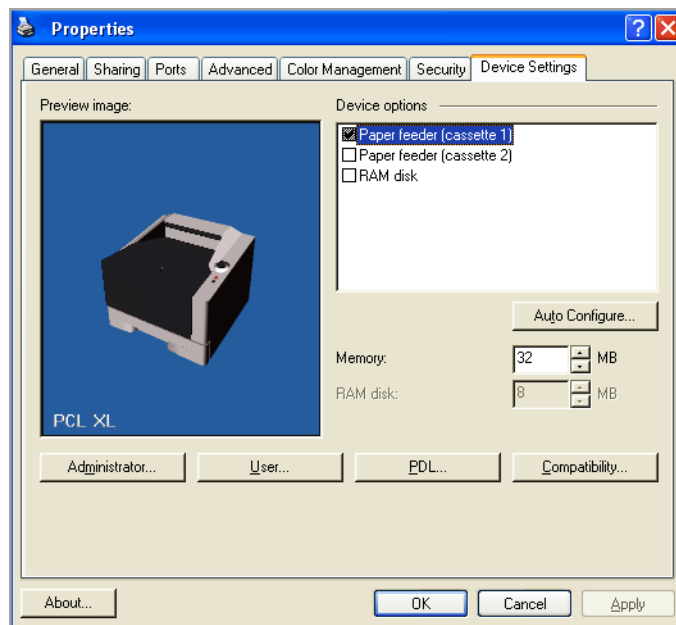
Accessing Device Settings

Device Settings can be accessed from **Devices and Printers** (Windows 7), **Printers** (Windows Vista), or **Printers and Faxes** (Windows XP) folder.

1   Click **Start** and click **Devices and Printers** (Windows 7), or click **Control Panel** and double-click **Printers** (Windows Vista), or **Printers and Faxes** (Windows XP).

2   Right-click on the desired printing system model.

3   Click **Printer properties** (Windows 7) or **Properties** (Windows Vista, Windows XP).

4   Click **Device Settings**.

Device Options

Optional devices extend the capabilities of your printing system for source.

In a client/server environment, this feature is unavailable to a client logged in as a restricted user.

Setting Device Options

You can set the printer driver to match the optional devices installed on your printing system.

1 In **Device Settings** > **Device options**, select the check boxes for all installed devices.

2 Click **OK** in the **Properties** dialog box.

Auto Configure

Auto Configure detects the devices installed on the printing system if it is connected over a network. **Auto Configure** can detect printing system devices such as input devices and RAM disk size. When your computer is connected to the printing system through a TCP/IP port, the **Auto Configure** button appears in the **Device Settings** tab. **Auto Configure** updates the **Device options** list, **Memory**, **RAM disk**, and preview images to keep the printer driver consistent with the printing system configuration.

Not all installed devices are detected by using **Auto Configure**. Before selecting **OK** in the **Device Settings** tab, check the settings to make sure that they are correct.

Note: The default setting for Windows XP Service Pack 2 is for the Windows Firewall to be set to **On**. The setting can be changed to allow communication between the printing system and your computer. In the Windows **Security Alert** dialog box, click **Unblock**.

Silent Auto Configuration

Silent auto configuration checks the printing system every 10 minutes for changes in optional devices or memory. When a change is detected, the driver is automatically updated with the new settings. **Silent auto configuration** is only available for printing systems installed in Windows 7 or Windows Vista.

In a client/server environment, this feature is unavailable to a client logged in as a restricted user.

Enabling Auto Configuration

The **Auto Configure** button can be used to detect all available device options when the printing system is connected to a network through a TCP/IP port.

1 Verify that all optional devices are attached to the printing system, and that it is turned on and ready to print.

2 In the **Device Settings** tab, click **Auto Configure**.

In Windows XP and Windows 2000, the driver settings are updated immediately.

In Windows 7 and Windows Vista, the **Auto Configure** dialog box opens. Select from Auto configure options:

Auto Configure Now

Click the button at any time to retrieve the current settings from the printing system. It is recommended to do this when the driver is first installed and when **Silent auto configuration** is turned off.

Silent auto configuration

Select to let the driver check the printing system every 10 minutes for any changes in optional devices or memory. When a change is detected, the driver is automatically updated with the new settings.

Memory

Memory is the amount of standard and optional memory installed in the printing system. To maximize the downloading of printing system fonts, the driver must be set to match the total printing system memory.

Setting the Memory

By default, the **Memory** setting matches the standard memory in the printing system. If optional memory is installed, set the memory in the printer driver to match the total amount of memory.

1 Install optional DIMM memory in the printing system.

2 In **Device Settings** > **Memory**, type or select the amount of total installed memory by clicking the up and down arrows until the text box shows the correct number of megabytes (MB).

If your printing system includes the **Auto Configure** feature, you can use it to obtain information about the memory size.

RAM Disk

The RAM disk functions as a virtual hard disk, saving print requests into the printing system's memory. Because the RAM disk is temporary memory, all data stored there is lost when the power is turned off.

In a client/server environment, this feature is unavailable to a client logged in as a restricted user.

If selected, the **Ignore application collation** feature in the **Compatibility Settings** dialog box lets the driver control collation. RAM disk can then increase the print speed of collated multiple copies by sending the print job just once.

Setting RAM Disk

You can set the RAM disk to save print requests into the printing system's memory.

1 In **Device Settings**, in the **Device options** list, select **RAM disk**.

2 At the **RAM disk** text box, type or select the size of the RAM disk by clicking the up and down arrows until the text box shows the correct number of megabytes (MB).

3 At the printing system's operation panel, turn on RAM disk and set its size.

The maximum RAM disk size depends on the amount of installed memory.

Administrator Settings

Administrator Settings lets you set options, varying by your model, that include controlling accessibility, displaying features in the interface and setting a password to control access to the **Administrator Settings** options.

In a client/server environment, this feature is unavailable to a client logged in as a restricted user.

Show Quick Print Tab

This option lets you control the display of the **Quick Print** tab. You can define basic print options into group profiles that can be accessed quickly and easily.

With a cleared **Show Quick Print tab** check box, the tab does not appear in the **Printing Preferences** dialog box.

With a selected **Show Quick Print tab** check box, the tab appears in the **Printing Preferences** dialog box. When you select the **Show Quick Print tab** check box, you can also access the other two check boxes, **Hide other tabs**, and **Set Quick Print tab as default**.

Selecting **Hide other tabs** displays only the **Quick Print** tab to the user.

Selecting **Set Quick Print tab as default** opens to this tab when you access **Printing Preferences**.

Lock Security Settings

If the **Security Watermark** plug-in is installed, **Lock Security Settings** appears in the **Administrator Settings** dialog box. The administrator can ensure that a security watermark is printed on all jobs by locking this feature.

Administrator Password

You can set **Password protect administrator settings** in the **Administrator Settings** dialog box to prevent unauthorized changes in this dialog box. When selected, this setting prompts you to enter a password and confirm the password. This password protection blocks access to all **Administrator Settings** options.

Setting the Administrator Password

You can set a password to prevent unauthorized changes in the **Administrator Settings** dialog box.

1 In **Device Settings** > **Administrator Settings**, select **Password protect administrator settings**.

2 In the **Password** dialog box, enter a password, using at least 4 and no more than 16 characters. Reenter the password in **Confirm password** and click **OK**.

Clearing the Administrator Password

You can remove the administrator password.

1 In **Device Settings**, click **Administrator**.

2 In the **Enter Password** dialog box, type the password and click **OK**.

3 In the **Administrator Settings** dialog box, clear the **Password protect administrator settings** check box.

4 Click **OK**.

SNMP

Simple Network Management Protocol (**SNMP**) is a set of rules that govern the management of network devices, such as printing systems. **SNMP** settings determine the level of security when using the **Auto Configure** feature, and prevent unauthorized printing to the **SNMPv3** printing system. **SNMP** settings must be set in the printer driver and in the printing system's Embedded Web Server.

The following **SNMP** options are available:

SNMPv1/v2c

This option ensures successful **Auto Configure** communication using **Read community name** and **Write community name**.

SNMPv3

This option ensures secure **Auto Configure** communication using a user name and password. Authentication and privacy options are available by selecting **Settings**.

Apply to other models

This option displays a list of installed printing systems to apply the selected **SNMP** settings.

SNMPv3 Options

You can select **SNMPv3** options for secure communication with the printing system.

SNMPv3 is enabled when an optional network card is installed. These settings must match the network card settings. The network card has settings for both an authentication password and an encryption password, but they must both match the driver password.

Authentication

This option provides an algorithm to check that a transferred file has arrived intact. Message Digest 5 (**MD5**) and Secure Hash Algorithm 1 (**SHA1**) are hash algorithms used to authenticate packet data.

MD5

This option provides a cryptographic hash function with a 128–bit hash value. It adds security and protection against Gateway Load Balancing Protocol (GLBP)-spoofing software.

SHA1

This option produces a message digest that is 160 bits long. **SHA1** is the successor to **MD5**.

Privacy

This option uses encryption for secure communication. It is available after you select the **Authentication** option. You may select one privacy option. (The network card does not support AES encrypted communication.)

DES

This option uses the Data Encryption Standard for encryption. **DES** turns cleartext into ciphertext via an encryption algorithm. It encrypts and decrypts data using 8-byte blocks and a 56-bit key.

AES

This option uses the Advanced Encryption Standard for encryption. **AES** is a symmetric block cipher that can process data blocks of 128 bits, using cipher keys with lengths of 128, 192, and 256 bits. It is more secure than **DES**.

Selecting SNMP Settings

SNMP settings in the driver must be set to match the settings in the printing system's Embedded Web Server.

1 In **Device Settings** > **Administrator**, click **SNMP Settings**.

2 Select **SNMPv1/v2c** or **SNMPv3**.

For **SNMPv1/v2c**, type the **Read community name** and **Write community name**, up to 32 characters, and click **OK**.

For **SNMPv3**, type a **User name** up to 32 characters, and a **Password** from 8 to 32 characters.

3 To set authentication and privacy options for **SNMPv3**, click **Settings**.

4 In the **SNMPv3** dialog box, select from the available options.

5 Click **OK** in the **SNMPv3** dialog box.

6 Optional: Under **Apply to other models**, you can click **Select** and choose from available models. The **SNMP** settings are applied to all selected models.

User Settings

User Settings lets you specify user and department names, select the default unit of measure, and change the driver display language.

In a client/server environment, this feature is unavailable to a client logged in as a restricted user.

Identification

Identification lets you identify your print job with a **User name** and **Department** name, up to 31 characters.

Setting User Identification

You can type **User name** and **Department** information.

1 In **Device Settings** > **User**, type your preferred name in the **User name** text box.

2 Type your department or group name in **Department** text box.

You can type up to 31 characters in the **User name** and **Department** text boxes.

Units

You can set **Inches** or **Millimeters** as the unit of measurement. This is used for the following settings:

> **Custom page size** setting in the **Page Sizes** dialog box in the **Basic** tab.
>
> **Spacing** setting in the **Watermark Add** and **Edit** dialog boxes in the **Advanced** tab.
>
> **Poster** settings and **Gutter** settings in the **Layout** tab.

Selecting a Unit of Measurement

You can select a unit for displaying measurements in the user interface.

1 In **Device Settings** > **User Settings**, select **Inches** or **Millimeters**.

2 Click **OK** in the **User Settings** and **Properties** dialog boxes.

Language Preference

The **Language preference** option specifies the user interface language of **Device Settings** in **Properties** and all tabs of **Printing Preferences**.

Available languages vary depending on your locale and your computer settings.

Setting Language Preference

You can select a user interface language.

1 In **Device Settings** > **User Settings**, select the desired language from the **Select language** list.

2 Click **OK** in the **User Settings** and **Properties** dialog boxes.

PDL (Page Description Language)

A Page Description Language (PDL) specifies the contents and layout of a printed page. In the **Device Settings** tab, you can choose from **PCL XL**, (Printer Command Language XL), **PCL 5e**, or **KPDL** (an emulation of PostScript printing). The printer default is **PCL XL**, which is suitable for most printing purposes. After you select a **PDL**, the selection appears in the lower corner of the **Preview image**.

In **GDI compatible mode**, vector graphics are rasterized for printing as bitmap images. Use the **GDI compatible mode** option to improve the output quality of the graphic created by the application.

In a client/server environment, this feature is unavailable to a client logged in as a restricted user.

PDL Options

The PDL options, available in the **PDL Settings** dialog box, are accessed in **Device Settings**.

PCL XL

The most recent version of HP PCL and PCL 6. This PDL includes PCL 5e features. PCL XL lacks backward compatibility with earlier PCL versions, though it is enhanced over PCL 5e in these areas:

Reduced file size

Better print speed

Faster return to application

PCL 5e

Fully compatible with earlier PCL versions

Bidirectional communication support

Wide selection of fonts for use with Microsoft Windows applications

Complex graphics might not print as well

KPDL

KPDL is used when printing from applications that support PostScript 2 or 3.

An emulation of PostScript printing

Strong graphics reproduction

Print speeds may be slower than PCL 5e

Requires more printing system memory than PCL 5e

Enables native TrueType font downloading

Supports most Graphics settings options

Selecting PDL Options

You can select a page description language from **PDL** options.

1 In **Device Settings** > **PDL**, select the desired page description language from the **Select PDL** list.

2 Select the **GDI compatible mode** option to improve the output quality of graphics created by your application.

3 **Settings** is available when the **PDL** is set to **PCL XL** or **KPDL**.

If you select **PCL XL** in the **PDL Settings** dialog box, you can click **Settings** to open the **PCL XL Settings** dialog box. **Disable auto media type switching** controls how automatic media switching behaves when the selected paper source runs out paper. When selected, printing stops until you load more paper of the same size and type. When the check box is clear, the printing system automatically switches to another paper source loaded with the same page size and media type.

If you select **KPDL** in the **PDL Settings** dialog box, you can click **Settings** to open the **KPDL Settings** dialog box. Select the **Allow data passthrough** check box to reduce errors when printing complex jobs from applications that use PostScript formatting.

Note that if you select **Allow data passthrough**, **EMF spooling** is not available in the **Advanced** tab.

4 Click **OK** in the **PDL Settings** dialog box.

Compatibility Settings

Compatibility Settings lets you specify media source values and override the application's **Collate** setting, and combine the **Source** and **Media type** lists in the **Basic** tab.

In a client/server environment, this feature is unavailable to a client logged in as a restricted user.

Media Source Enumeration

Media source enumeration supports compatibility for media source values unique to the printer driver, such as those for cassettes or feeders. Your newly installed printer driver maintains identical media source support with the driver it replaces, whether for this driver or one from another manufacturer. If media source macros exist for the older driver, then the alignment of media source values maintains support without the need to change the macros.

Setting Media Sources

If the values for a given media source differ between printer drivers, you can reassign an enumerated value to create a match between the drivers.

1 In the **Device Settings** tab, select **Compatibility**.

2 From the **Media source enumeration** list, select the paper supply method. The current value is listed in the **Enumerated value** box.

3 Type an **Enumerated value** for the media source, and click **Apply**. To align settings with a different driver, this value should align with those in the other driver.

You can restore all the options in **Compatibility Settings** to the default by clicking **Reset**.

Ignore Application Collation

This option bypasses the **Collate** setting in software applications, and gives priority to the printer driver setting.

With the check box selected, the printer driver **Collate** setting is used.

With the check box cleared, the application **Collate** setting is used.

Selecting Printer Driver Collation

You can ignore the collation setting in the application and use the printer driver collation setting.

1 In **Device Settings** > **Compatibility**, select **Ignore application collation**.

2 Click **OK** in the **Compatibility Settings** and **Properties** dialog boxes.

You can restore all the options in **Compatibility Settings** to the default by clicking **Reset**.

Combine Source and Media Type Lists

You can change the driver's **Basic** tab so that **Media type** and **Source** are combined into one list, labeled **Source**. In the combined list, Media types are listed first, followed by cassettes and **MP tray**.

Creating a Combined Source List

You can combine the **Source** and **Media type** lists in the **Basic** tab to make one **Source** list.

1 In **Device Settings** > **Compatibility Settings**, select **Combine source and media type lists**.

2 Click **OK** in the **Compatibility Settings** and **Properties** dialog boxes.

You can restore all the options in **Compatibility Settings** to the default by clicking **Reset**.

Removing a Plug-in

You can remove an installed plug-in from the driver. If removed, the plug-in features do not appear in the driver interface.

Note: To remove the **Output to PDF** module, **PDF** must not be selected in the **PDL Settings** dialog box.

1 In **Device Settings**, click **About** > **Plug-in**.

2 Select a plug-in module from the list and click **Delete**, then **Yes**.

3 Click **OK** in all dialog boxes.

3 Quick Print

In the **Quick Print** tab, you can apply basic print settings to print jobs. Any **Quick Print** settings can be saved as a group, called a profile, and applied to any print job. Profiles support common printing tasks.

The Administrator can set the view of the **Quick Print** tab through the **Installation** process, or **Administrator Settings** in **Properties**.
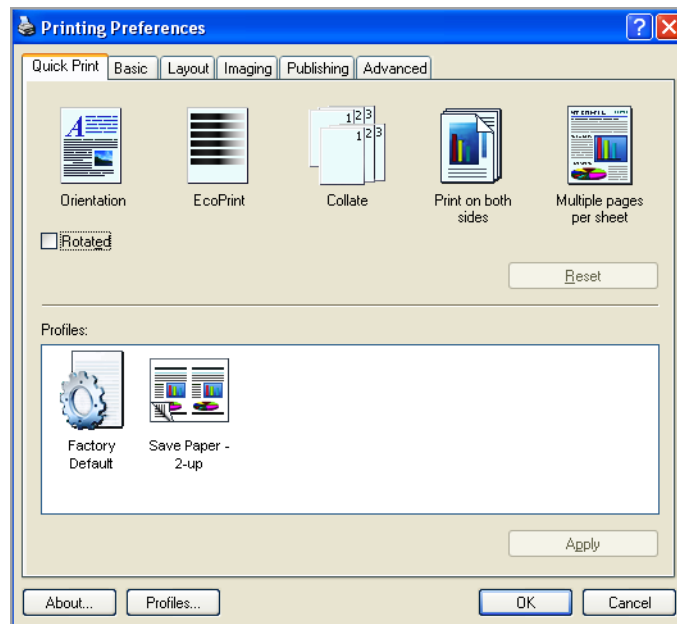
Quick Print Options

You can set one or more print options on the **Quick Print** tab. You can also select from profiles that have been set with predefined options for frequently run print jobs.

Specifying Print Options

The upper section of the **Quick Print** tab has several icons that represent the most common options for print jobs. Click on the **Quick Print** icons and check boxes to change settings for the print job. Some of these options also appear on the **Basic**, **Layout**, and **Imaging** tabs.

Orientation

This icon changes between portrait and landscape printing formats. If needed, check **Rotated** to change the orientation of the printed page by 180 degrees.

EcoPrint

This icon changes the text and graphics to appear lighter in the printed job. **EcoPrint** does not increase print speed.

Collate

This icon changes the ordering of the printed pages. The page ordering sequence can either be 123, 123, 123, or 111, 222, 333, and so on.

Print on both sides

This icon changes between duplex printing for flipping on the long edge, duplex printing for flipping on the short edge, or for not using duplex printing.

Multiple pages per sheet

This icon changes between Off, 2, and 4 for the number of pages printed on one sheet. For more than 4 pages per sheet, define these settings in **Layout** > **Multiple pages per sheet**.

Any basic print options can be **Reset** to the default values in the **Quick Print** tab. This button only appears when it is accessed from an application's **Print** dialog box.

The following sections describe some of the **Quick Print** tab options in more detail. **Collate**, **Duplex printing**, and **EcoPrint** can also be found in the **Basic** and **Imaging** tabs, and **Multiple pages per sheet** in the **Layout** tab. The **Profiles** options are accessed from **Printing Preferences**.

Collate

Collate specifies the order in which the pages of a multiple copy job are printed. With **Collate** selected, the first time the print job is sent to the printing system the data is rendered as page images in the printing system's memory. The remaining job copies are printed from the stored data. This avoids the extra processing involved in sending every copy from the computer to the printing system.

With **Collate** selected, the driver prints the complete job set by set. With **Collate** cleared, it prints each page by set. For example, with **Collate** selected, three copies of a five-page document outputs as pages one through five in succession, three times.

The printer driver automatically overrides the application's **Collate** setting and uses the printer driver setting. You can use the application's **Collate** setting by clearing the **Ignore application collation** check box in the **Compatibility Settings** dialog box accessed from **Device Settings**.

Duplex Printing

Duplex printing is printing on both sides of each page. Select **Print on both sides** to start duplex printing. The printer system contains a duplex unit that turns the paper over to allow printing on the reverse side. **Print on both sides** must be selected to print on both sides of the cover and insert pages.

Flip on long edge

Turn the long edge of the page to view the content, like the pages of a book bound at the side.

Flip on short edge

Turn the short edge of the page to view the content, like a tablet bound at the top.

Multiple Pages per Sheet

Multiple pages per sheet prints several pages on a single sheet of paper for the purpose of reviewing the document and conserving paper. The size and readability of the multiple pages decrease as the number of pages per sheet is increased. You can set the arrangement of the pages from the **Layout** tab as well as print borders around each of the pages.

When **Multiple pages per sheet** is selected, **Poster** and **Scaling** are unavailable.

Profile Options

In the **Profiles** section, you can select from available profiles to print a job. You can select from predefined profiles, create your own profile, or import profiles. You can also rearrange the icons and edit and delete profiles.

Selecting Profiles

The **Profiles** button at the bottom of the **Quick Print** tab always includes a **Factory Default** profile that returns the driver options to their default settings. The profiles can include **Common Profiles**, which are installed as optional components through the **Printer Installation Wizard**, and any custom profiles created. **Factory Default** and administrator profiles cannot be modified.

1 Click **Profiles**.

2 In the **Profiles** dialog box, select a profile.

3 Click **Apply**.

The side panel displays the options for that profile. If any of the **Quick Print** options are not represented in the predefined profile, the **Quick Print** icon is unavailable.

4 Click **OK**.

Saving a Profile

The **Save** button lets you create your own profiles. You can select the printing options you want in the driver, then save the driver settings including your customizations as a profile. You can then use that profile to print the same type of print job again without having to reselect all the settings. In **Printing Preferences**, the **Profiles** button appears at the bottom of all the tabs.

1 Set the printing options you want for your print job by opening **Printing Preferences** and selecting all your driver settings.

2 Click **Profiles** > **Save**.

3 To identify the profile, type a **Name**, select an **Icon**, and type a **Description**.

4 Click **OK** to save the profile.

The newly added profile appears in the **Profiles** dialog box.

5 Click **Apply** to use the selected profile for the current print job, or click **OK** to close the dialog box.

> **Note:** To reset the printer driver to default settings, select the **Factory Default** profile, and click **Apply**. This clears the settings of a selected profile.

Editing a Profile

The **Edit** button lets you make changes to an existing profile. The **Factory Default** profile cannot be edited.

1 In any tab, click **Profiles**.

2 In the **Select profile** section, select the profile to be edited, and click **Edit**.

3 Any of the three options can be edited: name, icon and description. Click **OK** to save the edited changes.

The newly edited profile appears in the **Profiles** dialog box.

4 Click **Apply** to activate the selected profile to the current print job, or click **OK** to close the dialog box.

Deleting a Profile

The **Delete** button lets you remove an existing profile. The **Factory Default** profile cannot be deleted.

1 In any tab, click **Profiles**.

2 In the **Select profile** section, select the profile to be deleted, and click **Delete**.

3 A message appears confirming the removal of the profile. Click **Yes** to remove.

4 Click **OK** to close the **Profile** dialog box.

Importing a Profile

The **Import** button lets you import a copy of a profile from other printer drivers into your printer driver.

1 In any tab, click **Profiles** > **Import**.

2 Browse for the existing profile (.KXP), select it, and click **Open**.

A message appears if any of the profile settings in the imported file are not available in the existing driver. Select **Yes**, to import the profile, or **No**, to cancel the import.

3 If you selected **Yes** in the previous step, the newly imported file appears in the **Profile** dialog box.

4 Click **Apply** to use the selected profile for the current print job, or click **OK** to close the dialog box.

Exporting a Profile

The **Export** button lets you export a copy of a profile from your printer driver for use in other printer drivers. The **Factory Default** profile cannot be exported.

1 In any tab, click **Profiles**.

2 In the **Select profile** section, select the profile to be exported, and click **Export**.

3 The **Export Profile** dialog box appears. Name and save the profile.

4 Click **OK** to close the **Profiles** dialog box.

4 Basic

In the **Basic** tab, you can specify the most commonly used printer driver settings.
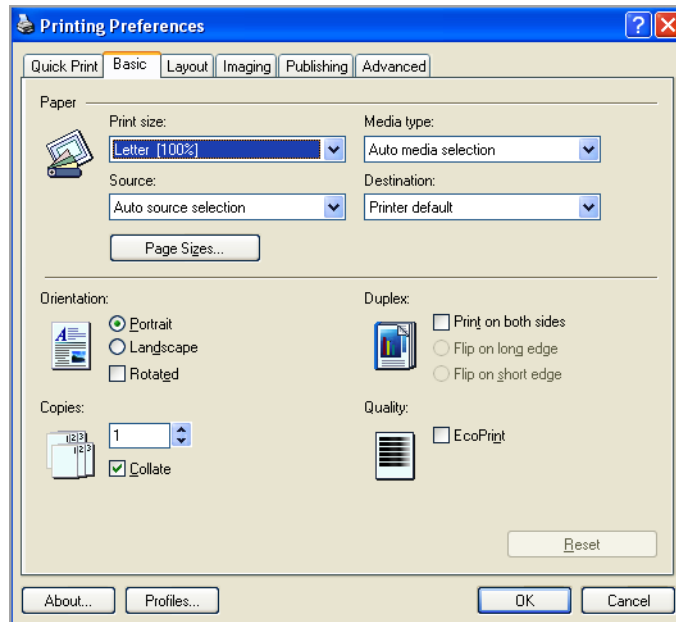
Basic Paper Settings

The **Basic** tab contains several settings for the most commonly used printing tasks.

Print size

This setting sets the size of the area that the printer prints to, regardless of the actual paper size that is used by the printing system.

Source

This setting specifies the cassette or tray that the printing system draws paper from. Unless you are using a custom paper type, you can leave it set to **Auto source selection**.

Media type

This setting selects the **Source** based on the types of media that are specified in the printing system. In general, you can leave it set to **Auto media selection**.

Destination

This setting specifies which output tray is used for the print job output.

Orientation

This setting specifies the paper orientation of the print job. If **Rotated** is selected, the print job orientation is rotated 180 degrees.

Copies

This setting specifies the number of copies to print. For collating multiple copies, select **Collate**.

Duplex

This setting lets you print on both sides of a page and select the printed page to appear oriented from a long edge (as bound by a book) or a short edge (as a tablet bound at the top).

Quality

EcoPrint makes the entire image, text and graphics, appear lighter in the printed job. This setting does not increase print speed.

Note: Some applications may override print settings made in the driver. Usually the application can be set to follow the settings. In Microsoft Word 2007, ensure that **Default tray** in **Options** is set to **Use printer settings**.

Source and Media Types

In the **Basic** tab, **Source** specifies which tray or cassette the printer uses for a printing job. The default is **Auto source selection**, which instructs the printer to search for the media requested by the application or the printer driver. If the selected tray or cassette empties during a print job, then the printer searches for another source, and continues the job.

Media type instructs the printer to search for the type of paper or media that is requested by the application or the printer driver. The choices shown may change depending on the selection in **Source**. If **Auto media selection** is selected, then the printer searches for another tray or cassette using the same media.

Transparencies, labels, and envelopes must be supplied from the **MP tray**. Ensure the paper is properly loaded by following the instructions outlined in the printing system's *Operation Guide*.

Note: **Source** and **Media type** are separate items in the dialog box, but can be combined using the **Combine source and media type lists** setting in **Compatibility Settings**. If they are combined, **Media type** is not available on the **Basic** tab. To change this setting, open **Device Settings** > **Compatibility Settings** and clear the **Combine source and media type lists** selection.

Print Size and Page Size

Print Size controls the output page size of the document. To use this setting, ensure that the **Page Sizes** setting matches the page size setting in your application. If the **Print Size** is different from the page size in your application, then each page is enlarged or reduced to match the **Print Size**. The percentage value shown in brackets indicates the size of the **Print Size** setting relative to the **Page Sizes** setting. If the **Page Sizes** does not match the page size setting in the application (the size of the original) then, in most cases the **Print Size** is ignored and the document prints out based on its original size.

You can create a page size with your chosen dimensions for printing on non-standard size paper. You can then save the custom setting to the **Page Sizes** and **Print Size** lists for later selection.

Creating a Custom Page Size

To use custom page sizes, they must be created and added to the **Print size** list. The driver supports a maximum of twenty custom sizes.

1 In the **Basic** tab, click **Page Sizes**.

2 Click **New**.

3 A default custom name appears in the **Name** box. Type a name for your custom page size.

4 Type or select values for the height and width. If the height or width value exceeds the allowable limit, it automatically adjusts to the limit after **Apply** or **OK** is clicked.

5 When done, click **Apply**.

The custom page size appears in the **Print size** list, which is used for enlarging and reducing the sizes of prints.

To delete a custom page size from the **Page Sizes** dialog box, select the name of the custom page size and click **Delete**.

Printing with Custom Size Pages

You can print on custom-sized pages.

1 Load custom-sized paper into the MP tray.

2 In the **Basic** tab, select the name of your custom page size in the **Print Size** list.

3 Click **OK** to return to the **Print** dialog box.

4 Click **OK** to start printing.

Duplex Printing

Duplex printing is printing on both sides of each page. Select **Print on both sides** to start duplex printing. If it is not selected, then the printer prints on only one side of each page. The printer system contains a duplex unit that turns the paper over to allow printing on the reverse side. **Print on both sides** must be selected to print on both sides of the cover and insert pages.
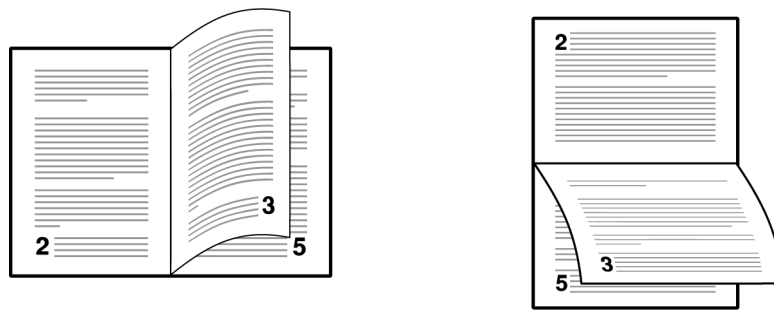
Flip on long edge

Turn the long edge of the page to view the content, like the pages of a book bound at the side.
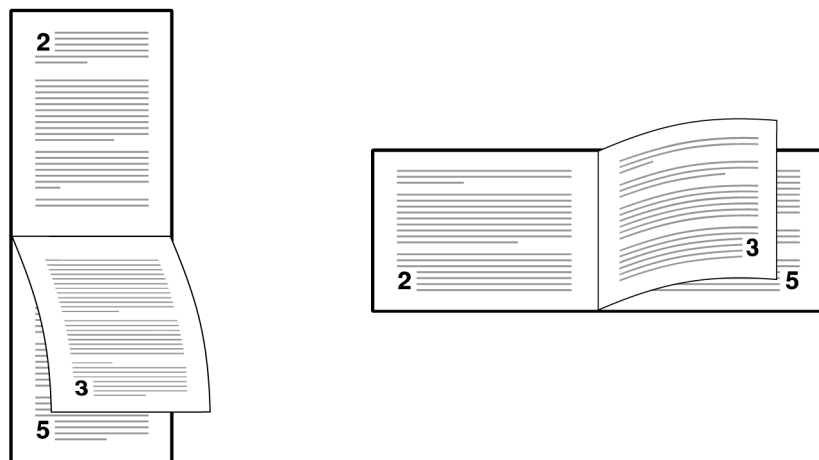
Flip on short edge

Turn the short edge of the page to view the content, like a tablet bound at the top.

Flip on long edge

Flip on short edge

Printing in Duplex Mode

You can print on both sides of each page.

1 In the **Basic** tab, select **Print on both sides**.

2 Select either **Flip on long edge** or **Flip on short edge**.

3 Click **OK** to return to the **Print** dialog box.

4 Click **OK** to start printing.

Collate

Collate specifies the order in which the pages of a multiple copy job are printed. With **Collate** selected, the first time the print job is sent to the printing system the data is rendered as page images in the printing system's memory. The remaining job copies are printed from the stored data. This avoids the extra processing involved in sending every copy from the computer to the printing system.

With **Collate** selected, the driver prints the complete job set by set. With **Collate** cleared, it prints each page by set. For example, with **Collate** selected, three copies of a five-page document outputs as pages one through five in succession, three times.

The printer driver automatically overrides the application's **Collate** setting and uses the printer driver setting. You can use the application's **Collate** setting by clearing the **Ignore application collation** check box in the **Compatibility Settings** dialog box accessed from **Device Settings**.

Printing Collated Documents

When printing multiple copies of a multiple page document, the printer can assemble the pages of each copy in numerical order.

1 In the **Basic** tab, select the **Collate** check box.

2 Type or select the number of complete sets of the print job in the **Copies** box. The document page count must not exceed the printer tray capacity.

3 Click **OK** to return to the **Print** dialog box.

4 Click **OK** to start printing.

EcoPrint

EcoPrint makes the entire image, text and graphics, appear lighter in the printed job. **EcoPrint** does not increase print speed.

About

The **About** button on the bottom portion of any **Printing Preferences** screen or **Device Settings** screen opens a dialog box that displays the driver version number and driver plug-in information.

Displaying Version Information

In **Device Settings** or any tab, click **About** > **Version** to view the following driver information:

File Name

Version

Description

Date

Manufacturer

Comments

To view copyright information, click **Legal Notices**.

Click **OK** to close the driver information dialog boxes.
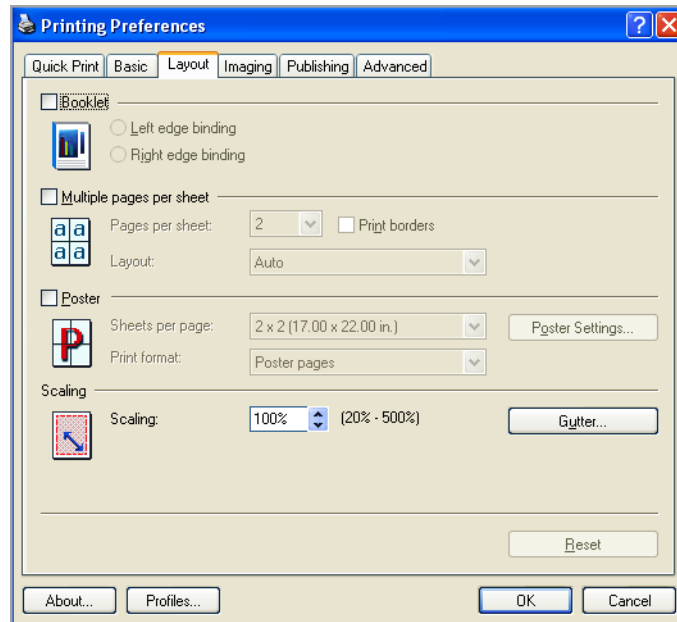
Displaying Plug-in Information

A plug-in integrates with the printer driver to extend the driver's capabilities.

In **Device Settings** or any tab, click **About** > **Plug-in** to view the following plug-in information:

Module

Description

Version

5 Layout

In the **Layout** tab, you can arrange document data on printed pages without affecting the original document.

Booklet

Booklet prints a two-page layout on both sides of each sheet of paper. You can fold and bind the booklet in the center. Folded booklets are half the size of the selected paper. For example, if you select **Letter** in **Basic** > **Paper** > **Print size**, the printed output can be folded into a 5.5 x 8.5 inch-size booklet.

When **Booklet** is selected, **Multiple pages per sheet**, **Poster** and **Scaling** are unavailable.

A different paper source can be selected for the booklet cover. To include a cover on the booklet, select the **Publishing** tab, then select **Cover mode**.

Printing a Booklet

You can print a booklet.

1 In the **Layout** tab, select **Booklet**, and one of the two binding options.

Left Edge Binding

This selection prints text that reads from left to right.

Right Edge Binding

This selection prints text that reads from right to left.

2 Click **OK** to return to the **Print** dialog box.

3 Click **OK** to start printing.

Multiple Pages per Sheet

Multiple pages per sheet prints several pages on a single sheet of paper for the purpose of reviewing the document and conserving paper. The size and readability of the multiple pages decrease as the number of pages per sheet is increased. You can set the arrangement of the pages from the **Layout** tab as well as print borders around each of the pages.

When **Multiple pages per sheet** is selected, **Poster** and **Scaling** are unavailable.

Printing Multiple Pages per Sheet

You can print several pages on a single sheet of paper.

1 In the **Layout** tab, select **Multiple Pages per sheet**.

2 In **Pages per sheet**, select the number of pages to print on each sheet of paper.

3 If you want to print a border around each page, select **Print borders**.

4 In the **Layout** list, select the horizontal direction the pages should flow.

5 Click **OK** to return to the **Print** dialog box.

6 Click **OK** to start printing.

Poster

The **Poster** feature lets you create a document to a size that is larger than the paper your printer can support. You can print a poster, or banner, up to 25 times larger than the original document. Segments of the poster document are printed on several sheets of paper and with the assistance of poster settings, you can reassemble the sheets easily to create a poster.

When **Poster** is selected, **Booklet**, **Multiple pages per sheet** and **Scaling** are unavailable.

Use **Sheets per page** to select the poster size in relation to the original document size. Each option shows the number of sheets to be printed and the maximum poster size.

Note: The **Sheets per page** displays the unit of measurement in inches or millimeters. You can change the **Units** setting in the **User Settings** dialog box, accessed from **Device Settings**.

Use **Poster Settings** to select options, in any combination to make it easier to create a poster. These options print visual cues on the poster sheets that provide help in cropping and assembling the pages.

Overlap edges

This selection duplicates the edges of document data on adjoining sheets. Poster appearance is improved when the edges overlap slightly. Select the

check box, then type or select a value between 0.00 and 1.20 inches (0.0 and 30.4 mm). This option reduces the final poster size slightly.

Print crop marks

This selection prints a border at the edges of each poster sheet. You can crop each sheet on the border before assembling the sheets. This option ensures that data on adjoining sheets matches precisely.

Print assembly marks

This selection prints numbers at the edges of each sheet, matching numbers on adjoining sheets. Assemble each sheet edge to the same numbered edge on another sheet.

Use **Print format** to print a proof sheet, along with the poster, to guide you in assembling the printed poster sheets.

Poster pages

This selection prints all of the sheets to be assembled as a poster.

Proof sheet

This selection prints all the poster pages on one sheet with markings that display the sheet assembly.

Poster pages and proof sheet

This selection prints all poster sheets and a one-page proof sheet.

Printing a Poster

You can print a poster.

1 In the **Layout** tab, select **Poster**.

2 In **Sheets per page**, select the poster size. Each option describes the number of sheets it takes to represent one finished poster page.

3 Click **Poster Settings** to select options in any combination. These options ensure a precise assembly of the pages to create the poster.

4 In **Print format**, select one of the options for a finished print format.

5 Click **OK** to return to the **Print** dialog box.

6 Click **OK** to start printing.

Scaling

Scaling increases or decreases text and graphics on a page. You can also select a gutter setting that enlarges the margins to accommodate an easier assembly of pages into a booklet. **Scaling** is not available when **Booklet**, **Poster** or **Multiple pages per sheet** is selected.

Setting Scaling on the Page

You can increase or decrease text and graphics on a page.

1 In the **Layout** tab, select **Scaling**.

2 Type or select a percentage between 20 to 500.

Scaling adjusts proportionately the height and width of the page. A lower percentage reduces the page and a higher percentage enlarges the page.

3 Click **OK** to return to the **Print** dialog box.

4 Click **OK** to start printing.

Gutter

A gutter creates additional blank space on the left side and at the top of the sheet. It is often used for binding, hole punch or stapling to make a print job easier to read. Increasing the measurements in **Gutter** increases the margins around your text and graphics on the left side, or top of the printed sheet. This creates a larger margin space by shifting the printable area to the right, or down as much as one inch (25.4 mm).

Creating a Gutter

You can increase the margins on the left side and at the top of the printed sheet.

1 In the **Layout** tab, click **Gutter**.

2 In the **Gutter width** options, type a value between 0.20 to 1.00 inches (5.0 to 25.4 mm).

Long edge (left)

This selection modifies the outside margin on the left-side of the page.

Short edge (top)

This selection modifies the outside margin on the top-edge of the page.

Note: Availability of **Gutter** settings varies depending on **Orientation** and **Duplex mode** settings in the **Basic** tab.

3 If text extends too close to the edge of the page, select **Reduce image to fit**. The text appears slightly reduced and away from the edge of the page. If text does not extend beyond the page when the gutter increases, clear **Reduce image to fit**.

4 Click **OK** to save gutter settings, then click **OK** again to return to the **Print** dialog box.

5 Click **OK** to start printing.

6 Imaging

In the **Imaging** tab, you can manage print quality and grayscale settings.
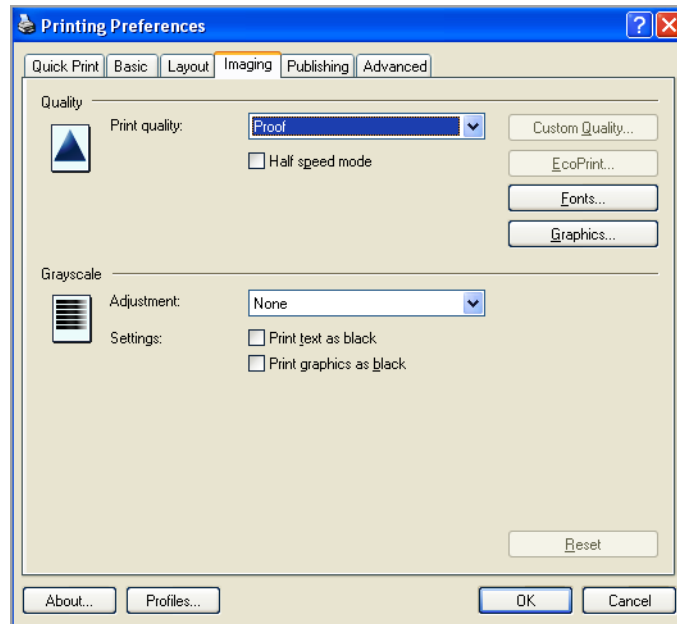
Print Quality and Custom Quality

Print quality lets you set the resolution for the print job. Resolution is a measurement, in dots per linear inch (dpi), that describes the sharpness and clarity of printed text and images. **Custom Quality** lets you set a more refined resolution for the print job.

Selecting Print Quality

In the **Imaging** tab, select a **Print quality** from the list. The number of selections in **Print quality** depends on the number of resolutions supported by the printing system.

High quality, **Proof**, **Draft**

Select one of these settings to print from the highest to the lowest print resolution. **Proof** is unavailable when **PCL5e** is selected in the **PDL Settings** dialog box.

Custom

Custom lets you choose a setting for **Custom Quality** and **EcoPrint**. Selecting **Custom** without **EcoPrint** results in a default setting to the highest printing system resolution.

Click **Custom Quality** to open a settings dialog box with selections for a more refined resolution. **Resolution** can be set to **Fine 1200**, **Fast 1200**, **600 dpi**, or **300 dpi**. **KIR** smoothes the edges of text and vector graphics and can be set to **On**, or **Off**.

Selecting EcoPrint

EcoPrint changes toner saturation in the printed job, making the entire print image, including text and graphics, appear lighter. The amount of toner varies based upon your printing system model and the type of data printed (text, graphics, or both). **EcoPrint** is also available in the **Quick Print** and **Basic** tabs.

1 In the **Imaging** tab, in the **Print Quality** list, select **Custom**.

2 Click **EcoPrint** to open the **EcoPrint** dialog box.

3 To start **EcoPrint**, select **On**; to stop it, select **Off**.

4 Click **OK** to close the **EcoPrint** dialog box.

Half Speed Mode

Half speed mode reduces the print speed to half the rated speed. When selected, the toner adheres better when printing on small size, thick, or textured paper. **Half speed mode** is selected automatically when **Labels**, **Rough**, or **Thick** is selected in **Basic** > **Media types**. This mode may result in quieter printing.

To enable this feature, in the **Imaging** tab, select the **Half speed mode** check box.

This feature is unavailable if **PDF** is selected in the **PDL Settings** dialog box.

Note: **Half speed mode** applies to all media types except **Transparency** and **Vellum**.

Fonts

A computer font is a data file containing a set of glyphs (visual representations of textual elements), characters, or symbols. Common terms for fonts are:

Bitmap fonts define each character as a pattern of pixels (the smallest resolvable rectangular areas of an image). Such fonts are not easily scalable and distort when reduced or enlarged.

Outline fonts, in contrast to bitmap fonts, are defined as a set of mathematical lines and curves. An outline font is more easily scalable (designed to display and print clearly at any point size) than a bitmap font.

Native fonts are the basic or original fonts installed with the computer operating system. TrueType fonts are the native fonts used by Microsoft Windows.

TrueType fonts are a type of scalable outline fonts. TrueType has long been the most common format for fonts on Microsoft Windows.

System fonts are the primary fonts used by the operating system. They are typically accessed through an application interface or through a common font dialog box.

Device fonts are stored either permanently or temporarily in the printing system memory.

Font Settings

The **Font Settings** dialog box lets you specify how TrueType fonts are sent to the printing system. The chosen method affects the speed and quality of the print job:

Download as outlines

This method is best suited for large documents or print jobs using multiple fonts and font sizes. Print speeds are faster because of the optimization features in this setting. The repetition of similar font data sent to the printing system is reduced, thereby increasing the print speed. Print speed is not increased when using Asian fonts such as Japanese, Chinese, and Korean, because of the large amount of font information used for these particular fonts.

Allow native download

This method improves text quality and increases print speed by converting TrueType fonts to Adobe Type 42 font format. This feature is available if **KPDL** is selected in the **PDL Settings** dialog box.

Download as bitmaps

Downloading fonts as bitmaps provides more detail, however it creates large file sizes. This is best suited for print jobs with user-defined fonts, very small fonts (point size 1-4), or Asian fonts.

Substitute with device fonts

System fonts and device fonts are automatically matched based on typeface name. This function increases print speed and efficiency. It is useful for changing a font used throughout a large document, by replacing the old font with the desired font.

Note: **GDI compatible mode** does not support **Substitute with device fonts**.

Selecting Font Settings

You can specify how TrueType fonts are sent to the printing system.

1 In **Imaging** > **Font Settings**, select one of the methods for sending TrueType fonts.

2 Click **OK** to return to the **Print** dialog box.

3 Click **OK** to start printing.

Font Substitution

Font substitution is the process of using one font in place of another when the intended font is not available to a printing system. Font substitution may be critical for output of documents to printing systems that are not well supported by a large font inventory.

Setting Font Substitution

You can use one font in place of another.

1 In **Imaging** > **Font Settings**, select **Substitute with device fonts** , then click the **Fonts** button.

In the **Fonts Substitution** dialog box, the **System fonts** list shows the fonts installed on your computer. The **Available device fonts** list shows the printing system fonts.

2   Select the system font, and then the available device font to be substituted.

3   Click **OK** to save your settings.

If the device font does not have similar font characteristics to the system font, character spacing in the document may appear incorrect.

Disable Device Fonts

In some cases, the printing system substitutes fonts even if you send the TrueType fonts as outline fonts or bitmap images. Select **Disable device fonts** to prevent substitution of device fonts for TrueType fonts.

This option also improves portability of printable data. (If cleared, device fonts may not match when sent to a different printing system.)

Some Adobe applications have device font limitations. To overcome these limitations, select **Disable device fonts**. Device fonts are normally visible in the application font lists as printer icons next to the font name, unless there are equivalent system fonts, in which case the "TT" TrueType icon remains.

Disabling Device Fonts

You can prevent substitution of device fonts for TrueType fonts.

1   In **Imaging** > **Font Settings**, select the **Disable device fonts** check box.

2   Click **OK** to save your settings.

Graphics

Graphics are pictorial representations of information. Graphics can be functional (charts, diagrams) or artistic (drawings, photographs). **Graphics Settings** let you select options for your printed graphics.

Note: Some options are available only when a specific PDL is selected.

Selecting Graphics Settings

1   In the **Imaging** tab, click **Graphics** to open the **Graphics Settings** dialog box.

2   In the dialog box, select from the available options, and then click **OK** to save your selections.

Pattern Scaling

Pattern scaling is a feature that can help improve visual compatibility between screen and print output. Graphics objects, such as a shape or a path, often include patterns and fills that are composed of collections of printed dots. A pattern is a planned or random repetition of colors, shapes, lines, values, and textures to create a visual arrangement. A fill is the application of a color or grayscale to a graphics object. If printed patterns and fills do not match the appearance of that on the screen, use **Pattern scaling** to select a different density of printed dots.

In the **Imaging** tab, click **Graphics** to open the **Graphics settings** dialog box and access the **Pattern scaling** settings.

Auto (default setting)

This setting prints patterns and fills to match the on-screen appearance.

Coarse

This setting prints patterns and fills with the fewest number of lines, patterns, or dots. Coarse is the same as Auto when **PCL XL** or **PCL 5e** is selected in the **PDL Settings** dialog box.

Medium

This setting prints patterns and fills with a greater number of lines, patterns or dots than the Coarse setting. Medium is the same as Auto when **KPDL** is selected in the **PDL Settings** dialog box.

Fine

This setting prints patterns and fills with the greatest number of lines, patterns, or dots. Printed patterns and fills may appear more dense than the on-screen appearance.

Inversion Settings

Inversion is the opposite of the normal order, arrangement, or position of an image or printed content.

In the **Imaging** tab, click **Graphics** to open the **Graphics settings** dialog box and access the **Inversion options**. The settings are available when **KPDL** is selected in the **PDL Settings** dialog box.

Reverse image

This setting prints images like a photo negative, reversing black and white areas of the image.

Mirror print

This setting prints the page content backwards, as it would appear in a mirror image.

Optimization Settings

Optimization is a process or methodology of improving a printing system's function or effectiveness.

In the **Imaging** tab, click **Graphics** to open the **Graphics settings** dialog box and access the **Optimization** settings. The settings are available when **KPDL** is selected in the **PDL Settings** dialog box..

Fast printing

This setting increases print speed and decreases spool size. It delivers images in binary format. It can be used for most everyday printing needs.

Document portability

This setting creates a PostScript file in ASCII text encoding. Unlike the binary format created in **Fast printing**, the ASCII text created with this selection can be edited.

Halftone Screen

Halftone Screen lets an experienced user print different shades of gray as are found in photographs. Shades are produced by printing dots of various sizes and shapes, and by spacing them closer or farther apart. Shading can also be

adjusted by the number of rows of data, the angle of the rows, and the shape of the data.

Halftone Screen is available if **KPDL** is selected in the **PDL Settings** dialog box. It is unavailable if **GDI compatible mode** is selected in the **PDL Settings** dialog box.

Setting the Halftone Screen

Halftone Screen provides a means to apply shades of gray to black and white printed output.

1 In **Imaging** > **Graphics Settings**, click **Halftone Screen**.

2 Clear the **Use printer's default screens** check box.

3 Set the available options to the desired values:

Ink

Lists the halftone screens available. For black and white printers, this option appears unavailable and is permanently set to **Black**.

Frequency

Displays the number of rows of dots per inch or centimeter. Set the range from 2.0 to 999.9, and select lines/inch or lines/cm.

Angle

Sets the angle at which rows are aligned. Set the range from -180 to 180 degrees.

Shape

Select the shape of the halftone dot:

Ellipse

Resists optical jump. An optical jump occurs when an area of an image suddenly become darker. An ellipse shape provides a smooth gradation of tones. Select **Ellipse** for images with dark areas.

Round

Resists moiré formation and dot gain. Moiré formation is an unintended pattern that occurs when two or more colors are printed at the wrong angles. The correct angles depend on the number of colors being printed. Dot gain is when the halftone dots increase when printed, causing a moiré pattern. Select **Round** for images with light tints and highlighted areas.

Line

Used for special effect. Select **Line** to change the effect by selecting a different angle.

4 Select **Increase accuracy of screens** for better print quality, possibly increasing print time.

5 Click **OK** to return to the **Print** dialog box.

6 Click **OK** to start printing.

Adjusting Grayscale

The grayscale adjustment settings change the **Brightness** and **Contrast** of graphics. These settings are useful if graphic images are printing too light, too gray, or too dark. Text remains unaffected.

1 In the **Imaging** tab, under **Adjustment**, select **Custom**.

A preview image in the **Adjustment Settings** dialog box illustrates any brightness and contrast changes.

2 Drag the **Brightness** slider right to lighten, or left to darken the graphic images of the print job.

You can also change brightness by entering a numeric value in the text box at the right. The brightest setting is +100; the darkest is -100. Zero is the default mid-level setting. Adjusting brightness is useful when graphic images are printing too dark or too light.

3 Drag the **Contrast** slider right or left to increase or decrease the proportion of light to dark in the graphic images of the print job.

A high contrast setting decreases the grayscale spectrum, making light grays lighter and dark grays darker. A low contrast setting increases the grayscale spectrum, making light grays darker and dark grays lighter.

You can also change contrast by entering a numeric value in the text box at the right. The highest contrast setting is +100; the lowest is -100. Zero is the default mid-level setting. Adjusting contrast is useful if graphic images are printing too gray, or too black and white.

4 Click **OK** to save your grayscale adjustment settings.

Selecting Text and Graphics Effects

Print text as black

This option prints all color text as black. It produces faster printing of color text by reducing the amount of data sent to the printer. In black and white printers, it increases the detail for light-colored text printed. White text and image colors are unaffected.

Print graphics as black

This option prints all color graphics with black, rather than grayscale. This feature is intended for CAD applications.

7 Publishing

In the **Publishing** tab, you can create covers, inserts, and add transparencies for a print job.
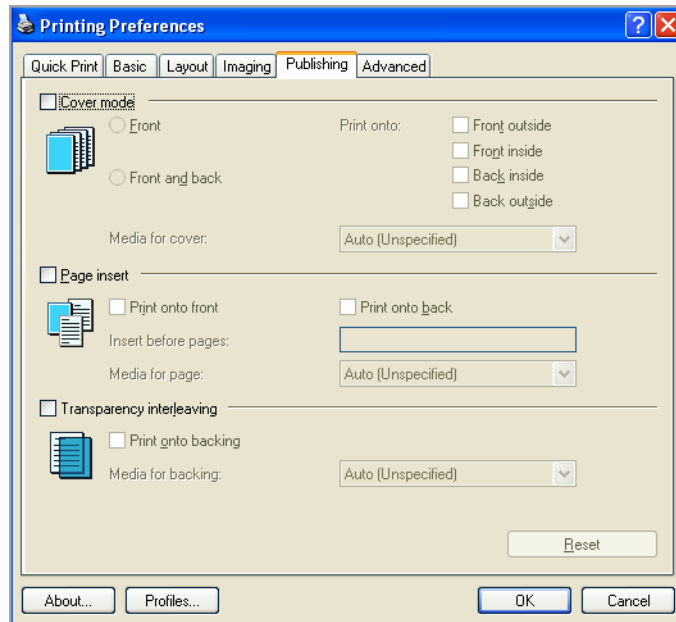
Cover Mode

Cover mode is a feature for adding cover pages for the front and back of your document. You can print on cover pages of a different weight or color than the main document. The source of the cover paper is specified by adjusting the **Media for cover** settings in the **Publishing** tab.

Print on both sides must be selected in the **Basic** tab or in the **Quick Print** tab in order to print using the **Front inside** or **Back outside** options.

Although **Cover mode** and **Page insert** may be used simultaneously, they cannot be used with **Transparency interleaving**.
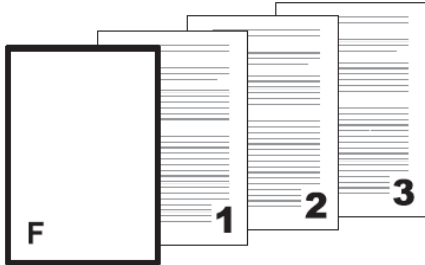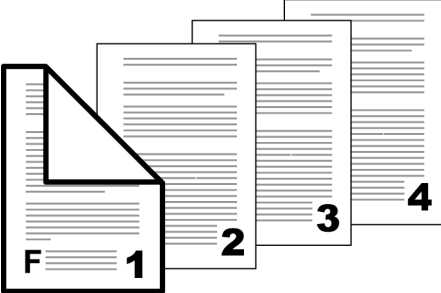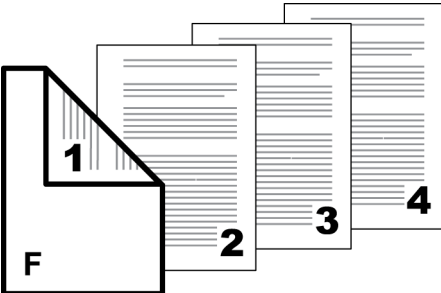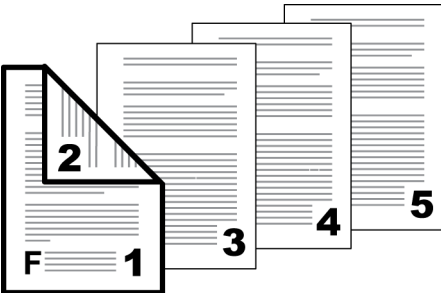
Printing Covers
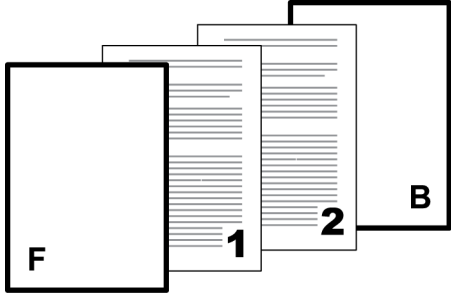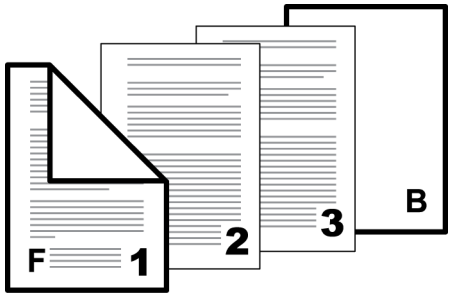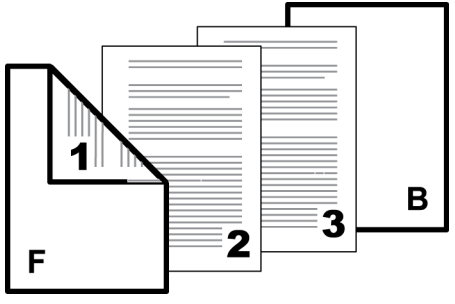
You can choose cover pages for printing.
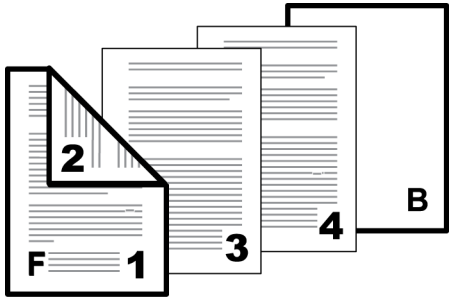
1 In **Publishing** > **Cover mode**, select **Front**, **Front and back**, or the **Print onto** options to specify what type of covers to print.

2 Select the **Media for cover** to specify what type of paper or other media to use for the covers.

3 Click **OK** to return to the **Print** dialog box.

4 Click **OK** to start printing.
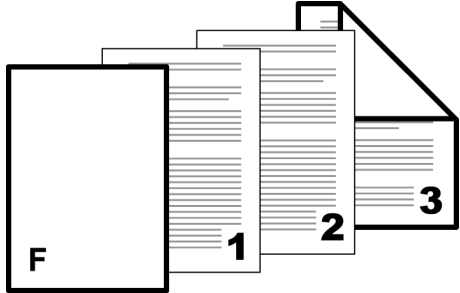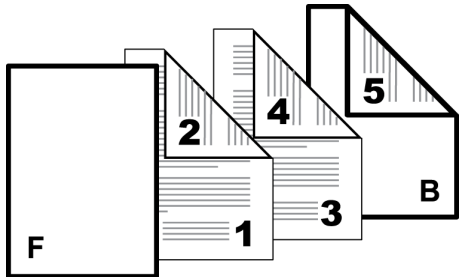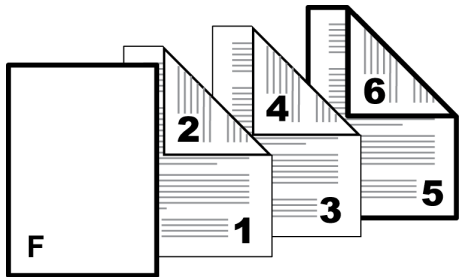
Cover Mode Options

Check Box Selection	Cover Insertion Type
Front	Inserts a blank front cover.
Front Front outside	Prints on the outside surface of the front cover.
Front Front inside	Prints on the inside surface of the front cover.
Front Front outside Front inside	Prints on the outside and inside surfaces of the front cover.

— continued

Check Box Selection	Cover Insertion Type
Front and back	Inserts blank front and back covers.
Front and back Front outside	Prints on the outside surface of the front cover and inserts a blank back cover.
Front and back Front inside	Prints on the inside surface of the front cover and inserts a blank back cover.
Front and back Front outside Front inside	Prints on both sides of the front cover and inserts a blank back cover.

Check Box Selection	Cover Insertion Type
Front and back Back inside	Prints on the inside surface of the back cover and inserts a blank front cover.
Front and back Back outside	Prints on the outside surface of the back cover and inserts a blank front cover.
Front and back Back inside Back outside	Prints on both sides of the back cover and inserts a blank front cover.
Front and back Front outside Front inside Back inside Back outside	Prints on both sides of the front and back covers.

Choosing Cover Media

You can select media for the cover.

1 In **Imaging** > **Cover mode**, in the **Media for cover** list select the media type or source cassette for the front and back covers.

When you choose the media type, a source cassette matching that media type is automatically selected.

2 Click **OK** to return to the **Print** dialog box.

3 Click **OK** to start printing.

Page Insert

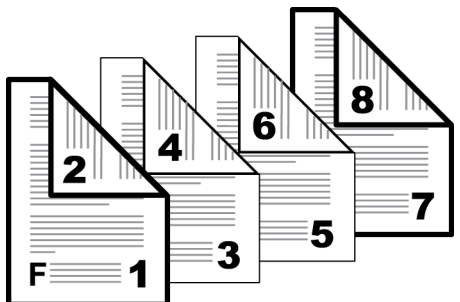A **Page insert** is a preprinted page or a page of a different paper type that is inserted at specified points in a print job. The inserted page can also be printed on during the print job. Both sides of the page insert can be printed on by using the duplex unit.
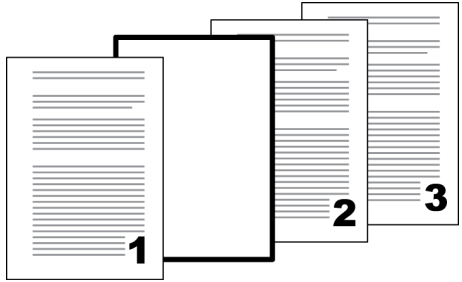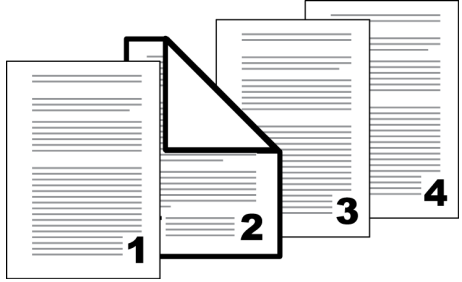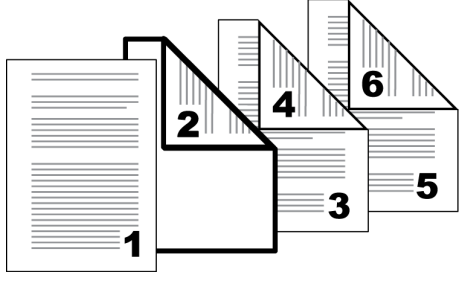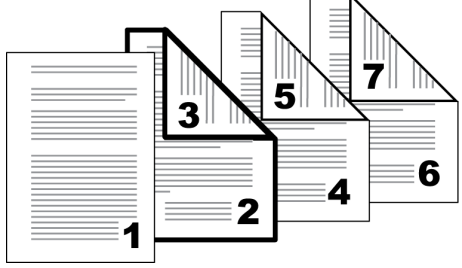
Although the **Page insert** and **Cover mode** options can be used together, neither of them can be used with **Transparency interleaving**.

Printing Page Inserts

There are several ways to arrange page inserts: you can print on one or both sides or insert a blank sheet.

1 In **Publishing** > **Page insert**, select the option corresponding to your desired page arrangement.

2 To print on both the front and back of the inserted page, select the **Print onto front** and **Print onto back** check boxes.

3 In **Insert before pages**, type the page number to insert. A page will be inserted between the page number you typed and the page before it.

4 From the **Media for page** list, select the media type of the inserted page or the source paper cassette.

5 Click **OK** to return to the **Print** dialog box.

6 Click **OK** to start printing.

Page Insertion Options

Check Box Selection	Page Insertion Type
Page insert	Inserts a blank page.
Page insert Print onto front	Prints on the front side of the inserted page.
Page insert Print onto back	Prints on the back side of the inserted page.
Page insert Print onto front Print onto back	Prints on both sides of the inserted page.

Transparency Interleaving

Transparency interleaving inserts a backing sheet between printed transparencies. The backing sheet, also known as an interleaf, helps keep transparencies clean and prevents them from clinging together. This feature is

only available when printing on transparencies supplied from the **MP tray**. You can print the same content on the backing pages as on the transparencies.

Transparency interleaving cannot be used together with **Cover mode** or **Page insert**.

Interleaving Transparencies

You can insert backing sheets between transparencies.

1 In **Basic** > **Media type**, select **Transparency**. If the **Source** and **Media type** lists have been combined (by a selection in **Device Settings** > **Compatibility Settings**), **Media type** does not appear. Instead, in the **Source** list select **Auto (Transparency)**.

2 Click **Publishing** > **Transparency interleaving**.

3 To print the transparency content on the inserted pages as well, select the **Print onto backing** check box.

4 In the **Media for backing** list, select the **Media type** of the backing sheet or the **Source** paper cassette. When you choose the **Media type**, the **Source** cassette where that media is loaded is automatically selected.

5 Click **OK** to return to the **Print** dialog box.

6 Click **OK** to start printing.

The printing system's operation panel prompts you to load transparencies into the **MP tray**, and, if necessary, load backing paper into the selected cassette.

8 Advanced

In the **Advanced** tab, you can choose special features that extend the capabilities of the printing system.
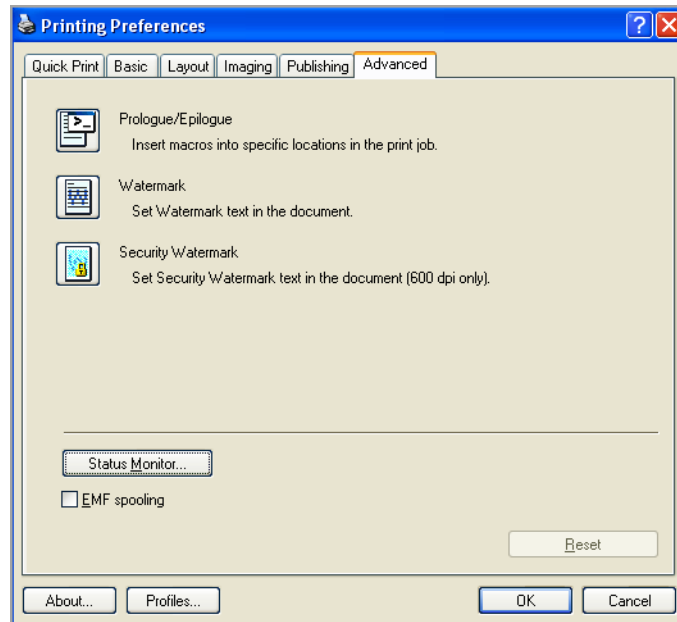
Prologue/Epilogue

The **Prologue/Epilogue** feature enables a user to insert a command file at the beginning of a print job or at the end. The command file, prepared in a text editor, utilizes programming commands from the printer resident PRESCRIBE language. The **Product Library CD** includes a PRESCRIBE command language reference guide. A command file is a set of instructions the printing system interprets to produce a given output. For example, a **Prologue/Epilogue** command file may contain a macro that places a graphic object such as a logo at the top of a letterhead document.

Selecting a Prologue/Epilogue File

A **Prologue/Epilogue** file must be available on your system before it can be added to a print job. To create this file, use a text editor like Windows Notepad.

In **Advanced** > **Prologue/Epilogue** , select a **Prologue/Epilogue** file to insert into the print job. (If no file names are visible in the list, you must click **Add** to browse for files on your computer or network to add to the list.) After the file is selected, insertion point options become available.

Editing a Prologue/Epilogue File

You can edit a Prologue/Epilogue file on your system.

1 In **Advanced** > **Prologue/Epilogue** , select a command file name from the list, and then click **Edit**. Notepad opens for editing the text file.

2 Make your changes to the file.

3 Save the file, and exit Microsoft Notepad.

Note: Editing and saving a command file replaces the contents of the existing local or network file.

Deleting a Prologue/Epilogue File

You can remove a **Prologue/Epilogue** file from the list.

1 In **Advanced** > **Prologue/Epilogue** , select a **Prologue/Epilogue** file name from the list, and then click **Delete**.

2 In the delete confirmation box, click **Yes** to accept.

Note: Only the file name is removed from the command file list. The file itself is not deleted, but remains on the network or local computer.

Assigning a Prologue/Epilogue File

You can insert a **Prologue/Epilogue** file into a print job.

1 In **Advanced** > **Prologue/Epilogue**, select a **Prologue/Epilogue** file name from the list.

2 Under **Insertion Point**, select a place to insert the **Prologue/Epilogue** file.

Unassigning a Prologue/Epilogue File

If you designate a **Prologue/Epilogue** file as unassigned, you are removing it from the print job. It remains in the list. Unassigned selections are useful when the list contains several **Prologue/Epilogue** files, and you want to use some but not others.

1 In **Advanced** > **Prologue/Epilogue**, select a **Prologue/Epilogue** file name from the list.

2 Under **Insertion Point**, select **Unassigned**.

Specifying the Insertion Point

The insertion point is the location in the print job where the selected **Prologue/Epilogue** command file is processed by the printing system. Each file in the list can be assigned only one insertion point.

Note: The **Start of the page** and **End of the page** insertion point options are available only if **PCL 5e** is selected in the **PDL Settings** dialog box.

With a command file selected in the list, choose one insertion point option:

Unassigned

The selected command file is not inserted into the print job. This selection can be used when you are working with multiple command files and want to use some but not others. Select **Unassigned** for the command files you do not want to use in the print job.

Beginning of the print job

The command file is inserted as the first page of the print job. The document starts printing on the second page.

End of the print job

The command file is inserted as the last page of the print job, which prints after the last page of the document.

Start of the page

The command file is inserted at the top of each page of the print job.

End of the page

The command file is inserted at the bottom of each page of the print job.

Only on odd pages

If **Start of the page** or **End of the page** is selected, this option can be selected to insert the command file into all odd-numbered pages.

Only on even pages

If **Start of the page** or **End of the page** is selected, this option can be selected to insert the command file into all even-numbered pages.

Pages

If **Start of the page** or **End of the page** is selected, this option can be selected to insert the command file into specified pages. In the text box, type individual page numbers separated by commas, or a page range separated by a hyphen. For example, if you type 2 in the text box, the command file is inserted only into page 2. If you type 1, 3, 5-12 the command file is inserted into page 1, page 3, and pages 5 through 12. If the **Pages** option is selected and you click **OK** without typing any numbers, you will be prompted to specify page numbers.

Watermark

A watermark is a recognizable image or pattern that can be placed on a page or throughout a document. You can choose one of the standard watermarks or create your own text. The preview area at the left of the dialog box shows how the watermark appears on a page. This is useful for making adjustments to the appearance and location of the watermark.

Adding or Editing a Watermark

You can create a new watermark that displays your chosen text. Any watermark can be edited, though a limited number of options can be changed for default watermarks.

1 In the **Advanced** tab, click **Watermark**.

2 In the **Watermark** dialog box, click **Add** to create a user defined watermark; or under **Select watermark**, select a default or custom watermark and click **Edit**.

3 Under **Watermark name**, type a name, up to 39 characters. A default watermark cannot be renamed.

4 Under **Watermark text**, type your preferred text. This option is not available when editing a default watermark.

5 Select the desired font, style, and size of the text.

6 Select the color of the watermark from the list. The options available are black and shades of gray.

7 Select the watermark **Count**, to a maximum of 20. In the **Spacing** spin box, select the distance between two or more watermarks in tenths of an inch or in millimeters.

8 Select the **Position** of the watermark with one of the following options.

> **Centered [default]**
>
> This option places the center of the watermark text in the center of the page.
>
> **User defined**
>
> This option lets you manipulate the x and y coordinate boxes to move the text around the page.

You can also change the position by clicking the position button at the bottom of the preview area. Click and hold as you drag the pointer to move the watermark image.

9 Select the **Angle** of the watermark with one of the following options.

> **Diagonal [default]**
>
> This option places the watermark text at the default angle on the page.
>
> **User defined**
>
> This option lets you type a degree value for the angle. An angle is measured in degrees, from 0 to 360.

You can also change the angle by clicking the angle button at the bottom of the preview area. Click and hold as you drag the pointer to move the watermark image.

10 The **Rotate around center** check box at the bottom far right of the dialog box determines the method of rotation for the watermark. You must select **User defined** in both **Position** and **Angle** to enable this option. Select **Rotate around center** to position the watermark text with the center of the text as its axis, and clear it to position the watermark text with the left end of the text as its axis.

11 In all dialog boxes, click **OK**.

Selecting Pages for Watermark

The **Page selection** option for **Watermark** enables you to choose the location for watermarks in your document.

1 In **Advanced** > **Watermark**, under **Select watermark**, choose a default or custom watermark to print.

2 Under **Page selection**, choose pages for printing the watermark:

All pages

This option prints the watermark on each document page.

First page only

This option prints the watermark on the first document page.

All pages except first page

This option prints the watermark on all pages after the first page.

Only on specified pages

This option prints the watermark on page numbers typed in the box.

Print onto front outside cover

This option prints the watermark on the front cover. It is available when **Cover mode** is selected in the **Publishing** tab. If **Cover mode** and **Front outside** are both selected in the **Publishing** tab, **Print onto front outside cover** is selected automatically.

3 In all dialog boxes, click **OK**.

Security Watermark

The **Security Watermark** is a plug-in feature that prints a nearly invisible image or text against a background pattern. The security watermark appears only when the printed page is photocopied. This helps to identify printed pages that should not be photocopied, or to distinguish between original prints and photocopies. Six standard security watermarks are available as text or image, and you can create custom security watermark text.

A notable feature of **Security Watermark** is the **Document guard pattern**, which prevents the document from being photocopied, scanned, faxed, or printed from memory. If a scan, fax, or print from memory is attempted, the process is stopped and an error message appears on the printer's operation panel.

The **Optional Printer Components** wizard offers the opportunity to install the **Security Watermark** plug-in following installation of the printer driver.

Security Watermark appears in the **Advanced** tab after selecting **PCL XL** in the **PDL Settings** dialog box.

The administrator can ensure that a security watermark is printed on all jobs by selecting **Device Settings** > **Administrator** > **Lock Security Settings**.

Selecting **Security Watermark** sets these driver features to the following values:

Watermark in the **Advanced** tab is set to **Off**.

Resolution in the **Imaging** tab is set to **600 dpi**.

KIR in the **Imaging** tab is set to **Off**.

EcoPrint in **Imaging** > **Quality** is set to **Off**.

Adjustment Settings (Brightness and **Contrast** is set to **0** in **Imaging** > **Grayscale** > **Custom**.

The reverse is also true. If these features are changed, then the **Security Watermark** selection is set to **None**, and cannot be used.

Adding or Editing a Security Watermark

You can create a new security watermark that displays text but not an image. Any security watermark can be edited, though a limited number of options can be changed for default security watermarks.

1 In the **Advanced** tab, click **Security Watermark**.

2 In the **Security Watermark** dialog box, click **Add**, to create a new security watermark; or under **Select security watermark**, select a default or custom security watermark and click **Edit**.

3 For **Security watermark name**, type a name up to 39 characters. A default security watermark cannot be renamed.

4 For **Security watermark text**, type text or leave blank. This option is not available when editing a default security watermark. Select from the following options:

None

This option leaves the line blank.

User defined

This option inserts your text up to 39 characters.

All other options display date, time, or other job information that is obtained from the computer or printer driver when the job is printed.

5 Select the desired font, size, style, and angle of the text.

6 Select **Print as footer also** if you want the first available line of security watermark text to be printed at the bottom of the page. Select the page position from the list. This option is useful because the security watermark itself is not normally visible on the printed page.

7 Under **Background pattern**, select a design for the security watermark background.

Standard pattern

Select a design for the security watermark background. This option prints the selected pattern with the security watermark text or image.

Document guard pattern

The document guard design appears as the security watermark background. This option prevents the printed page from being photocopied, scanned, faxed, or printed from memory. If a photocopy is attempted, then gray copy is produced. If a scan, fax or print from memory is attempted, the process is stopped and an error message appears on the printing system's operation panel.

8 Select **Overprint** for applications such as Microsoft PowerPoint and Internet Explorer where the document content fills the entire page. The security watermark is printed over the document data so that it can appear in a

photocopy. When editing an image, or if **Device Settings** > **PDL Settings** > **GDI compatible mode** is selected, **Overprint** is selected automatically.

9 Adjust the calibration. After adjusting calibration, in all dialog boxes click **OK**.

Adjusting Security Watermark Calibration

For a security watermark to be effective, it must be nearly invisible in a printed page and clearly visible in a photocopied page. Because printing systems and driver settings can vary, you must adjust the calibration before printing a security watermark. Adjusting the calibration is also recommended when changing the background pattern, replacing the toner or printing system, and after heavy printing activity.

1 In **Advanced** > **Security Watermark**, click **Add** to create a user defined security watermark; or under **Select security watermark**, select a default or custom security watermark and click **Edit**.

2 After all security watermark options are selected in the **Add Security Watermark** or **Edit Security Watermark** dialog box, click **Adjust Calibration**.

3 Under **Pattern shading** and **Text contrast**, select initial options:

Light, Normal, Dark

Select the shading density of the background pattern.

Contrast 1-9

Select the level of contrast against the background pattern, from lightest to darkest.

These selections may need to be changed after printing a sample in the next step.

4 Click **Print Sample** to print a page displaying all nine contrast options against the selected pattern shading. It is recommended to print a sample page for each pattern shading option.

5 From the **Text Contrast Sheet**, find the sample where the security watermark is most nearly invisible.

6 In the **Adjust Calibration** dialog box, select options to match the sample chosen in step 4.

7 In all dialog boxes, click **OK**.

Selecting Pages for Security Watermark

The **Page selection** options for security watermark determine where the security watermarks are placed in the print job.

1 In **Advanced** > **Security Watermark**, under **Select security watermark**, choose a default or custom security watermark to print.

2 Under **Page selection**, choose pages for printing the security watermark:

All pages

This option prints the security watermark on each document page.

First page only

This option prints the security watermark on the first document page.

All pages except first page

This option prints the security watermark on all pages after the first page.

Only on specified pages

This option prints the security watermark on the page numbers typed in the text box.

Print onto front outside cover

This option prints the security watermark on the front cover. This option is available when **Cover mode** is selected in the **Publishing** tab. If **Cover mode** and **Front outside** are both selected in the **Publishing** tab, **Print onto front outside cover** is selected automatically.

3 In all dialog boxes, click **OK**.

Locking the Security Watermark Settings

The administrator can ensure that a security watermark is printed on all jobs by locking the selected security watermark.

1 In the **Advanced** tab, select security watermark options and adjust the calibration.

2 Select **Device Settings > Administrator > Lock Security Settings**.

3 In the **Lock Security Settings** dialog box, type a 4-16 character password, and type again to confirm.

4 In all dialog boxes, click **OK**.

To unlock the security watermark, clear **Lock Security Settings** and type the password.

To unlock the security watermark temporarily to change settings, in **Advanced > Security Watermark**, click **Unlock** and type the password. After changing the settings, the security watermark remains locked until it is unlocked in **Device Settings > Administrator Settings**.

Configuring Status Monitor

The **Status Monitor** image displays printing system status messages in the lower right corner of the window during printing. You can start a status monitor for each supported printing system. More than one status monitor can be displayed at one time.

1 In the **Advanced** tab, click **Status Monitor**.

2 If you want the **Status Monitor** image to appear during a print job, in the **Status Monitor** dialog box, select the **Status Monitor** check box.

3 To view the print job status without changing the **Status Monitor** setting, click **Open Status Monitor**.

The **Status Monitor** image appears in the lower right corner of your computer screen.

4 Move the pointer over the **Status Monitor** image to display balloon-style status messages containing information about printing system activity and the printer port.

5 To display a list of options, right-click the **Status Monitor** icon in the system tray.

Hide the status monitor/Show the status monitor

Switches between hiding and showing the **Status Monitor** image.

Note: You can also hide the **Status Monitor** image by right-clicking on the image, then clicking **Hide the status monitor**, or let the **Status Monitor** close on its own after 5 minutes if there is no printing activity.

Configure

Opens a web browser to display a printer web page.

Note: If your printer is connected with a USB cable, this feature cannot be used. Define settings using the operation panel of the printing system.

Preferences

Opens a dialog box with options for **Status Monitor** sound notification and appearance choices.

Exit

Closes the **Status Monitor**.

Setting Status Monitor Preferences

You can configure printing system alerts with accompanying sound or speech in the Status Monitor **Preferences** dialog box. You can also change the appearance of the **Status Monitor** image.

1 Right-click the **Status Monitor** icon in the system tray.

2 Click **Preferences**.

3 Click the **Sound Notification** tab.

4 Click the **Enables Event Notification** check box.

5 Select an event for a **Status Monitor** alert.

Cover open

Paper jam

Add paper

Sleep

Add toner

Toner low

Not connected

Printing

Printing completed

6 In the **Sound Notification** tab you can also add sound or speech to your chosen alert.

To add a sound file:

Clear the **Use Text to speech** check box.

The sound file text box becomes available. Type the location of a sound file (.WAV), or browse to find a file located on your computer.

To add speech:

Select **Use Text to speech**.

Type your preferred text in the text box. The Microsoft Text to Speech utility reads your typed text and plays it back in a spoken voice.

7 To change the size, placement, and transparency of the **Status Monitor** image, click the **Appearance** tab.

Enlarge window

Select to double the size of the **Status Monitor** image and text balloons.

Always on top

Select to make the **Status Monitor** always appear on top of other open windows.

Transparency

This option adjusts the **Status Monitor** to let a variable amount of background show through the image. Type a value from zero to fifty in the box. Higher values create greater transparency. A zero value creates a completely opaque image.

8 In the **Preferences** dialog box, click **Apply** to save your settings, click **OK** to save your settings and close the dialog box, or click **Cancel** to close the dialog box without saving any settings.

EMF Spooling

EMF (Enhanced MetaFile) is a spool file format used in printing by the Microsoft Windows operating system. When a print job is sent from an application, it is transferred to the spool file. The application writes to and the printer driver reads from the spool file simultaneously. For multiple or large documents, this quickly returns application control to the user while the printer is still printing the document.

Note: **EMF spooling** is not available when **Allow data passthrough** is selected in the **PDL Settings** dialog box.

Selecting EMF Spooling

To print with EMF spooling:

1 From the **Advanced** tab, select the **EMF Spooling** check box.

2 Click **OK** and continue the printing process as usual.

Enable Client Profile

Client profile refers to profile settings saved on a client computer. You have the choice to use your local profiles or the server profiles. This feature is intended for use on the client side (PC side) in a client-server environment.

In the **Advanced** tab, clear the **Enable client profile** check box to select profiles from the server to apply to print jobs created by the driver. Server profiles are read–only.

Select the **Enable client profile** check box for using custom profiles locally in the driver.

9 Profiles

In **Profiles**, you can save printer driver settings as a profile. You can select multiple options in the **Quick Print** tab and **Printing Preferences**, save them to a profile, and use all of them at once when you apply the profile. A maximum of 26 profiles can be established in one driver, including the **Factory Default** profile. Device options settings made in the **Device Settings** tab cannot be saved to a profile.
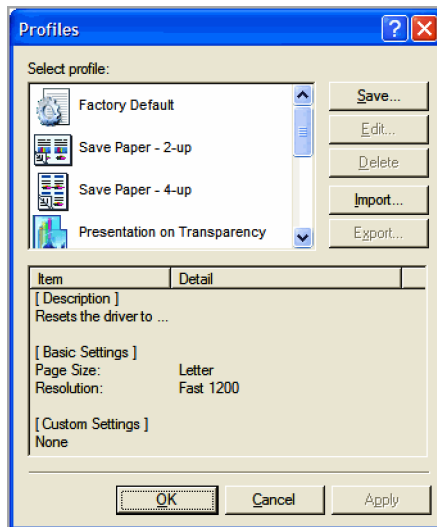
Saving a Profile

The **Save** button lets you create your own profiles.

1 Set the printing options you want for your print job by opening **Printing Preferences** and selecting all your driver settings.

2 In any tab, click **Profiles** > **Save**.

3 To identify the profile, type a **Name**, select an **Icon**, and type a **Description**.

4 Click **OK** to save the profile.

The newly added profile appears in the **Profiles** dialog box.

5 Click **Apply** to use the selected profile for the current print job, or click **OK** to close the dialog box.

> **Note:**   To reset the printer driver to default settings, select the **Factory Default** profile, and click **Apply**. This clears the settings of a selected profile.

Editing a Profile

The **Edit** button lets you make changes to an existing profile. The **Factory Default** profile cannot be edited.

1 In any tab, click **Profiles**.

2 In the **Select profile** section, select the profile to be edited, and click **Edit**.

3 Any of the three options can be edited: name, icon and description. Click **OK** to save the edited changes.

The newly edited profile appears in the **Profiles** dialog box.

4 Click **Apply** to activate the selected profile to the current print job, or click **OK** to close the dialog box.

Deleting a Profile

The **Delete** button lets you remove an existing profile. The **Factory Default** profile cannot be deleted.

1 In any tab, click **Profiles**.

2 In the **Select profile** section, select the profile to be deleted, and click **Delete**.

3 A message appears confirming the removal of the profile. Click **Yes** to remove.

4 Click **OK** to close the **Profile** dialog box.

Importing a Profile

The **Import** button lets you import a copy of a profile from other printer drivers into your printer driver.

1 In any tab, click **Profiles** > **Import**.

2 Browse for the existing profile (.KXP), select it, and click **Open**.

A message appears if any of the profile settings in the imported file are not available in the existing driver. Select **Yes**, to import the profile, or **No**, to cancel the import.

3 If you selected **Yes** in the previous step, the newly imported file appears in the **Profile** dialog box.

4 Click **Apply** to use the selected profile for the current print job, or click **OK** to close the dialog box.

Exporting a Profile

The **Export** button lets you export a copy of a profile from your printer driver for use in other printer drivers. The **Factory Default** profile cannot be exported.

1 In any tab, click **Profiles**.

2 In the **Select profile** section, select the profile to be exported, and click **Export**.

3 The **Export Profile** dialog box appears. Name and save the profile.

4 Click **OK** to close the **Profiles** dialog box.

Glossary

A   **Auto configure**   Device settings feature that queries a printing system through the network and automatically retrieves settings for optional devices, memory, and RAM disk. Driver settings will be updated with information received from the physical printing system. Installed devices will be displayed in the Preview image.

B   **Booklet**   Layout feature that prints a multi-page document in a booklet format by using a duplex unit. Two pages are printed on each side of a sheet to create a document that can be read like a book.

C   **Cassette**   A removable plastic tray that holds a supply of paper for input to the printer.

D   **dpi**   Dots per (linear) inch. Measurement that describes the sharpness and clarity of printed text and images. The higher the dpi, the more detail there is in the printed output.

E   **EcoPrint**   Imaging feature that changes toner saturation, making the entire image, text and graphics, appear lighter in the printed job. The actual amount of toner used depends on the printing system mode and the type of data printed (text, graphics, or both). EcoPrint does not increase print speed. This feature is also available in the Quick Print and Basic tabs.

Enable client profile   Client profile refers to profile settings saved on a server and accessed by clients in a client/server environment. This feature in the Advanced tab enables an administrator to control and distribute profiles.

G   **GDI compatible mode**   A page description language option that accurately reproduces what is viewed on the screen using the Microsoft Graphical Device Interface (GDI) component to render the document. It generates data in a raster printing format, creating a larger printable file.

Gutter   Blank space on the left side or top of a printed page that can be increased by scaling down text and graphics. This supports stapling and hole punching. When used with Duplex printing, the enlarged blank space lines up evenly on both sides of the sheet. The larger blank space is created by shifting the printable area to the right or down as much as one inch (25.4 mm).

H   **Half speed mode**   This feature lets you reduce print speed to improve printing on small size, thick, or textured paper. Selecting this mode may result in quieter printing.

Halftone screen   Imaging process that breaks down an image into dots. An experienced user can adjust Halftone screen settings to create shades of gray in graphic images. Larger dots spaced close together create darker shades, and smaller dots spaced farther apart create lighter shades. Shading can be varied by adjusting the number of rows of dots, the angle at which rows of dots are placed, and the shape of the dots.

K   **KIR**   Imaging feature that refines the edges of text and vector graphics.

M   **Media source enumeration**   A Device Settings option that maintains compatibility for cassettes and feeders between old drivers and new drivers or when moving from one manufacturer to another. Compatibility creates a smooth transition for environments using macros or PRESCRIBE commands to access cassettes and feeders.

MP tray   Source tray used for labels, transparencies, envelopes, and custom printing media.

Multiple pages per sheet   This feature lets you print several pages on a single sheet of paper for the purpose of reviewing the document and conserving paper.

O   **Optional Printer Components**   Optional Printer Components include Common Profiles and Plug-In Modules, and need to be installed separately from the driver installer. They are located on the Product Library CD in the Advanced Tools menu.

P   **PDF**   The Adobe portable document format (PDF) is independent of the application software, hardware, and operating system used to create documents, and also of the output device on which they are displayed or printed.

PDL   Page Description Language. This is the language used by your computer to tell the printing device how to print a document. Availability of some printing options depends on the selected PDL.

Plug-in   An accessory program that integrates with the printer driver to enhance or extend the driver's capabilities.

Poster   Layout feature for printing a document in a larger size than the maximum supported by the printer so the cumulative sheets can be assembled as a poster. Use this feature to print a document in a large, eye-catching poster format, up to 25 times larger than the original document size.

Print graphics as black   This option prints all color graphics and text with black, rather than grayscale. This feature is intended for CAD applications.

Print text as black   Prints all color text as black. It produces faster printing of color print jobs by reducing the amount of data sent to the printer. In black and white printing, it increases the detail for light-colored text printed. White text and image colors are unaffected.

Profile   A set of user defined driver settings that are saved as a group. Once saved, you can select a profile by name and apply its settings to a print job without selecting each feature individually.

Prologue/Epilogue   Advanced feature that allows you to insert a macro into specific locations in the print job. An advanced user may choose to use this feature to embed a PRESCRIBE command that will call a macro to overlay PRESCRIBE form data or a graphic object, such as a logo or a signature, at a specific point in the print job.

Q   **Quick Print tab**   The Quick Print tab improves usability by providing an easier way to set print options. You can choose basic settings or a predefined printer profile,

rather than having to go to various tabs. Quick Print settings can be captured in a group called a profile. Profiles support common printing tasks, saving you from having to repeatedly select the same settings. The Administrator can set the view of the Quick Print tab through the Installation process, or Administrator Settings in Properties.

R   **RAM disk**   A feature that lets you set up an area within the printing system memory as a virtual hard disk for faster printing. RAM disk is not an attached device, but an allocation of existing printing system memory. RAM disk is temporary. All data sent to RAM disk memory will be lost when the printing system is reset or turned off.

Resolution   The number of dots printed in one inch. Higher resolution improves the quality of detailed printed images.

S   **Security Watermark**   Plug-in feature that adds watermark text and a background pattern to a print job. The text blends into the background pattern making it nearly invisible when printed. The security watermark appears only when the printed page is photocopied. A security watermark can be used to help protect against unauthorized reproduction of documents, or simply to differentiate original documents from photocopies.

SNMP   Simple Network Management Protocol. The standard TCP/IP protocol for managing IP network devices, including printing devices. SNMP settings determine the level of security when using the Auto Configure feature, and prevent unauthorized printing to the SNMPv3 printing device. SNMP settings must be set in the Administrator settings in the Device Settings tab, and in the printing system's Embedded Web Server.

Status monitor   Optional feature that displays printing system status messages in the lower right corner of the window during printing. You can customize the appearance of the status monitor, and determine what messages are displayed and how by selecting preferences and notifications.

T   **Transparency**   A clear plastic, page-sized sheet used as a printing medium.

Transparency interleaving   Publishing feature that inserts a backing sheet between printed transparencies. The backing sheet, also known as an interleaf, helps keep transparencies clean and prevents them from clinging together.

W   **Watermark**   The Watermark feature is available in the Advanced tab. A watermark is a recognizable image or pattern that can be placed on a page or throughout a document. You can choose one of the standard watermarks or create your own text.