Zebra® Kiosk Printer Driver

User Guide

P1006873-005 Rev. A

ZEBRA TECHNOLOGIES

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Additional Links

To find...	go to...
Support & Downloads	http://www.zebra.com/support
Customer Service and General Inquires	http://www.zebra.com/howtobuy
Knowledge Base	http://km.zebra.com
Repair Order (RO) Request and Repair Services	http://www.zebra.com/repair
Technical Training	http://www.zebra.com/training

Contents

1

Introduction

Contents

About this Manual

This manual is updated from time to time when printer functions and features are added or amended. You can find the latest edition on our website at www.zebra.com. If you require functions not found in this manual edition, please contact Technical Support for your region or the Zebra partner from which you purchased the printer.

2

Zebra Kiosk Printer Driver Installation

Contents

Zebra Kiosk Printer Driver Installation

The **Zebra Kiosk Printer Driver Installer** installs the driver files on your hard disk and pre-installs the drivers for the KR203, TTP 2000 series, TTP 2100 series, TTP 7030, and TTP 8000 series printers. This enables you to easily setup your Zebra Kiosk printer!

The **Zebra Kiosk Printer Driver Installer** procedure requires the following steps:

- Step 1: Uninstall the Old Kiosk Drivers (if applicable)
- Step 2: Pre-install the New Kiosk Drivers Before Connecting Printer

Step 1: Uninstall the Old Kiosk Drivers (if applicable)

If you have any old Zebra Kiosk printer drivers installed on your system, you need to uninstall those drivers prior to installing the new drivers. If you do not have any old drivers installed, go to Step 2: Pre-install the New Kiosk Drivers Before Connecting Printer.

If you have old drivers installed, follow the appropriate procedure to uninstall those drivers.

- Windows XP Uninstall
- Windows 7 Uninstall

Windows XP Uninstall

If you are running Windows XP, you can use the Windows Driver Uninstaller to remove the old drivers prior to installing the new drivers or you can manually uninstall the old drivers.

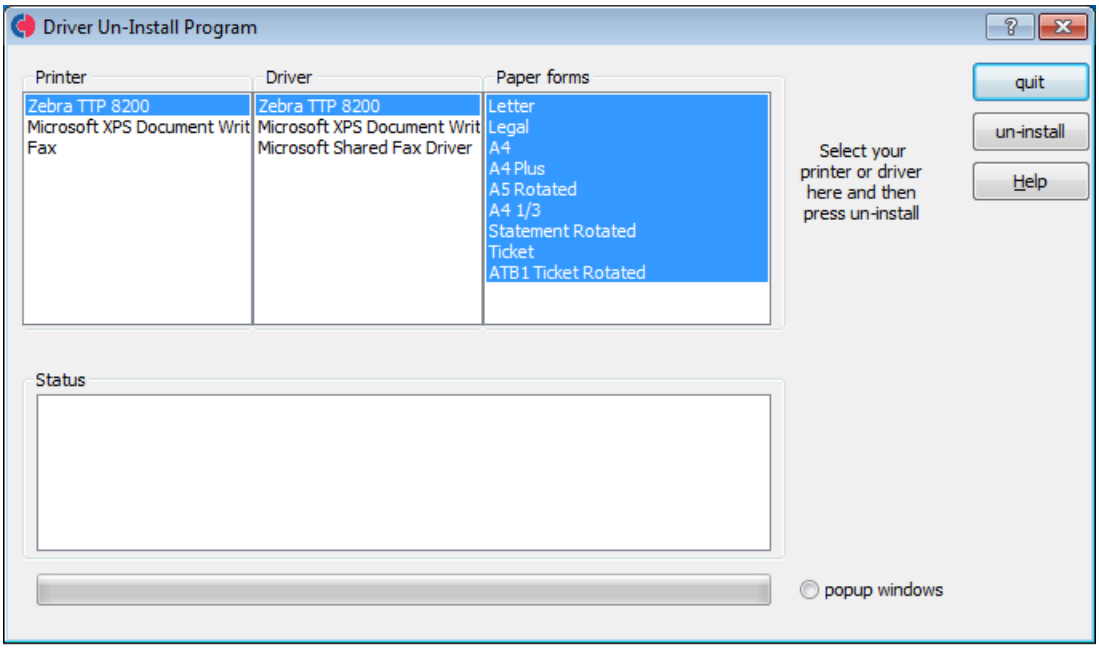
Using the Windows Driver Uninstaller

The **zebra\kiosk\WindowsDriver\TTP** folder contains a shortcut to the Windows Driver Uninstaller.

Note • You can also download the Windows Driver Uninstaller from www.zebra.com/support. Select the printer model from the **Printer Support** list, click the **Software Utilities** tab, and click **Download** next to Windows Driver Uninstaller.

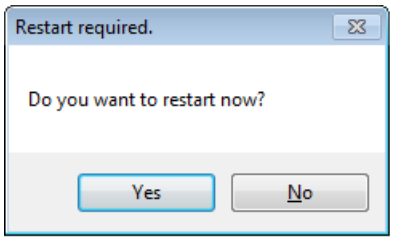
1. Double-click **windows-driver-uninstall.exe.**

   The **Driver Un-Install Program** dialog appears.



2. In the **Printer** list, select the printer that you want to uninstall.
3. In the **Driver** list, select the driver that you want to uninstall.
4. In the **Paper forms** list, select all of the paper forms for that driver.
5. Click **un-install**.

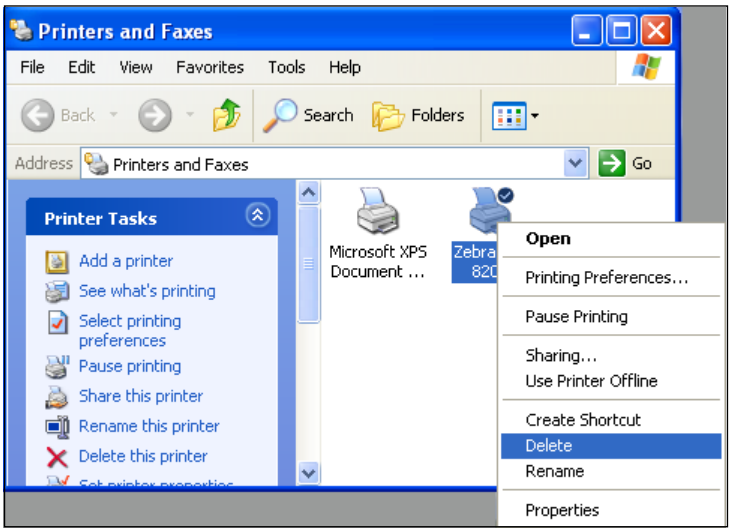
The following dialog appears asking if you want to restart your computer.



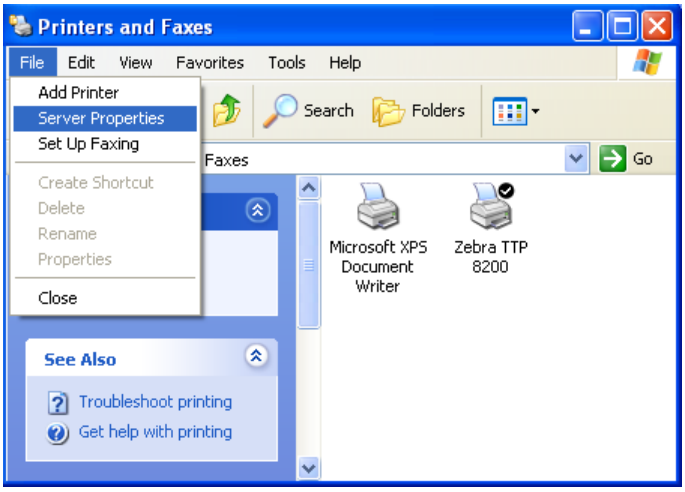
6. Click **Yes** to restart your computer. This is required prior to installing the new driver.

Using the Manual Uninstall Procedure

1. Click **Start**, and then click **Printers and Faxes**.
2. Right-click the printer that you want to uninstall, and click **Delete**.

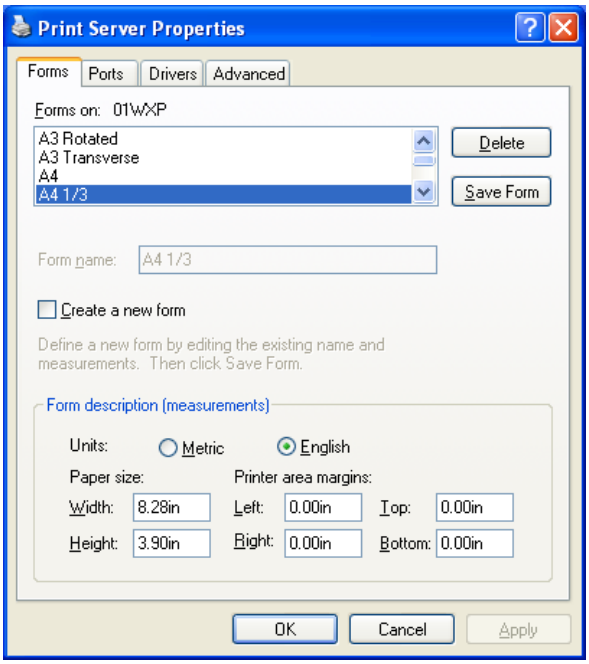


3. On the **File** menu, click **Server Properties**.



The **Server Properties** dialog appears.

4. Click the **Forms** tab.

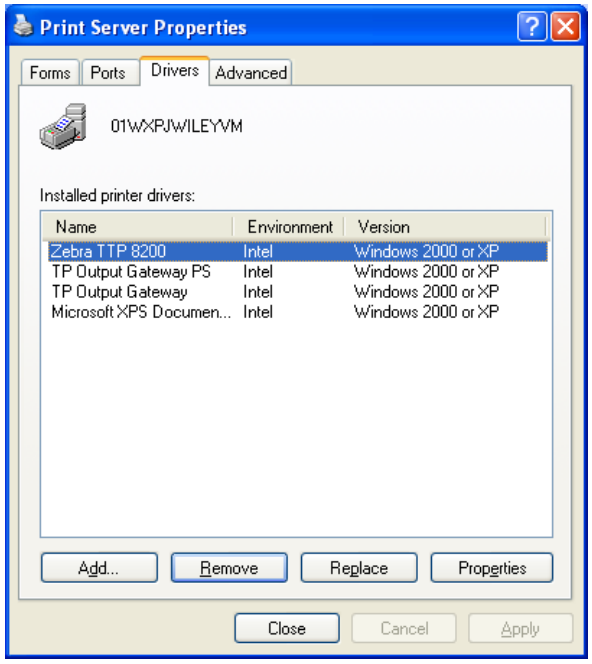


5. In the **Forms on** list, scroll down to locate a form that is specific to the Kiosk printer and is not a system form (for example, A4 1/3).

   The **Delete** button becomes available indicating that it is not a system form.

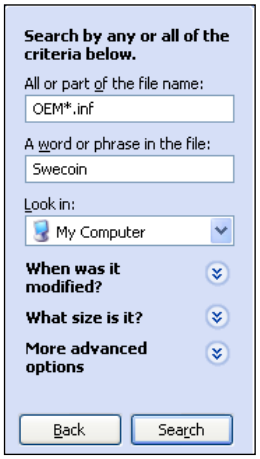
6. Click the form, and then click **Delete**. Repeat this step for each form in the list that is not a system form.

7. Click the **Drivers** tab.

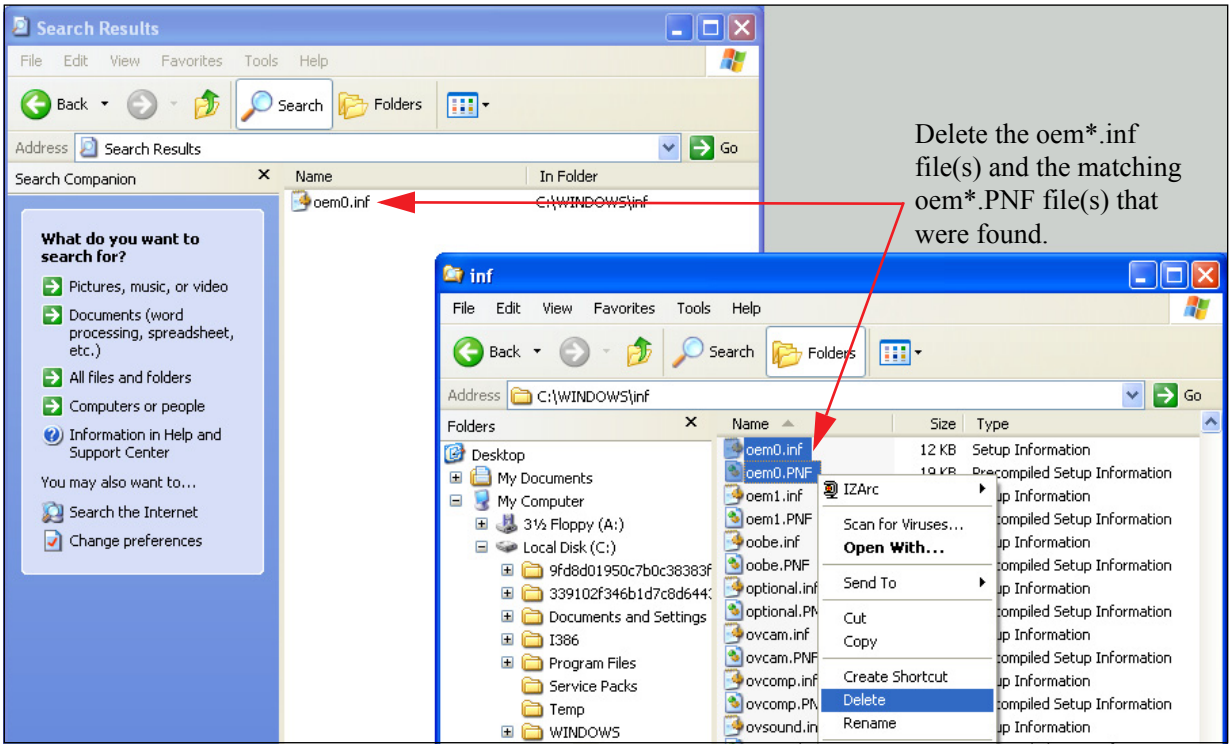


8. Click the driver that you want to uninstall, and then click **Remove**.

9. Close the **Server Properties** dialog.
10. In Windows Explorer, open the **C:\Windows\inf** folder.
11. Click the **Search** button.



12. In the **All or part of the file name** box, type **OEM*.inf**.
13. In the **A word or phrase in the file** box, type **Swecoin**, and click **Search**.
    The **Search Results** show the oem*.inf file(s) that need to be deleted.



14. In Windows Explorer, open the **C:\Windows\inf** folder and select the resulting oem*.inf file(s) and the matching oem*.PNF file(s), then right-click your selection and click **Delete**.

Note • The PNF files are precompiled versions of the INF files and must also be deleted.

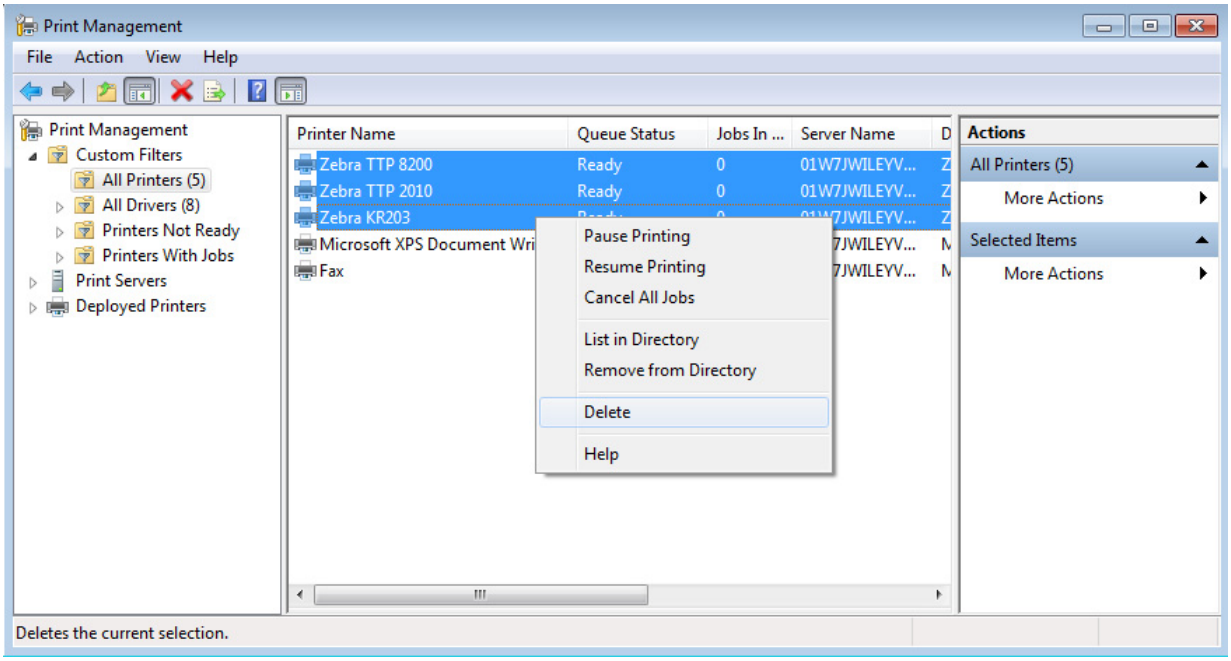
Windows 7 Uninstall

If you are running Windows 7 Professional or Ultimate (32-bit or 64-bit), use the **Print Management** dialog to uninstall the old drivers.

Note • You must be signed in as an **Administrator** to use **Print Management**.

1. Click **Start**, and in the search box type **printmanagement.msc**, and then press **Enter**.

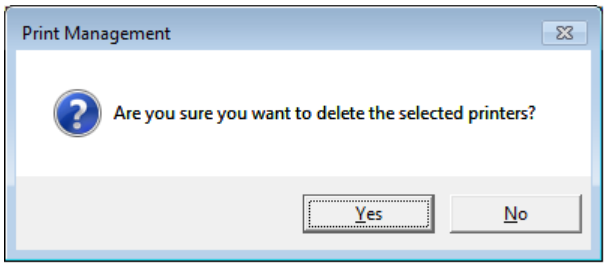
   The **Print Management** dialog appears.



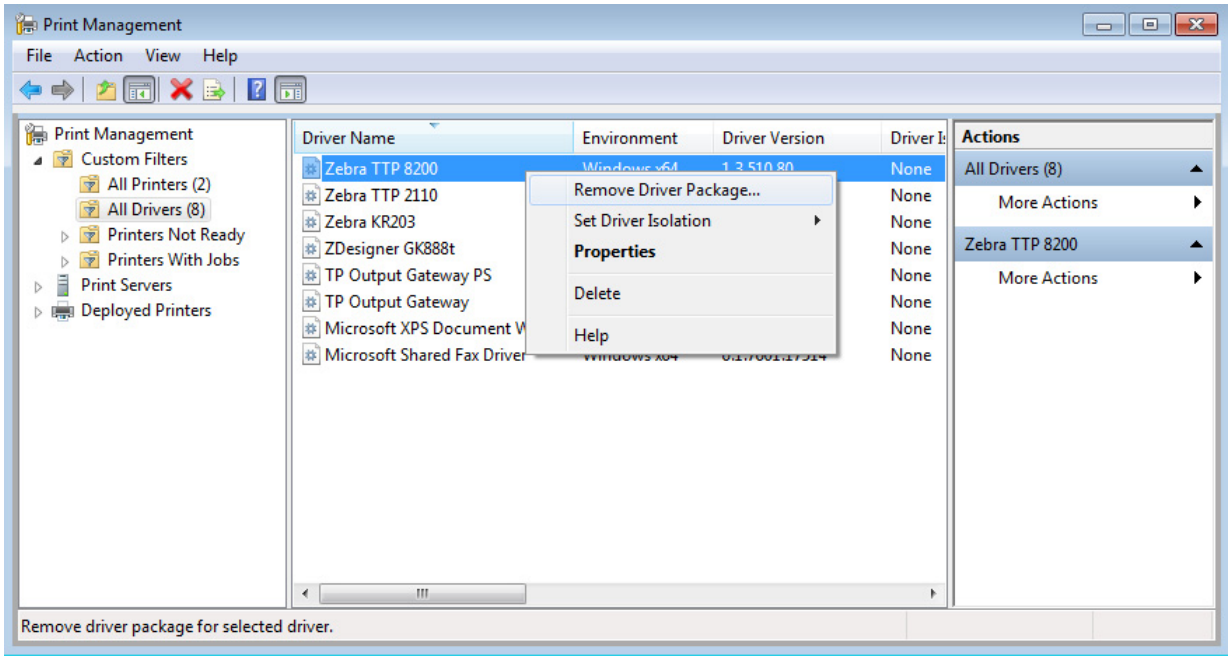
2. In the left pane, click **All Printers** to display the printer list.

3. In the printer list, select each of the Zebra printers, right-click your selection, and click **Delete**.

   The following message appears asking you to confirm the deletion.



4. Click **Yes** to confirm the deletion and return to the **Print Management** dialog.



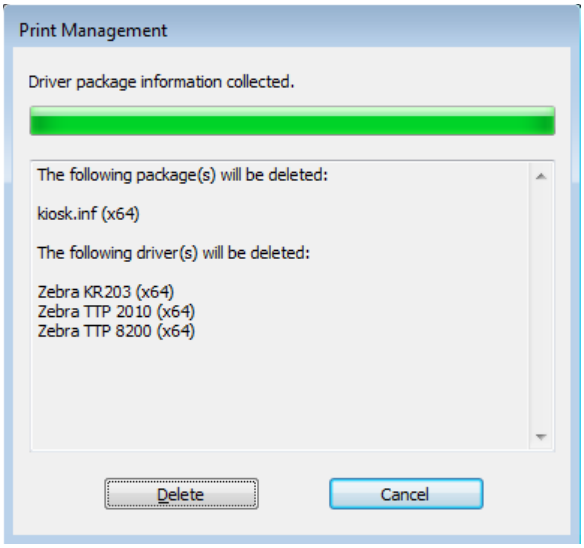
5. In the left pane, click **All Drivers** to display the driver list.

6. Right-click the Zebra driver that you want to uninstall, and click **Remove Driver Package**.

   This removes all of the Zebra drivers in this package (i.e., KR203, TTP 2000 series, TTP 2100 series, TTP 7030, and TTP 8000 series).

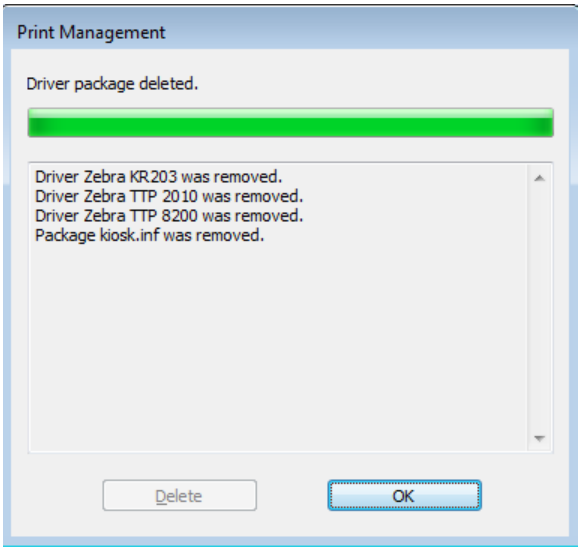
Note • This only works if all of the printers have been uninstalled first. If you have not uninstalled the printers, you will receive a message indicating that the driver cannot be deleted. Uninstall the printers as described above and then repeat this step.

The following **Print Management** message appears asking you to confirm the deletion.



7. Click **Delete**.

The following **Print Management** message appears indicating that the driver package was deleted, and shows which drivers were removed.



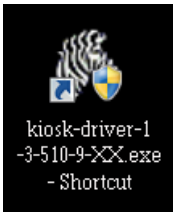
8. Click **OK** to complete the uninstall.
9. Close the **Print Management** dialog.

Step 2: Pre-install the New Kiosk Drivers Before Connecting Printer

After Step 1: Uninstall the Old Kiosk Drivers (if applicable) is complete, use the **Zebra Kiosk Printer Driver 1.3.510.XX Installer** to pre-install the new drivers.

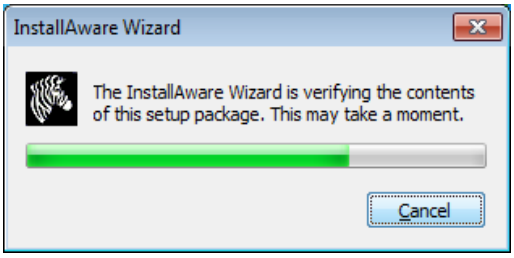
To download the Kiosk Printer Driver version 1.3.510.XX from the Zebra website

1. Go to www.zebra.com/support.
2. Select your printer from the **Printer Support** list.
3. Click the **Drivers** tab.
4. Click **Download** to download the **Kiosk Printer Driver** to your computer. The **Zebra Kiosk Printer Driver Installer** icon appears on your Desktop.

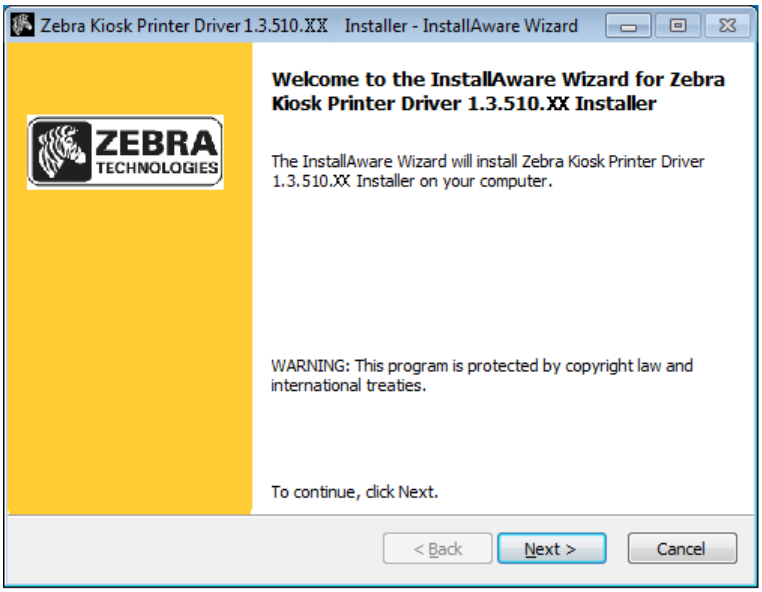


To run the Kiosk Printer Driver version 1.3.510.XX installation

1. On the Desktop, double-click the **Zebra Kiosk Printer Driver Installer** icon to start the **InstallAware Wizard**.



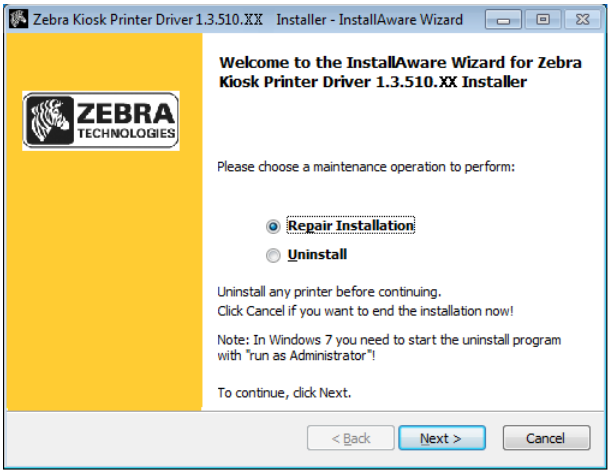
After the contents of the setup package are verified the **Welcome** screen appears.



2. Click **Next**.

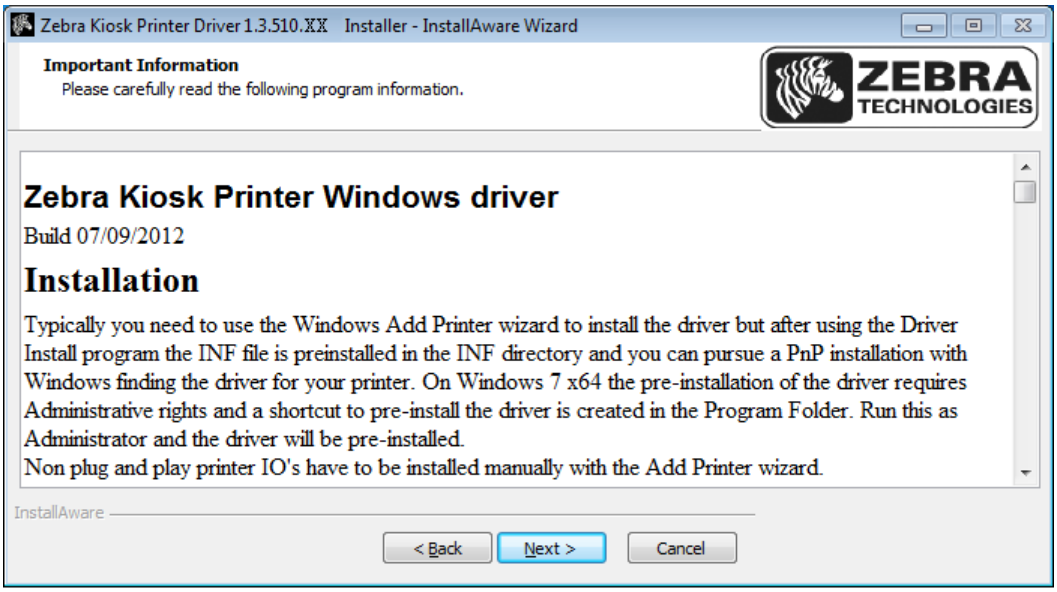
Notes • If you have previously installed the driver package a different **Welcome** dialog appears. Select **Repair Installation**, and then click **Next**.

You will not see the **End User License Agreement** or the **Important Information** dialogs shown on the following page.



The **End User License Agreement** appears.

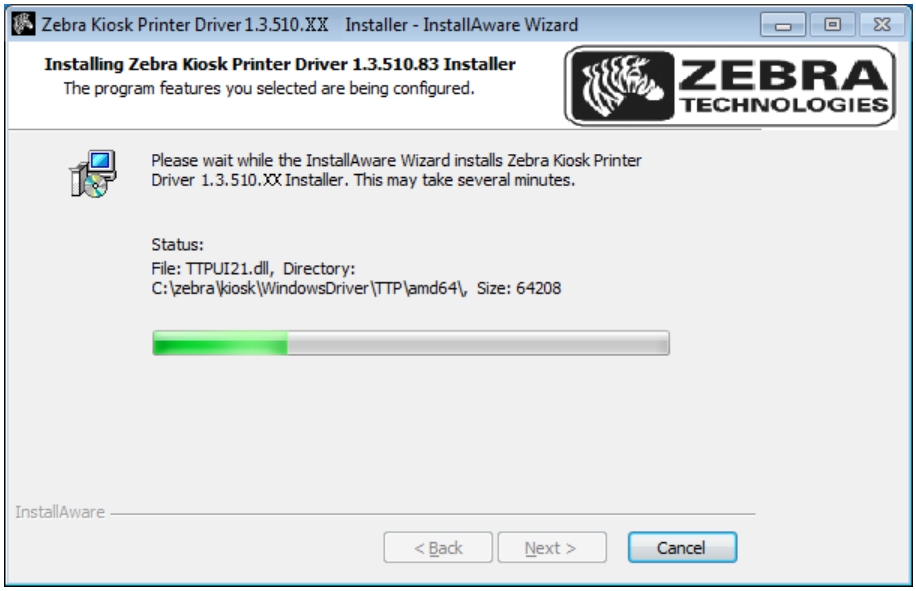
3. Select the **I accept the terms of the license agreement** check box, and click **Next.** The following **Important Information** appears. This information contains the Zebra Kiosk Printer Windows driver release notes.



4. Read the information, and then click **Next**.

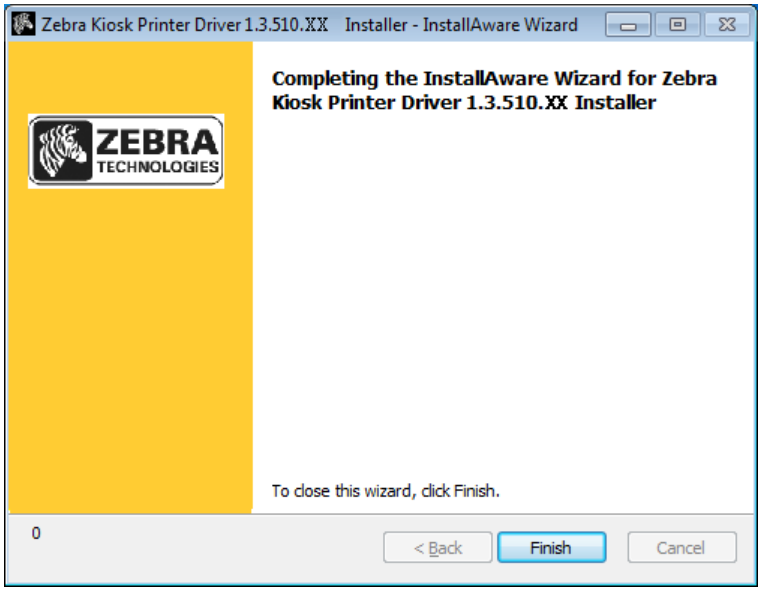
Note • The Readme file also contains the Zebra Kiosk Printer Windows driver release notes. To open the Readme file, click **Start** > **All Programs** > **Zebra Technologies** > **Zebra Kiosk Printer Driver 1.3.510.XX** > **Readme**.

The application starts copying the driver files to the driver directory.



Note • If you are running Windows XP, a **Files Needed** message may appear asking you to locate a particular .GPD file. Locate the file and click **OK** to continue the installation.

After the files are copied, the following dialog appears indicating that the installation is completing. The copied files are located in **C:\Zebra\kiosk\WindowsDriver\TTP**.



5. Click **Finish** to complete the driver package installation.

   Now all of the drivers for the KR203, TTP 2000 series, TTP 2100 series, TTP 7030, and TTP 8000 series printers are pre-installed and ready to use with your printer.

Note • If the printer drivers do not successfully pre-install, or if you have a non Plug and Play printer with parallel or serial ports, you will need to use the **Windows Add Printer Wizard** to install your printer.

6. Plug your printer into the USB or serial port.
7. Power on the printer.

Note •

If you are installing the printer drivers on a **Windows Embedded** operating system (e.g., Windows Embedded XPe and Windows Embedded POSReady 7**)**, use the following Microsoft links for instructions on how to create an image and it's driver components.

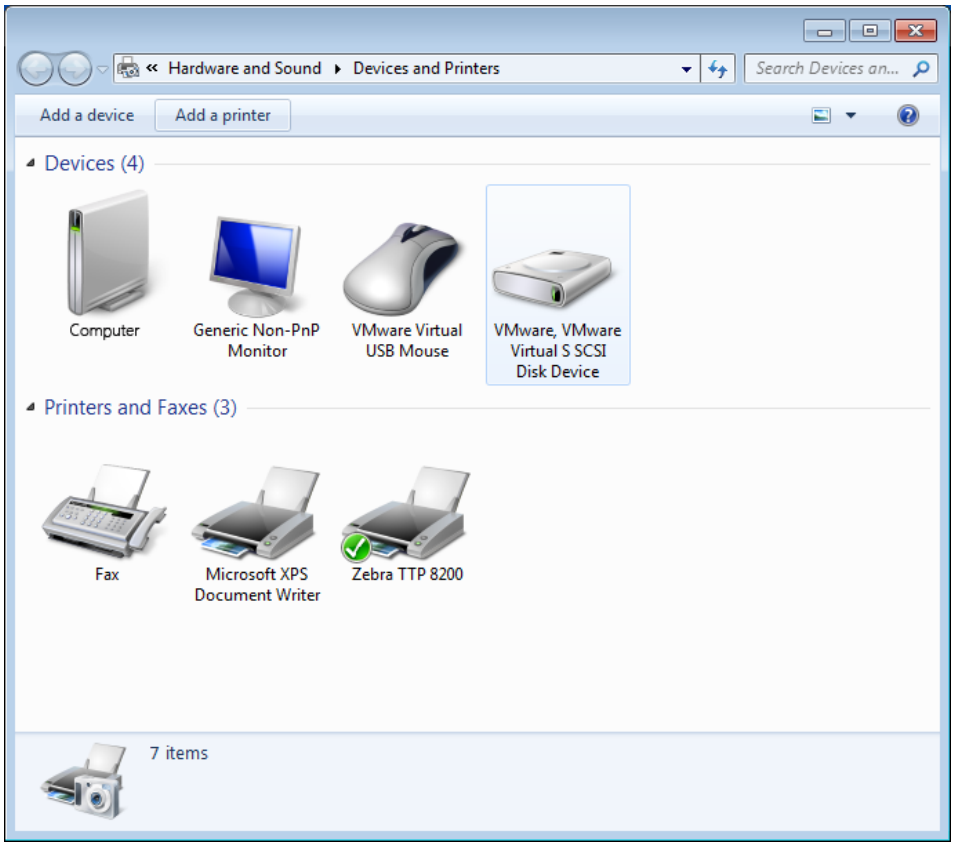
- The following link opens the Installation Guide.

  http://msdn2.microsoft.com/en-us/library/aa460432.aspx
- The TTP.inf file should be installed into the Component Manager. The link below provides instructions on how to componentize a third-party driver. This is where the TTP.inf file should be imported.

  http://msdn2.microsoft.com/en-us/embedded/aa731220.aspx
- The following link provides instructions on how to create the run-time image.

  http://msdn2.microsoft.com/en-us/library/ms940811.aspx
- When the XPe image is fully booted up on the client box and the printer wizard appears, you are prompted to install the following .DLLs.
  - TTPRES.DLL - points the printer install wizard to the path where the driver install folder is put
  - UNIDRIV.DLL - located at **C:\Windows\System32\spool\drivers\W32X86\3**
  - UNIRES.DLL - located at **C:\Windows\System32\spool\drivers\W32X86\3**

The printer appears in the **Printers and Faxes** area of the Device and Printers dialog and is now ready for use.



Zebra Kiosk Printer Driver Functionality

The Zebra Kiosk Printer Windows driver is based on the Microsoft Unidriver architecture for raster based printers. Zebra provides two OEM libraries (UI and Rendering) to enable specific printer functionalities within the driver. In addition to the standard Microsoft driver, Zebra provides a bi-directional interface through a Language Monitor DLL.

Due to the function compatibility of the different printer families (KR203, TTP 2000, TTP 2100, TTP 7030, and TTP 8000) the drivers share many functions in the UI and Rendering DLL as well as the Language Monitor. All of the OEM features are described below.

Note • If you are uploading firmware via the Zebra Toolbox program you need to ensure that the **Enable bidirectional support** check box is cleared and the spooler is restarted. If you do not restart the spooler the change will not take effect!

Zebra Kiosk Printer Driver Properties

The KR203, TTP 2000 series, TTP 2100 series, TTP 7030, and TTP 8000 series have the same basic **Properties** dialog. The **Properties** dialog tabs are described in the following sections. Windows 7 dialogs are used for these descriptions.

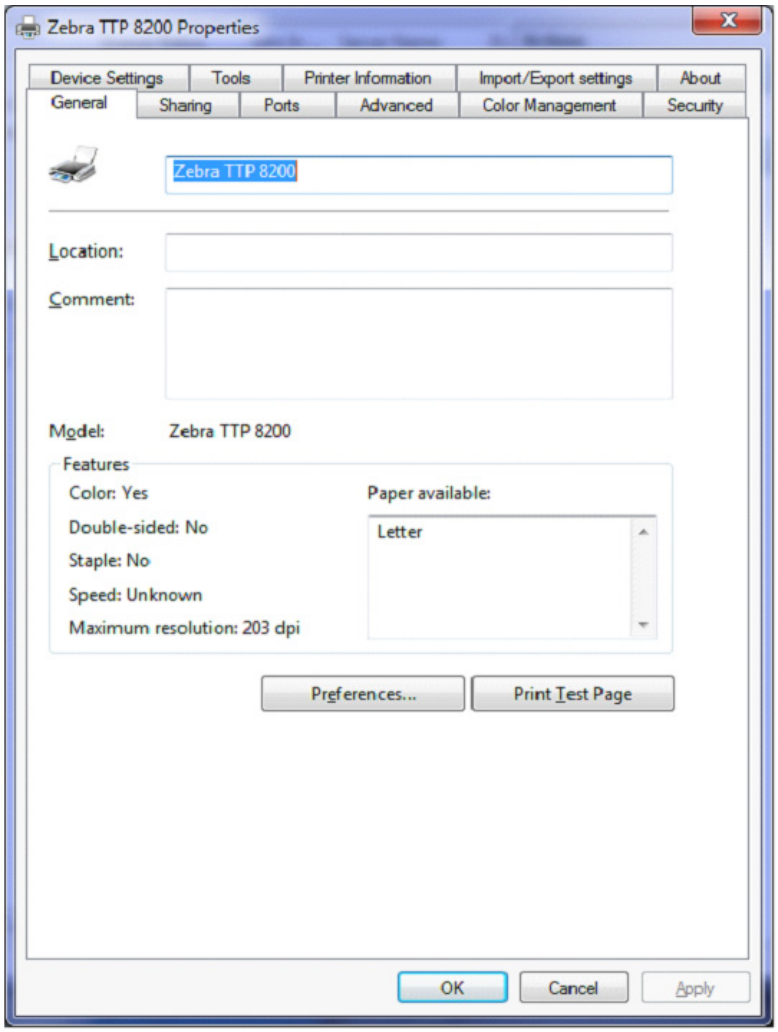
- General
- Sharing
- Ports
- Advanced
- Color Management
- Security
- Device Settings
- Tools
- Printer Information
- Import/Export settings
- About

Note •

In Windows 7, you MUST use the **Print Management** dialog to make changes to the **Properties** dialog **Device Settings** tab. This is because you must have Administrative rights. To open the **Print Management** dialog, click **Start**, and in the search box type **printmanagement.msc**, and then press **Enter**.

General

The **General** tab shows the name, location, and features of the printer. It also enables you to set preferences and print a test page.

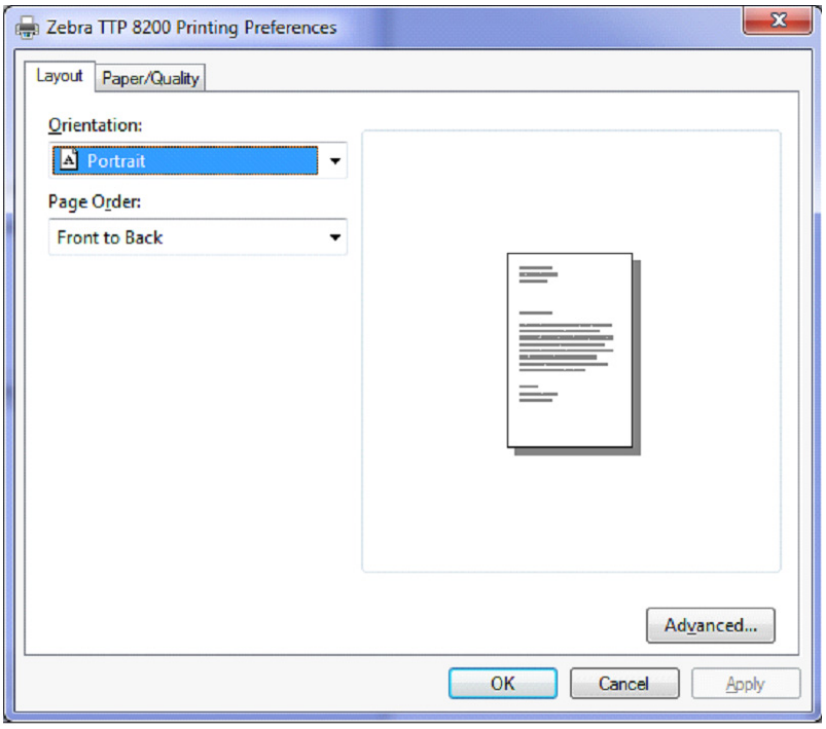


- On the **General** tab, click **Preferences** to open your printer's **Printing Preferences** dialog.

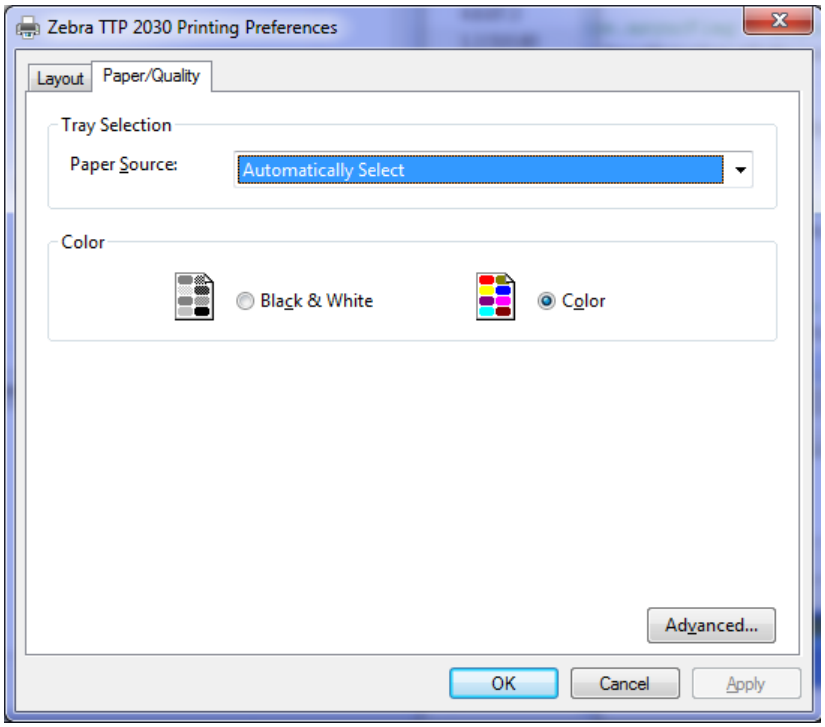
Printing Preferences

The **Printing Preferences** dialog has two tabs: **Layout** and **Paper/Quality**.

- On the **Layout** tab, you can select the orientation and the page order.

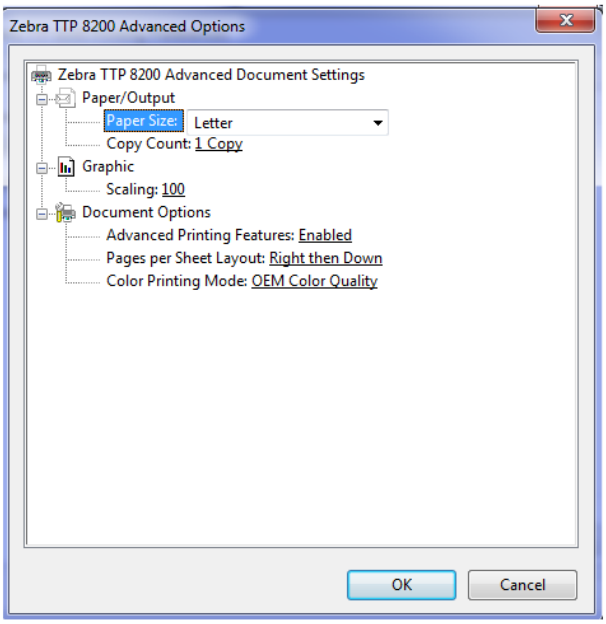


- On the **Paper/Quality** tab, you can select the paper source and color.

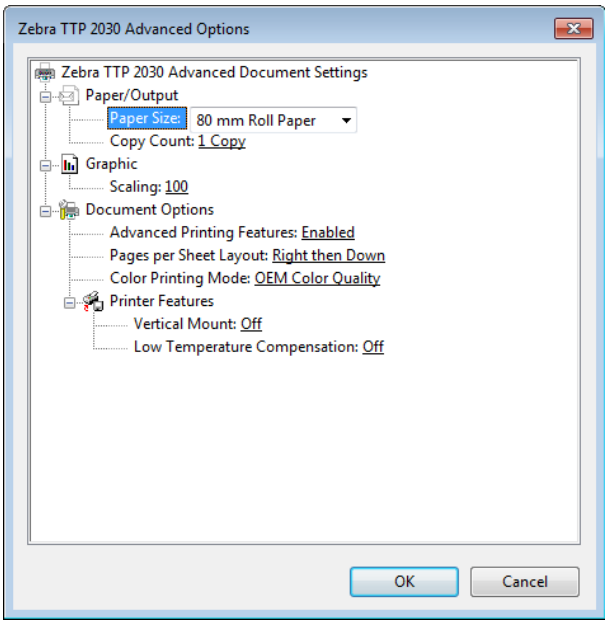


- Click **Advanced** to open the **Advanced Options** dialog where you can set your paper size and count, graphic scaling, and document options as described in the following sections. The options that are available depend on your printer.

TTP 8200



TTP 2030



Paper/Output

Paper Size

The printer series have different **Paper Size** choices.

KR203	TTP 2000	TTP 2100	TTP 7030	TTP 8200	TTP 8300
58 mm x 400 mm Roll Paper	58 mm Roll Paper	50.8 mm Ticket	112 mm Roll Paper	A4	A4
60 mm x 400 mm Roll Paper	60 mm Roll Paper	54 mm Ticket	80 mm Roll Paper	A4 1/3	A4 1/3
80 mm x 150 mm Roll Paper	82.5 mm Roll Paper	60 mm Ticket		A4 Plus	A4 Plus
80 mm x 250 mm Roll Paper		66 mm Ticket		A5 Rotated	A5 Rotated
80 mm x 400 mm Roll Paper		80 mm Ticket		ATB1 Ticket Rotated	Legal
82.5 mm x 127 mm Roll Paper(BM)		82.5 mm Ticket		Legal	Letter
82.5 mm x 254 mm Roll Paper(BM)		Airline Bag Tag 16in		Letter	Statement Rotated
82.5 mm x 400 mm Roll Paper		Airline Bag Tag 19in		Statement Rotated	Ticket
		Airline Bag Tag 21in		Ticket	
		Asian Games Ticket			
		ATB1 Ticket			
		ISO Ticket			

Copy Count

The **Copy Count** option enables you to specify the number of copies to print.

Graphic

Scaling

The **Scaling** option enables you to change the size of your printable area. When you scale down, you can print larger pages on smaller paper. When you scale up, you can print smaller pages on larger paper.

Document Options

Advanced Printing Features

This is a Microsoft Unidriver setting and should always be set to **Enabled**.

Page per Sheet Layout

This is a Microsoft Unidriver setting and should always be set to **Right then Down**.

Color Printing Mode

This OEM setting allows you to select one of two currently available dithering modes.

- **OEM Color Quality** mode is the default and does a dithering similar to a Riemersma dither algorithm with a gray scaling effect.
- **B/W Quality** mode uses a Threshold dithering algorithm that only displays black and white areas.

Printer Features

Vertical Mount

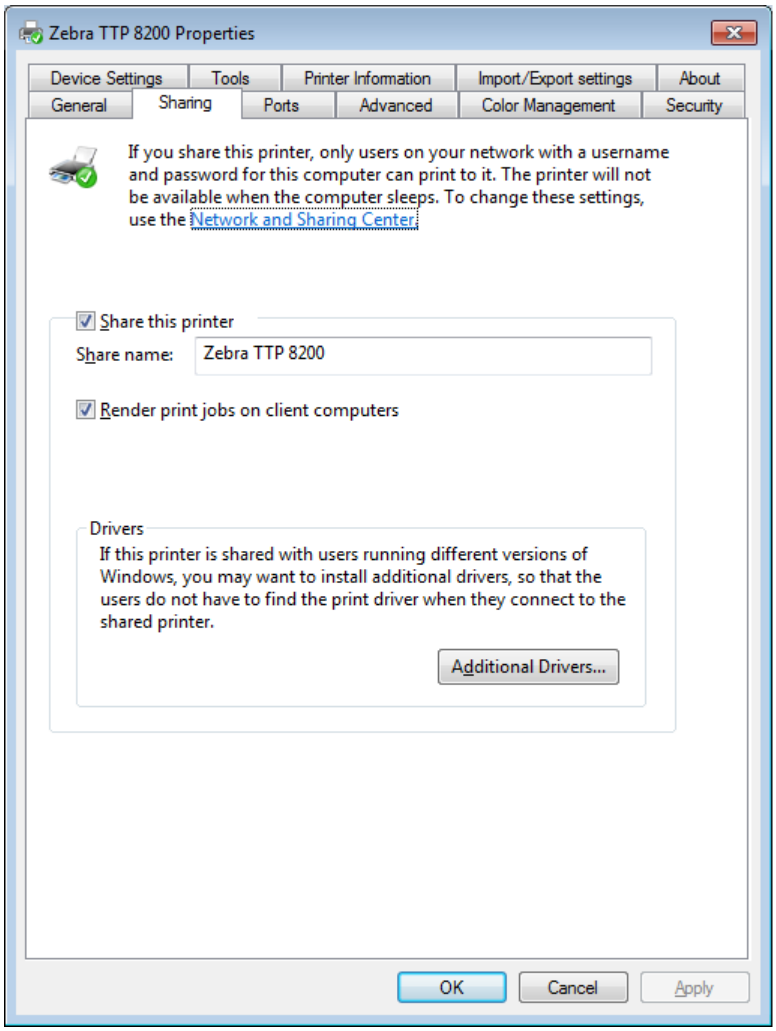
The Vertical Mount option enables you to select which way you want to mount the printer. The default is **Off**. Select **On** if you want to mount your printer in the vertical position.

Low Temperature Compensation

If the printer is located in a cold area, set the Low Temperature Compensation option to **On.** The default is **Off**.

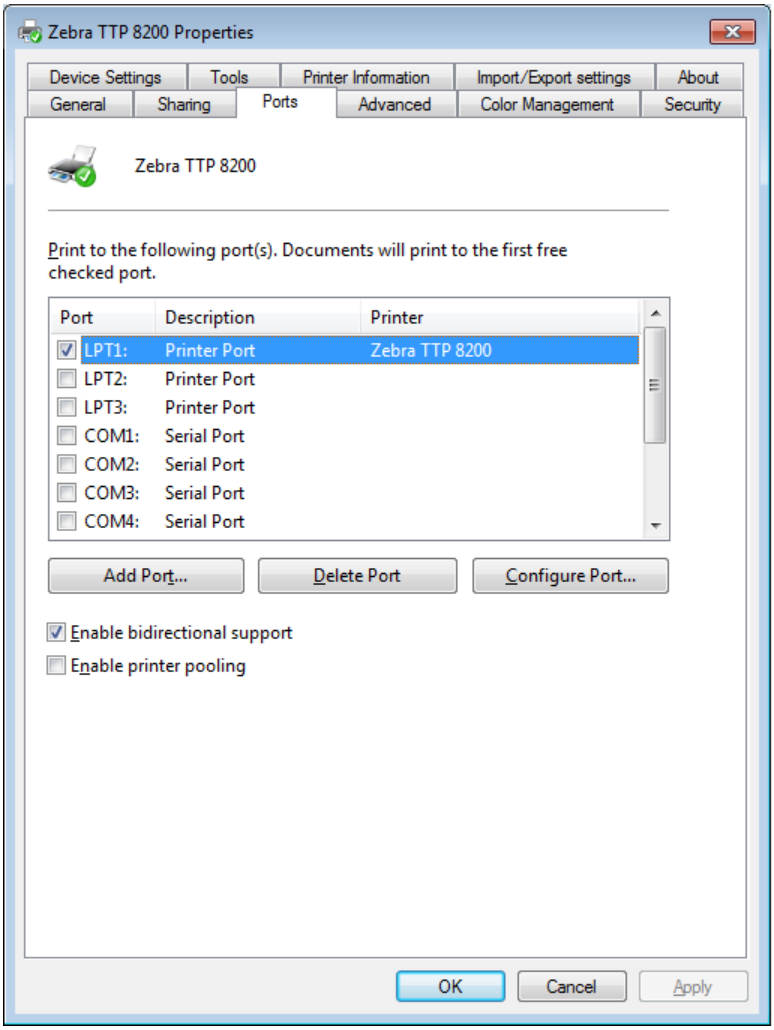
Sharing

The **Sharing** tab enables you to share your printer with other computers on a Network. The **Sharing** tab also enables you to install additional drivers for users that are running different versions of Windows.



Ports

The **Ports** tab shows to which port the printer is connected. The **Ports** tab also enables you to add, delete, and configure ports. The **Ports** tab is the same for all printer series.

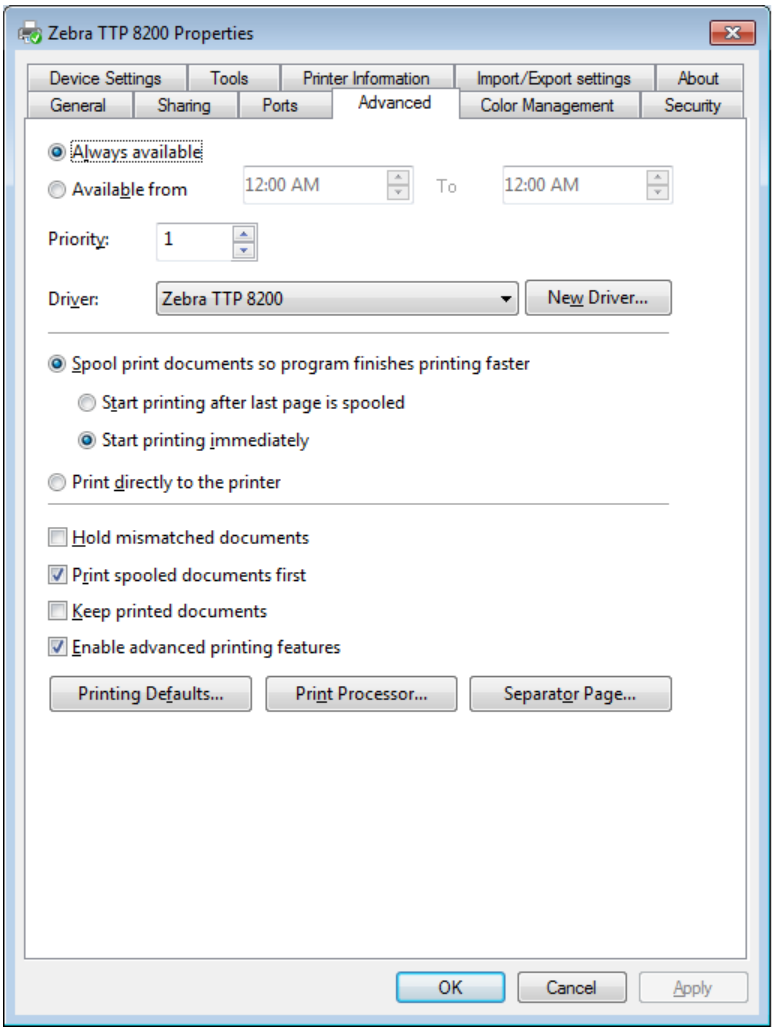


- Select the **Enable bidirectional support** check box to control the functionality of the Language Monitor.
- Clear the **Enable printer pooling** check box. This feature is not used for Kiosk printing.

Note • If you are uploading firmware via the Zebra Toolbox program you need to ensure that the **Enable bidirectional support** check box is cleared and the spooler is restarted. If you do not restart the spooler the change will not take effect!

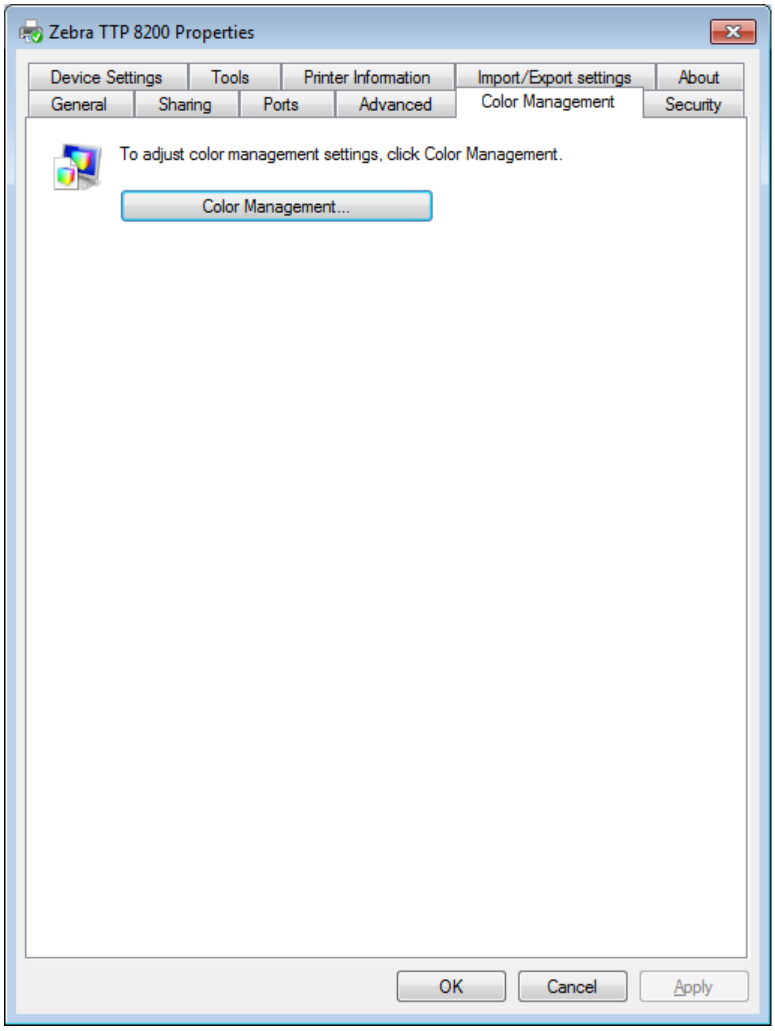
Advanced

The **Advanced** tab enables you to specify when the printer is available, select the printer driver, and set spooling options. In addition you can open **Printing Defaults**, **Print Processor**, and **Separator Page** dialogs from this tab.



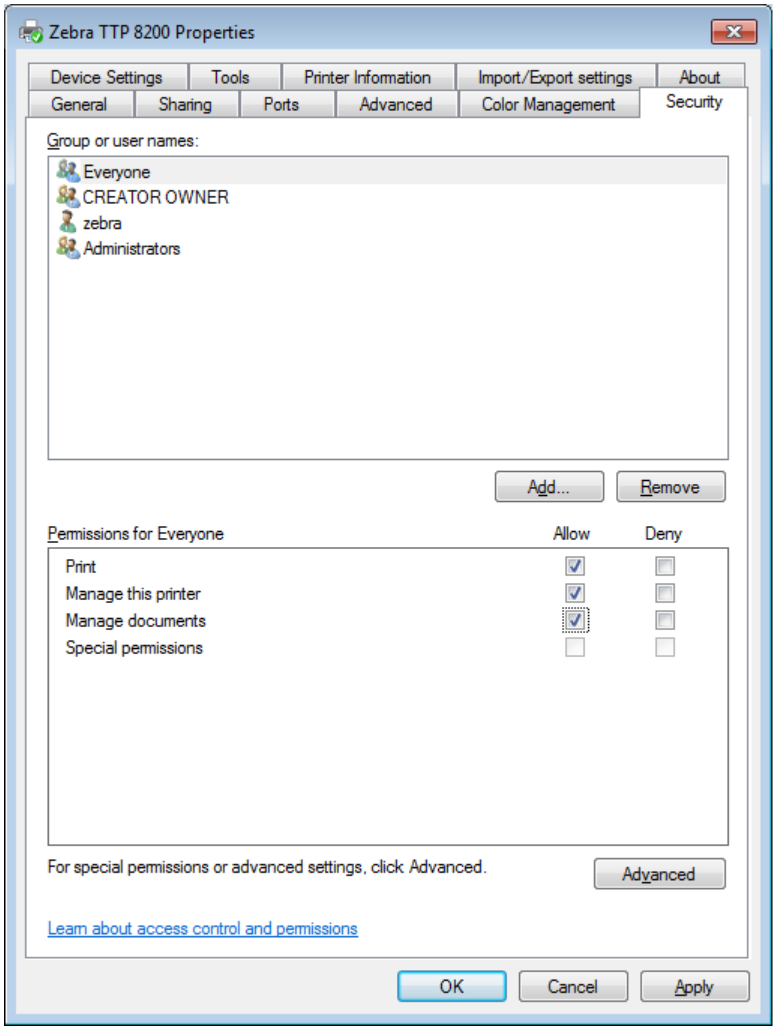
Color Management

The **Color Management** tab settings are specific to Microsoft Universal Printer Drivers (UniDrv). The default settings should be used.



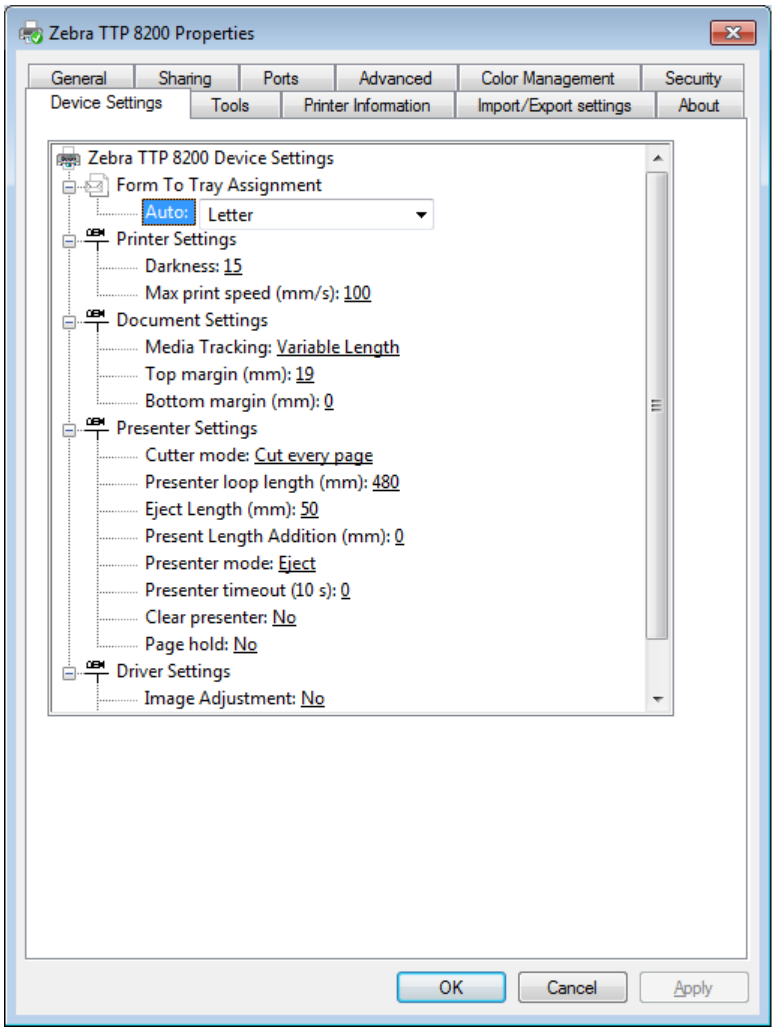
Security

The **Security** tab enables you to set the access control of specific system users for your printer. In some cases where you need to lock down your user account (e.g., in Kiosk applications) you need to grant the Kiosk user full administrator access to the printer. Typically a “normal” user has only **Print** rights but in order to get status from the printer the user also needs **Manage Printer** and **Manage Documents** permissions.



Device Settings

The **Device Settings** tab enables you to set various printer, document, presenter, and driver settings. These settings are similar between printer series, although some differences do apply.



The Minimum, Maximum, and Default Settings table shows minimum, maximum, and default settings for each printer family.

The following sections describes each of the **Device Settings**.

- Form To Tray Assignment
- Printer Settings
- Document Settings
- Presenter Settings
- Driver Settings

Minimum, Maximum, and Default Settings

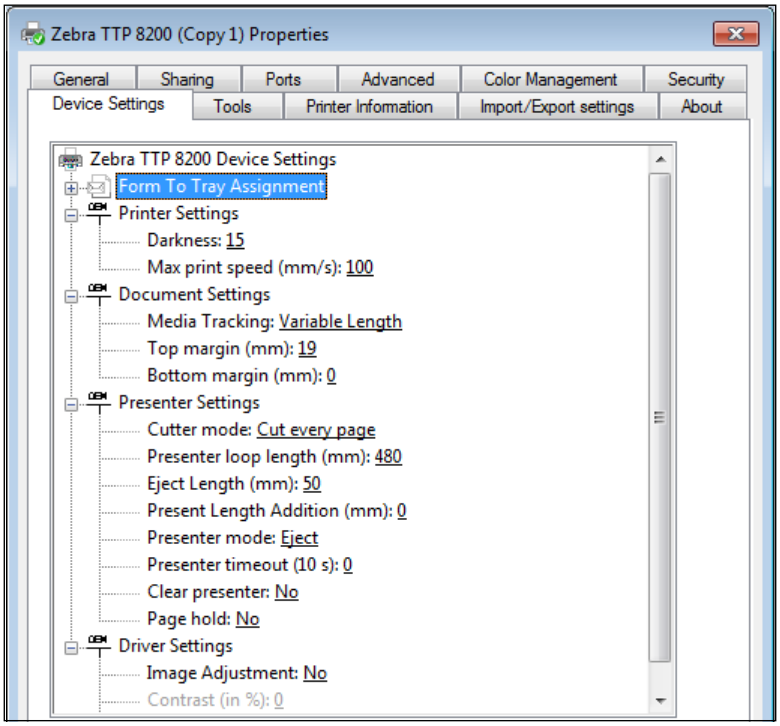
The following table shows minimum and maximum (where applicable), and default printer settings for each printer family. The default value is shown in **bold** font.

Printer Setting	KR203	TTP 2000	TTP 2100	TTP 7030	TTP 8200	TTP 8300
Form To Tray Assignment (see Form To Tray Assignment for options)	Default: **80 mm x 400 mm Roll Paper**	Default: **80 mm Roll Paper**	Default: **80 mm Ticket**	Default: **112 mm Roll Paper**	Default: **Letter**	Default: **Letter**
Darkness	Default: **15** Min: 0 Max: 30	Default: **9** Min: 1 Max: 15	Default: **9** Min: 1 Max: 15	Default: **9** Min: 1 Max: 15	Default: **14** Min: 1 Max: 15	Default: **14** Min: 1 Max: 15
Print Speed	Default: **152** Min: 75 Max: 152	Default: **150** Min: 47 Max: 150	Default: **123** Min: 47 Max: 123	Default: **75** Min: 21 Max: 75	Default: **80** Min: 20 Max: 100	Default: **53** Min: 13 Max: 67
Media Tracking	Default: **Variable length**	Default: **Variable length**	Default: **Continuous**	Default: **Variable length**	Default: **Continuous**	Default: **Continuous**
Top Margin	Default: **12** Min: 2 Max: 12	Default: **9** Min: 2 Max: 9	Default: **9** Min: 2 Max: 9	Default: **14** Min: 2 Max: 14	Default: **19** Min: 2 Max: 19	Default: **19** Min: 2 Max: 19
Bottom margin	Default: **0** Min: 0 Max: 9	Default: **0** Min: 0 Max: 19	Default: **0** Min: 0 Max: 19	Default: **0** Min: 0 Max: 19	Default: **0** Min: 0 Max: 19	Default: **0** Min: 0 Max: 19
Cutter mode	Default: **Cut Per Page**	Default: **Cut Per Page**	Default: **Cut Per Page**	Default: **Cut Per Page**	Default: **Cut Per Page**	Default: **Cut Per Page**
Partial Cut Width	Default: **0** Min: 0, 10 Max: 60	Default: **0** Min: 0, 10 Max: 40	Default: **0** Min: 0, 10 Max: 40	N/A	N/A	N/A
Presenter loop length	Default: **400** Min: 0 Max: 600	Default: **480** Min: 96 Max: 8160	N/A	Default: **480** Min: 96 Max: 8160	Default: **320** Min: 96 Max: 8160	Default: **320** Min: 96 Max: 8160
Eject Length	Default: **50** Min: 1 Max: 600	Default: **50** Min: 1 Max: 600	Default: **50** Min: 1 Max: 600	Default: **50** Min: 1 Max: 600	Default: **50** Min: 1 Max: 600	Default: **50** Min: 1 Max: 600
Present Length Addition	Default: **0** Min: 0 Max: 255	Default: **0** Min: 0 Max: 255	Default: **0** Min: 0 Max: 255	Default: **0** Min: 0 Max: 255	Default: **0** Min: 0 Max: 255	Default: **0** Min: 0 Max: 255
Presenter mode	N/A	Default: **Eject**	N/A	Default: **Eject**	Default: **Eject**	Default: **Eject**

Printer Setting	KR203	TTP 2000	TTP 2100	TTP 7030	TTP 8200	TTP 8300
Presenter timeout	Default: **0** Min: 0 Max: 300	Default: **0** Min: 0 Max: 300	N/A	Default: **0** Min: 0 Max: 300	Default: **0** Min: 0 Max: 300	Default: **0** Min: 0 Max: 300
Clear presenter	Default: **No**	Default: **No**	Default: **No**	Default: **No**	Default: **No**	Default: **No**
Page hold	Default: **No**	Default: **No**	Default: **No**	Default: **No**	Default: **No**	Default: **No**
Image Adjustment	N/A	N/A	N/A	N/A	Default: **No**	Default: **No**
Contrast	N/A	N/A	N/A	N/A	Default: **0** Min: -100 Max: 100	Default: **0** Min: -100 Max: 100
Brightness	N/A	N/A	N/A	N/A	Default: **0** Min: -100 Max: 100	Default: **0** Min: -100 Max: 100

Form To Tray Assignment

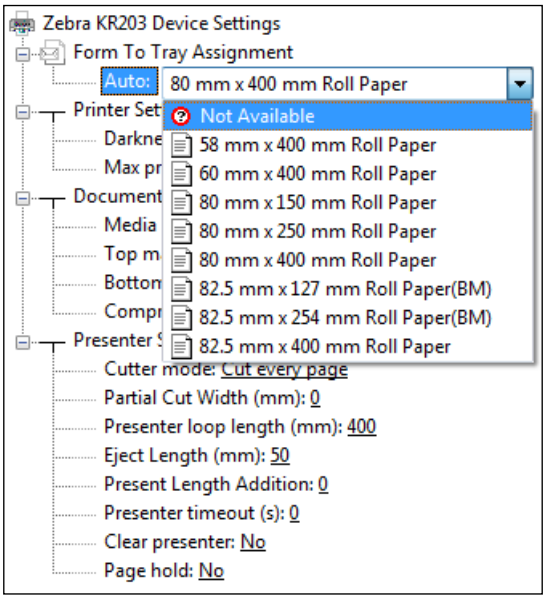
The **Form To Tray Assignment** setting shows the currently selected paper form. You can select from a variety of paper forms and custom forms generated in **Server Properties** dialog (see Print Forms). Set this setting the same as set in the Printing Preferences dialog.



The following sections show the available forms for each printer family.

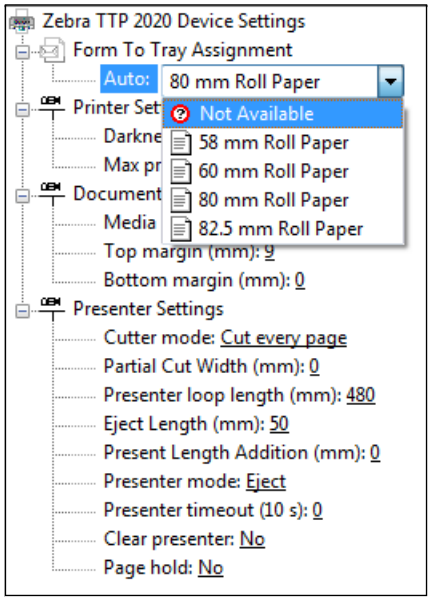
KR203

The following forms are available for the KR203. The pre-defined forms have a length of 40.64 cm or 16 inch.



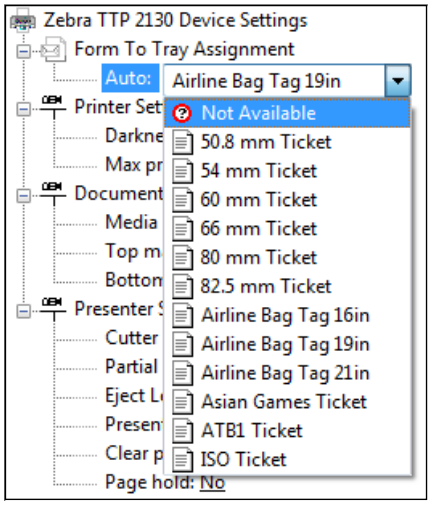
TTP 2000

The following forms are available for the TTP 2000 series. The pre-defined forms have a length of 40.64 cm or 16 inch.



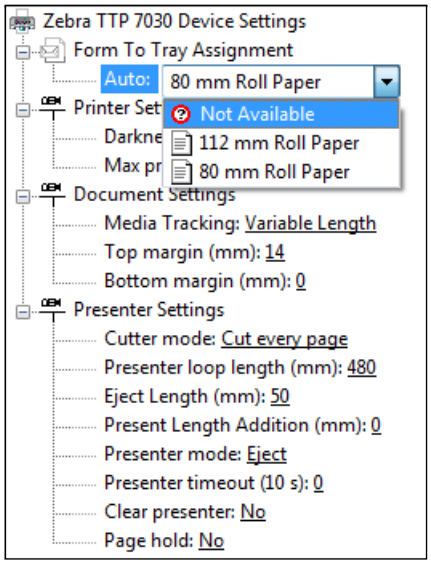
TTP 2100

The following forms are available for the TTP 2100 series. The pre-defined forms have a length of 15 cm or 5.91 inch or the specific form length of the bag tag or ticket.



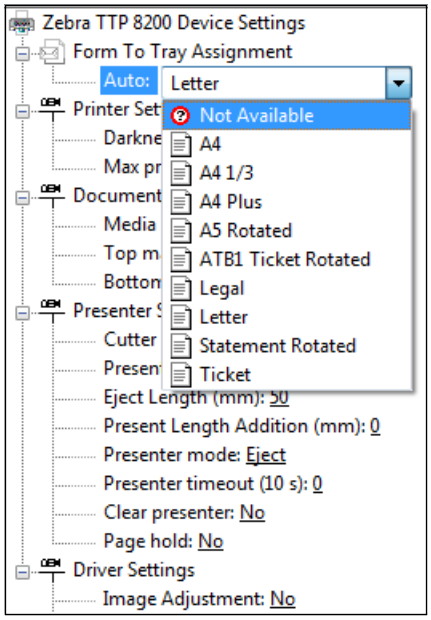
TTP 7030

The following forms are available for the TTP 7030. The pre-defined forms have a length of 40.6 cm or 16 inch.



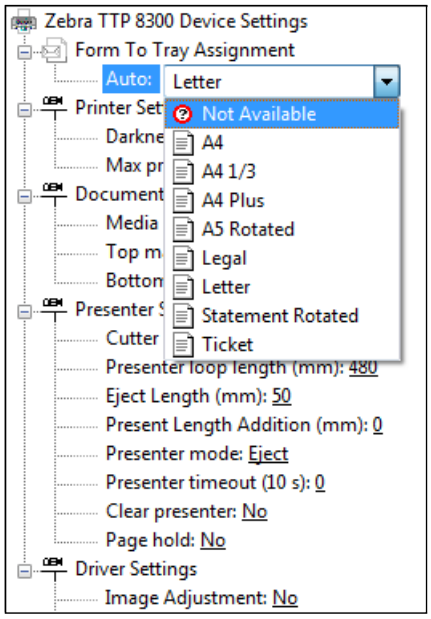
TTP 8200

The following forms are available for the TTP 8200 series. The pre-defined forms have a length of the specific form length.



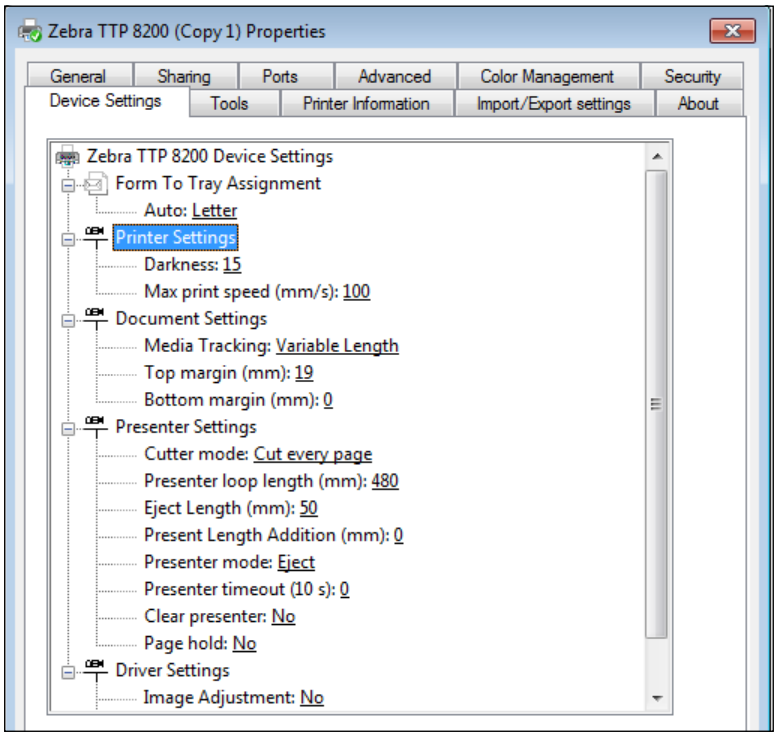
TTP 8300

The following forms are available for the TTP 8300 series. The pre-defined forms have a length of the specific form length.



Printer Settings

The **Printer Settings** enable you to set the **Darkness** and the **Max print speed (mm/s)**.



- **Darkness**

  The **Darkness** setting affects Printer Parameter 7 each time a print job is issued. The minimum, maximum, and default values are shown in the Minimum, Maximum, and Default Settings table.

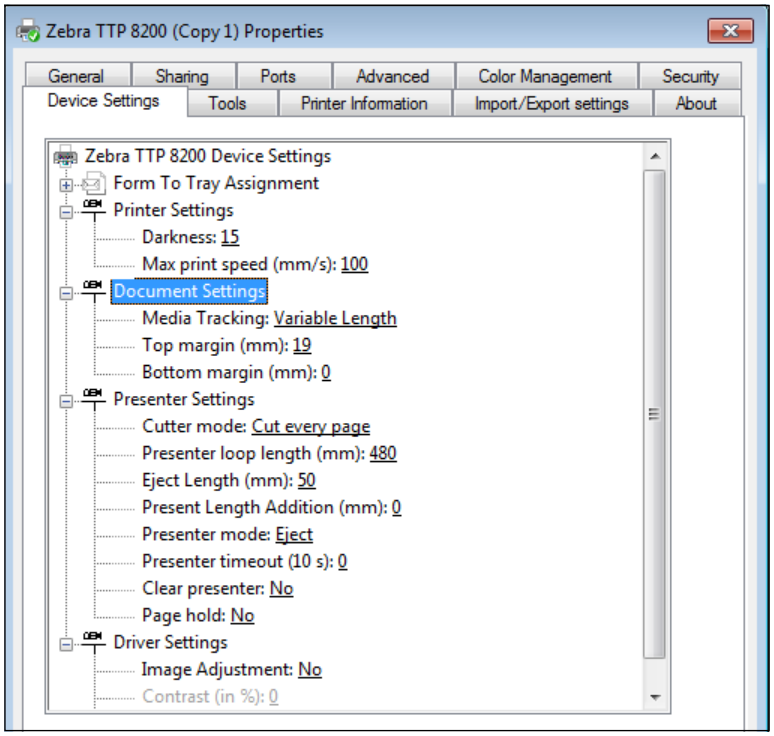
- **Print speed**

  The **Print speed** affects Printer Parameter 8 each time a print is issued. The minimum, maximum, and default values are shown in the Minimum, Maximum, and Default Settings table.

Note • See the *Technical Manual* for your printer for more information on these settings.

Document Settings

The **Document Settings** enable you to set the **Media Tracking, Top margin**, and **Bottom margin** as described in the following sections.



- **Media Tracking**

  The **Media Tracking** setting determines how the media is delimited. The possible values are Continuous, Variable length, and Mark sensing.

  - **Continuous** — always prints a whole page
  - **Variable length** — cuts white space at the end
  - **Mark sensing** — syncs with black marks

  The default values are shown in the Minimum, Maximum, and Default Settings table.

- **Top margin**

  The **Top margin** setting affects the physical distance between the top of the paper and the cutter. Due to the mechanical design, the printer will always have a top margin depending on the printer family. This distance between the cutter and the print head can be reduced by reversing the paper. The value entered in this setting determines the amount the printer has to reverse paper (see the *Technical Manual* description of the ESC j command). The minumum, maximum, and default values are shown in the Minimum, Maximum, and Default Settings table.

Note • The physical distance for a TTP 2000 is 9 mm, for a TTP 2100 is 9 mm, for a TTP 7030 is 14 mm and for a TTP 8200 and TTP 8300 is 19 mm.

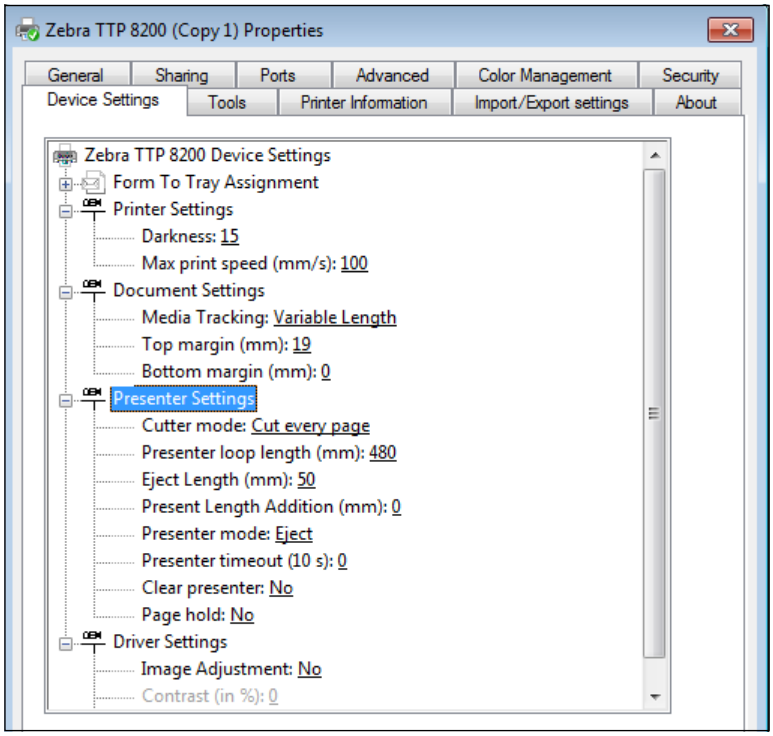
- **Bottom margin**

  The **Bottom margin** setting affects the physical distance between the bottom of the paper and the cutter. This setting is an addition to the actual page length in Variable mode and restricts the printable page in Continuous mode and Black Mark mode.

  The minimum, maximum, and default values are shown in the Minimum, Maximum, and Default Settings table.

Presenter Settings

The **Presenter Settings** enable you to set various presenter settings depending upon your printer family as described in the following sections.



- **Cutter mode**

  The **Cutter mode** setting is a driver only setting and does not affect any Printer Parameters. The possible values are **Cut every page**, **Cut at the document end**, and **No Cut** (not advisable).

  - **Cut every page** — driver issues a cut command after every page of a document
  - **Cut at the document end** — driver issues a cut only at the end of a document
  - **No Cut** — driver does not issue any cut commands and paper is fed through the presenter until a cut is issued

The minimum, maximum, and default values are shown in the Minimum, Maximum, and Default Settings table.

Notes •

- If you are printing a multipage document with the setting **Cut at the document end** you get one long printout without a separation between each page.
- If you are printing a multipage document with the **Cut every page** setting each page is ejected with an ENQ (Clear Presenter) command after a cut if **Clear Presenter** is set to **Yes**.
- Use the **Cut at the document end** in connection with the **Partial Cut Width** setting to enable a document to be cut partially between pages and full at the end of a document.

- **Partial cut width**

  The **Partial cut width** setting affects the Printer Parameter 60 each time a print is issued. The possible values are between 1 and 40. The default value is 0. You need to set this value according to the print width of your printer (see the *Technical Manual* for more information on Parameter 60).

Notes •

- The **Partial cut width** setting is only available for KR203, TTP 2000 and TTP 2100 series printers.
- Use the **Cut at the document end** in connection with the **Partial Cut Width** setting to enable a document to be partially cut between pages and fully cut at the end of a document.
- The **Partial cut width** setting cannot be used when the **Clear presenter** option is set to **Yes**.

Example • Partial cut width

You have a two page receipt that should be cut partially between the first and the second page. You are using an 80 mm paper and decide to cut 10 mm each side into the paper. You need to set the **Cutter mode** to **Cut at the document end** to indicate to the driver that you want only one full cut at the end of the document. Then select a **Partial cut width** of 10 allowing the printer to cut 10 mm into each side of the paper, and set the **Clear Presenter** to **No**. When you print your document the printer will print the first page, do a partial cut, print the second page, and do another partial cut, followed by a full cut. This is an expected behavior since neither the driver nor the printer knows the end of the document.

- **Presenter loop length**

  The **Presenter loop length** setting affects Printer Parameter 9 each time a print is issued. The minimum, maximum, and default values are shown in the Minimum, Maximum, and Default Settings table.

- **Eject length**

  The **Eject length** setting is affecting the physical length a ticket or receipt is ejected out of the presenter after a cut. The possible values are between 1 and 600 and represent the amount of media ejected in mm. (See the *Technical Manual* for more information on the ESC FF command.)

- **Present Length Addition**

  The **Present Length Addition** setting adds an additional amount to how far the paper is ejected during a present cycle. The possible values are between 1 and 255 and represent the amount of media ejected in mm. The default value is 0. (See the *Technical Manual* for more information on Parameter 47, Wall compensation.

- **Presenter mode**

  The **Presenter mode** setting along with the **Presenter timeout** setting controls Printer Parameter 45. The two possible values are **Eject** (the default) and **Retract**. This takes effect when a new page is printed. (See the *Technical Manual* for further information on Parameter 45.)

Note • This setting is not available for the KR203 or the TTP 2100 printer family.

- **Presenter timeout**

  The **Presenter timeout** setting along with the **Presenter mode** setting controls Printer Parameter 45. The possible values range from 0 to 300 and represent timeout delays in 10 second steps (e.g., a value of 3 is a 30 second timeout before the page is retracted into the waste bin).

Note • Setting this value to 0 keeps the receipt in the presenter until the Kiosk user takes the receipt.

- **Clear presenter**

  The **Clear presenter** setting has two possible values and issues an ENQ (Clear Presenter) command if it is set to **Yes** or does nothing if it is set to **No** after the printer has cut and ejected a page. You can use this feature to fully eject a page from the presenter after it is printed.

- **Page hold**

  The **Page hold** setting has two possible values. The driver holds a page in the presenter when printing a multipage document if the setting is set to **Yes**. Pages will not be held if the setting is set to **No**.

Notes •

- This feature only works if the **Enable bidirectional support** check box is checked in the **Ports** tab and the Language Monitor is running.
- This feature works together with the **Presenter mode** and **Presenter timeout** setting. If you do not allow retraction by setting the **Presenter timeout** value to **0** the print process hangs until the current page is taken out of the presenter because the driver does not send any new pages until the presenter has been cleared. If you allow retraction and the current page retracts due to the timeout period expiring while in hold mode the driver terminates the current print and no further pages print.
- Print jobs are held when the **Delete Print Job on Error** check box is cleared on the **Tools** tab. When printing one document multiple times it will still be looked at as one document in the print queue and deleted on error.

Example • Page hold

For this example, you want to print a multipage document and have **Presenter mode** set to **Retract**, **Presenter timeout** to 30 seconds (**3**), and the **Page hold** option to **Yes**.

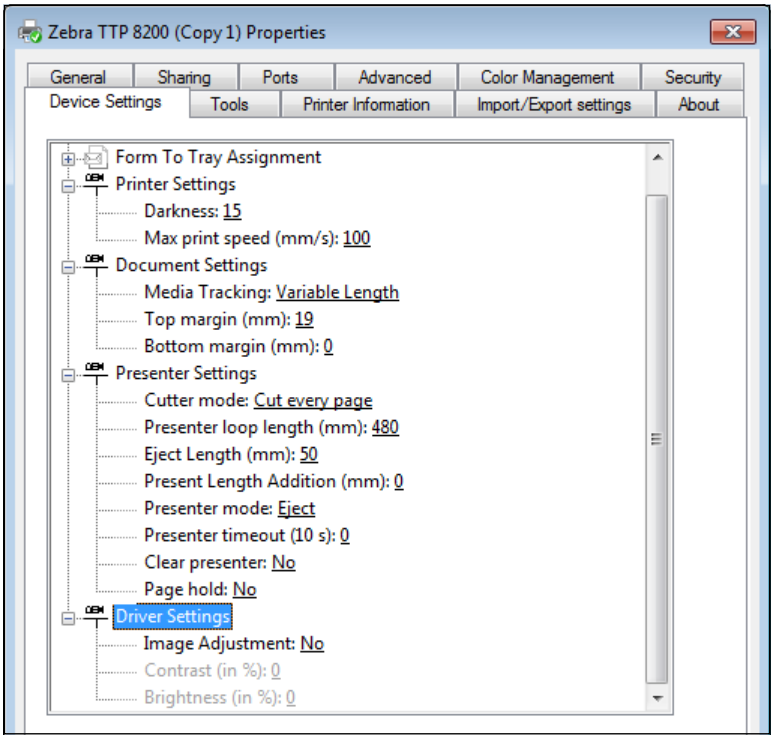
When printing your document and taking every page out of the presenter before the timeout period expires, the driver sends each following page until the document is fully printed.

If printing your document and not taking a page and the timeout period expires the printer retracts this page and clears the presenter and also sends an error code to the driver indicating that a “retract” has occurred. The driver then stops printing and deletes the current print job.

The minimum, maximum, and default values are shown in the Minimum, Maximum, and Default Settings table.

Driver Settings

The **Driver Settings** enable you to adjust the contrast and brightness of the image. This feature is only available for the TTP 8000 series printers.



- **Image Adjustment**

  The **Image Adjustment** setting has two values: **Yes**, and **No**. If the value is set to Yes, the Contrast and Brightness settings are available. The default value is **No**.

- **Contrast**

  The **Contrast** settings minimum value is **-100**, the maximum value is **100**, and the default is **0**.

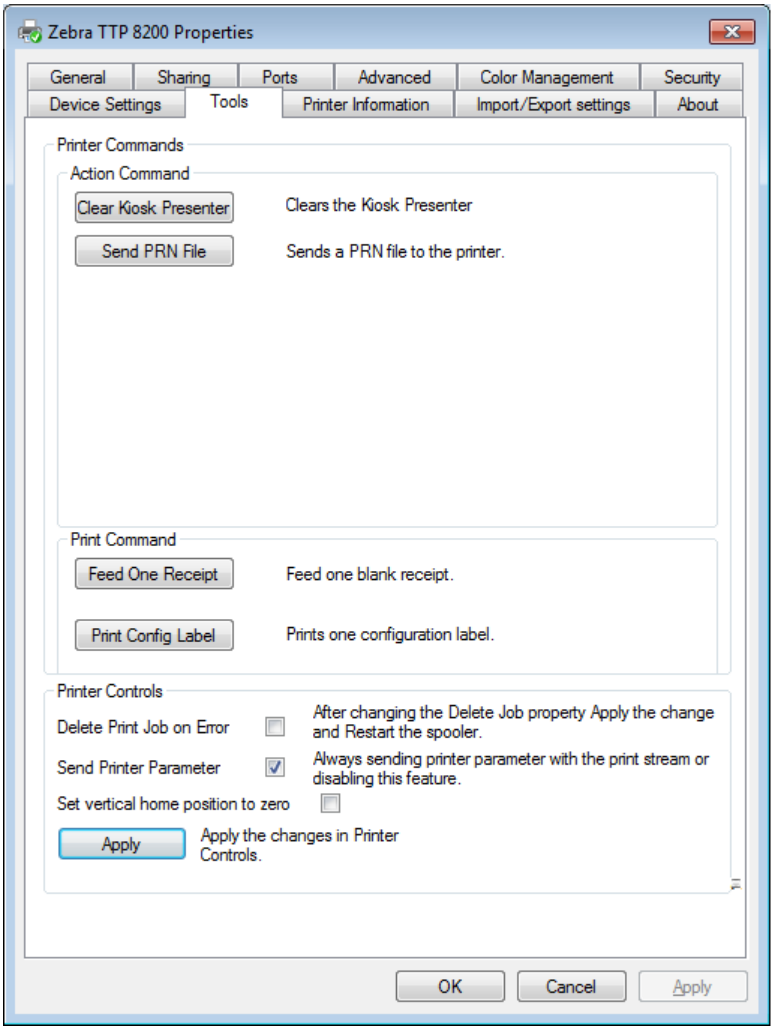
- **Brightness**

  The **Brightness** settings minimum value is **-100**, the maximum value is **100**, and the default is **0**.

  The minimum, maximum, and default values are shown in the Minimum, Maximum, and Default Settings table.

Tools

The **Tools** tab allows you to clear the Kiosk Presenter, send a PRN file to the printer, feed a blank receipt, and print a configuration label that shows you the printer settings. You can also apply changes to various printer controls as described below.



- **Delete Print Job on Error**

  Print jobs are held when the **Delete Print Job on Error** check box is cleared on the **Tools** tab. When printing one document multiple times it will still be looked at as one document in the print queue and deleted on error. If you change this setting, you must click **Apply** and restart the spooler.

- **Send Printer Parameter**

  Select the **Send Printer Parameter** check box to send the driver settings from the **Device Settings** dialog to the printer. If you want to set your printer parameters manually without the driver overwriting them, clear the **Send Printer Parameter** check box.

- **Set vertical home position to zero**

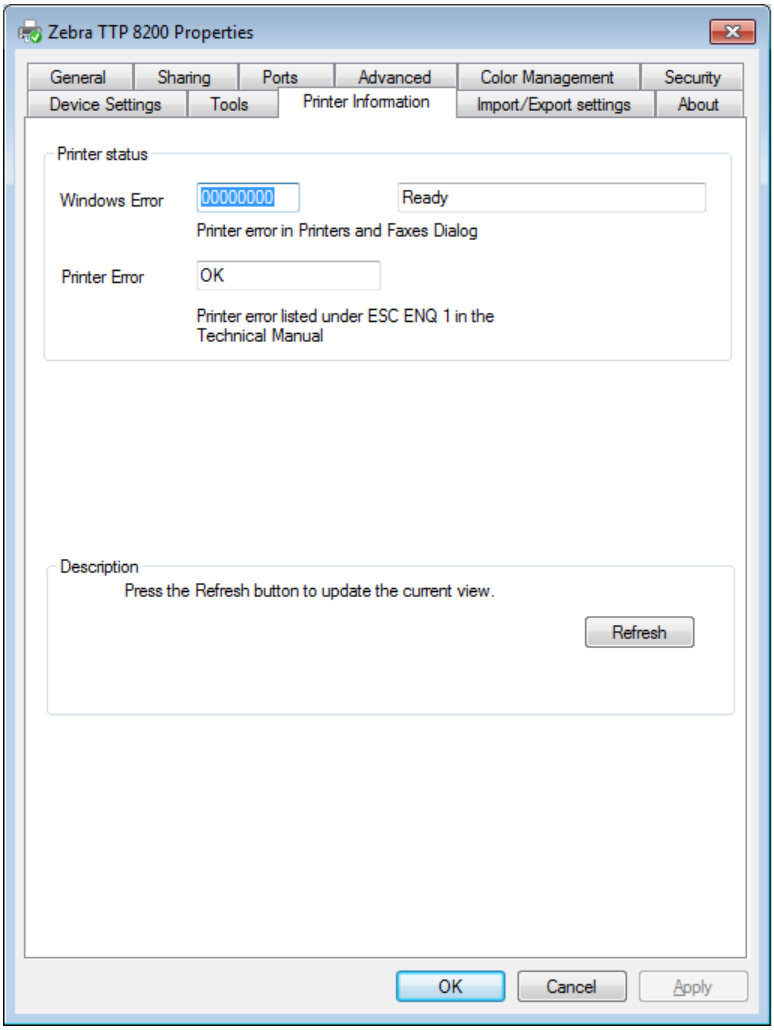
  Select the **Set vertical home position to zero** to move the top margin of the printed image to the current print line location so that the printer is able to print the full image without cutting off the top portion of the image.

Notes •

- This does not affect the mechanical top margin of the printer, only the **Top margin** setting in the **Device Settings** dialog physically reverses the media.
- Click **Apply** for the changes to take effect.

Printer Information

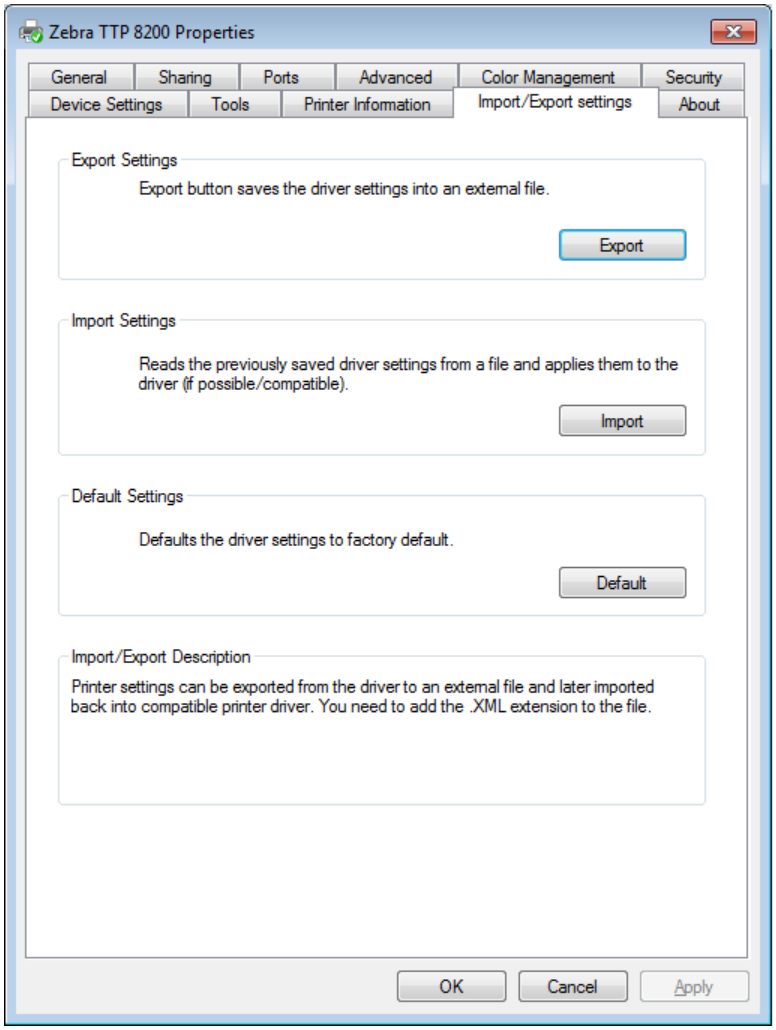
The **Printer Information** tab shows the printer status for the selected printer.



Note • When you click **Refresh**, the Windows and Printer Error values are updated with the current status values. See Windows Statuses for a reference of the values.

Import/Export settings

The **Import/Export settings** tab enables you to export the driver settings to a file, import previously saved driver settings, and restore the printer to the factory default settings.



- **Import**

  Enables you to load a previously saved XML driver settings file. You should save the imported file in the **C:\Zebra** folder.

- **Export**

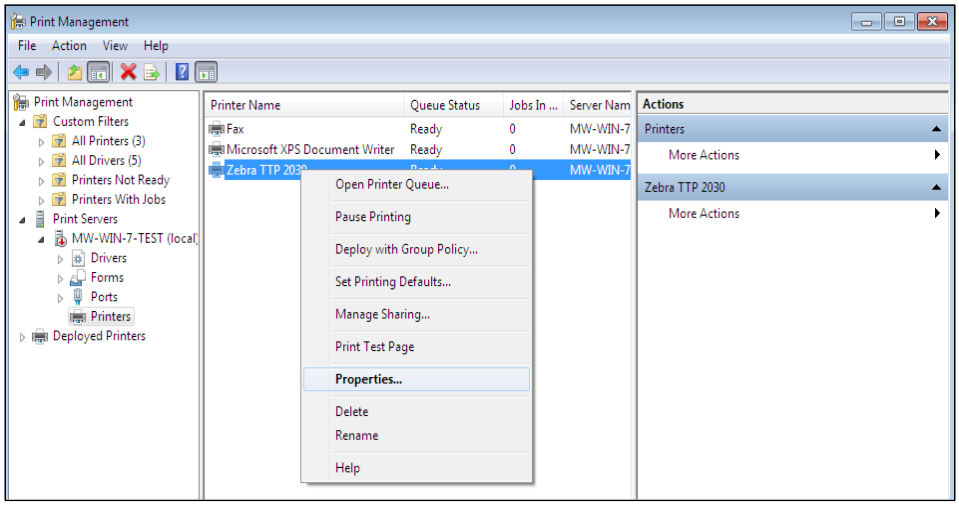
  Enables you to **Export** driver settings in a XML file. You can select which folder you want to use to save the file.

- **Default**

  Click **Default** to return the driver settings to the factory default.

Note • In Windows 7 Professional/Ultimate you need to start **Print Management** as an Administrator and select the printer that you want to Export, Import, or Default the Device Properties from.

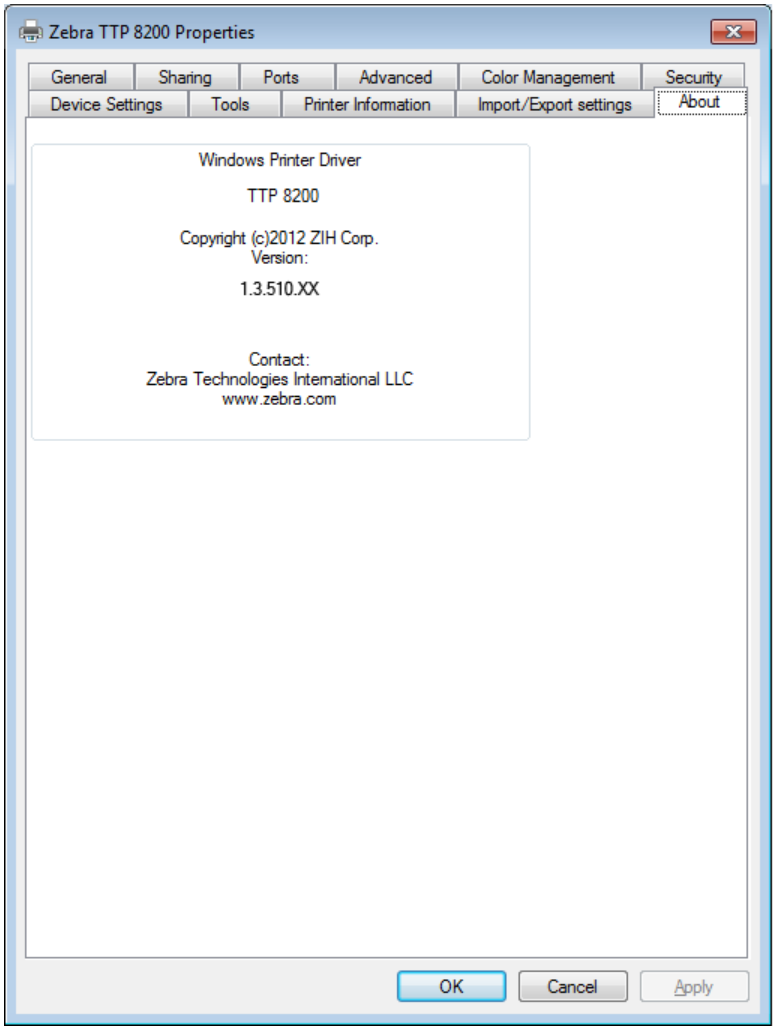
If you default to the factory device settings you need to click **Cancel** to exit the **Printer Properties** dialog and reopen it to see the changes in the **Device Settings** tab. The values do not automatically refresh when you switch to the Device Setting tab.



Note • Click **Apply** for the changes to take effect.

About

The **About** tab shows the printer model and the driver version.



3

Printer Status Retrieval

Contents

The Language Monitor

The Language Monitor is part of the Windows driver and is located between the Driver UI and the Port Monitor. The Language Monitor (LM) takes care of the direct communication with the selected port.

The Language Monitor has a Windows API interface through the **GetPrinterData** and **GetPrinter** functions.

All of the default Windows status responses can also be scripted with WMI scripts. See a description and a programming example in Status Monitoring & Programming Examples.

Windows APIs for Communication with the Printer

In order to make bi-directional communication easier and also compatible to more than one printer of the same kind on a specific PC, we implemented the LM **GetPrinterData** function. This is a Windows API described in Windows documentation. To retrieve immediate printer status from the Spooler you can also use the **GetPrinter** function. The **GetPrinterData** function is preferred over **GetPrinter** due to the fact that with **GetPrinterData**, all statuses and errors display, while with **GetPrinter**, only printer errors display.

- **GetPrinterData**

  The **GetPrinterData** function retrieves configuration data for the specified printer or print server. See *Microsoft* documentation (http://msdn.microsoft.com/en-us/library/dd144912(VS.85).aspx) for more information on how to use this function.

Note •

- See GetPrinterData Key Values for available keywords.

- **GetPrinter**

  The **GetPrinter** function retrieves information about the specified printer. See *Microsoft* documentation (http://msdn.microsoft.com/en-us/library/dd144911(VS.85).aspx) for more information on how to use this function.

Notes •

- Zebra Printer status: It is recommended to use the PRINTER_INFO_3 structure to inquire for the printer status presented by the LM.
- The spooler status is changed by **SetPort**. When using **SetPort** with custom messages, you cannot set these to be displayed or used by the spooler. This is a known bug; “SetPort doesn't work with custom status messages.” (Microsoft) Therefore, all custom messages will be declared as PRINTER_STATUS_NOT_AVAILABLE and a KPL value is placed in the **ExternalError** key. The custom messages are only accessible through the **GetPrinterData** function.

Status Update in Windows “Printers and Faxes” or “Devices and Printer”

In the case that the printer is not printing the status will be checked every 1.5 seconds (depending on the setting of the READ_THREAD_IDLE_SLEEP key in the LM registry setting). During printing and on error the status will be checked more frequently.

The same status that can be gathered with the **GetPrinterData** or **GetPrinter** API will be displayed in the Printer folder.

Note • In some cases it may be possible that the PnP ping is not properly executed on the system and therefore the idle thread of the LM is not activated after a power off situation of the printer. In this case the LM is reactivated the next time a print job is executed.

A

Windows Statuses

Contents

Windows Compatible Status

These statuses appear in the Printers and Faxes dialog and are stored in the printer ERROR key in the Registry. They can be extracted with **GetPrinterData**.

Statuses Defined in winspool.h

Table 1 • Windows Status Compared to Zebra Status

PRINTER_STATUS_PAPER_JAM	Paper jam (ESC ENQ 1 = NAK 1)
PRINTER_STATUS_USER_INTERVENTION	Cutter not home (ESC ENQ 1 = NAK 2)
PRINTER_STATUS_PAPER_OUT	Out of paper (ESC ENQ 1 = NAK 3)
PRINTER_STATUS_DOOR_OPEN	Print head lifted (ESC ENQ 1 = NAK 4)
PRINTER_STATUS_PAPER_PROBLEM	Paper feed problem (ESC ENQ 1 = NAK 5)
PRINTER_STATUS_NOT_AVAILABLE	Temperature error (ESC ENQ 1 = NAK 6)
PRINTER_STATUS_ERROR	Presenter jam (ESC ENQ 1 =NAK 7), check ExternalError
PRINTER_STATUS_PAPER_JAM	Retract jam (ESC ENQ 1 = NAK 8), check ExternalError
PRINTER_STATUS_NOT_AVAILABLE	Black mark not found (ESC ENQ 1 = NAK 10), check ExternalError
PRINTER_STATUS_NOT_AVAILABLE	Black mark calibration error (ESC ENQ 1 = NAK 11), check ExternalError
PRINTER_STATUS_NOT_AVAILABLE	Index error (ESC ENQ 1 = NAK 12), check ExternalError

Table 1 • Windows Status Compared to Zebra Status

PRINTER_STATUS_NOT_AVAILABLE	Checksum error (ESC ENQ 1 = NAK 13), check ExternalError
PRINTER_STATUS_NOT_AVAILABLE	Wrong firmware (ESC ENQ 1 = NAK 14), check ExternalError
PRINTER_STATUS_NOT_AVAILABLE	Retract occurred (ESC ENQ 1 = NAK 16), check ExternalError
PRINTER_STATUS_NOT_AVAILABLE	Paused (ESC ENQ 1 = NAK 17), check ExternalError
PRINTER_STATUS_TONER_LOW	Paper near end (ESC ENQ 6)
PRINTER_STATUS_NO_TONER	Weekend paper status (ESC ENQ 6) (only for TTP 7030 and TTP 8000 with special hardware)
PRINTER_STATUS_OUTPUT_BIN_FULL	Paper in presenter (ESC ENQ 6)

Table 2 • Status definition in Winspool.h

#define PRINTER_STATUS_ERROR	0x00000002
#define PRINTER_STATUS_PAPER_JAM	0x00000008
#define PRINTER_STATUS_PAPER_OUT	0x00000010
#define PRINTER_STATUS_PAPER_PROBLEM	0x00000040
#define PRINTER_STATUS_OFFLINE	0x00000080
#define PRINTER_STATUS_OUTPUT_BIN_FULL	0x00000800
#define PRINTER_STATUS_NOT_AVAILABLE	0x00001000
#define PRINTER_STATUS_TONER_LOW	0x00020000
#define PRINTER_STATUS_NO_TONER	0x00040000
#define PRINTER_STATUS_USER_INTERVENTION	0x00100000
#define PRINTER_STATUS_DOOR_OPEN	0x00400000

Note • In order to indicate the Kiosk printer status of Paper-near-end or Weekend-paper-status Zebra is using two Microsoft status codes that are not used by thermal printers, as they do not need any toner. The codes used are PRINTER_STATUS_TONER_LOW for Paper-near-end and PRINTER_STATUS_NO_TONER for Weekend-paper-status. These statuses are only informative and do not block printing.The Weekend-paper-status is only present with printers that have the option of two sensors on their roll holder. (See the *Technical Manual* for your printer for more information on the available options.)

Windows Incompatible Status

If a printer status doesn't have a corresponding Windows status the Error key will have PRINTER_STATUS_NOT_AVAILABLE set and you need to evaluate the **ExternalError** key.

Statuses that have a representation within the Windows status may also have an ESC ENQ 1 NAK value (see Table 4) and will be stored in the printer **ExternalError** key in the registry and can be extracted with **GetPrinterData** using the **ExternalError** key.

For the meanings of these NAK responses see the appropriate *Technical Manual* for your printer, under the ESC ENQ 1 section.

Note • Any other Windows status may be used in the future, so mask away undefined bits in your application!

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GetPrinterData Key Values

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GetPrinterData Key Values

Table 3 • GetPrinterData Key Values

Printer	DsMonitor Key Explanation	Type	Note
Error	Printer Error or Status in Windows 16-bit format	REG_DWORD	
ErrorEvent	Error event name for error event trigger	REG_SZ	only in Windows XP
ExternalError	Extended status according to Appendix B	REG_DWORD	
Firmware	Firmware version	REG_BINARY	only for USB connection
PageCount	Page counter for cut pages	REG_DWORD	
PCB_REV	Printers PCB revision number	REG_BINARY	
PCB_SN	Printers PCB serial number	REG_BINARY	
StatusEvent	Status event name for status event trigger	REG_SZ	only for Windows XP
RetractCount	Retract counter for retracted pages	REG_DWORD	
DeleteJob	Flag to delete print jobs on error	REG_DWORD	
Head_Temp	Head temperature (ESC ENQ B)	REG_DWORD	

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Status Monitoring & Programming Examples

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Status Monitoring

In order to incorporate the new way of status monitoring you need some background on what happens in a Kiosk when you print and when you should monitor your status.

Status monitoring can be handled in two different ways.

- Monitor in your printing application
- Monitor in a separate application

When you monitor in your printing application you would commonly look at the printer before sending a print job to see if the printer is OK and then send your print job. After the print job is signaled as being printed you would check status again to see if the printer has any errors or if the paper has been taken, etc.

Monitoring in a separate application usually doesn't allow direct interaction with the printed job so you are trying to poll the printer as often as you can to get the most accurate information on what the printer is doing. This is usually a very time consuming task and you have to care for synchronizing with a current print job.

Since monitoring in a separate application is most commonly used for status monitoring, we have incorporated an event notification into the Language Monitor (LM) to allow a monitoring application to do other tasks and have a separate thread listening for the printer status or error event change. When this occurs the thread is simply getting the status and reporting this back to the main program or doing any other kind of reporting.

To accommodate this notification for all error and status changes we incorporated two mechanisms in the LM.

- **Monitoring while printing**

  We implemented status monitoring in the internal printing structure of the LM. When you open a Document, print it and close the Document again the LM will check the printer status before and after printing and will also react to write errors if such occur. Then it will set the printer status and raise the error event.

- **Monitoring while idle**

  We implemented an internal status thread which polls the printer when it is idle in a predefined cycle and provides changed status information in the same manner. It will set the status and raise an error or status event. Therefore, it is not necessary to implement your own monitoring loop. You can simply wait for an event in your application's idle loop.

Implementation in Calling Application

Note • The following example is not applicable for Windows 7 and above.

1. Open the Printer.

   The first step of your implementation is to open the printer you want to monitor and get the Error event and Status event name.

```
bRet = OpenPrinter(m_csPrinter.GetBuffer(1), &hPrinter, &pd);
…
if ((dRet = GetPrinterData(hPrinter, "ErrorEventName", &dType, (LPBYTE)cTmp, 100,
&dNeeded))!=ERROR_SUCCESS)
…
if ((dRet = GetPrinterData(hPrinter, "StatusEventName", &dType, (LPBYTE)cTmp, 100,
&dNeeded))!=ERROR_SUCCESS)
…
```

2. Open the Event Handles.

   Open the two event handles and fill these handles into a structure you will pass on to the new thread.

```
typedef struct _CStatusThreadInfo
{
    HWNDmyHwnd;
    DWORDdSleepTime;
    HANDLEhPrinter;
    HANDLEhError;
    HANDLEhStatus;
    BOOLm_hStatusEventKillThread;
} CStatusThreadInfo;
…
```

```
if ((cTi.hError = OpenEvent(SYNCHRONIZE, TRUE, m_csErrorEvent))==NULL)
…
if ((cTi.hStatus = OpenEvent(SYNCHRONIZE, TRUE, m_csStatusEvent))==NULL)
```

Step: Start Monitoring

When all this is done you can start your monitoring thread.

```
m_StatusThread = AfxBeginThread( StatusThreadProc, &cTi,
THREAD_PRIORITY_NORMAL,0,0,NULL);
```

Implementation in Monitor Thread for OS Prior to Windows 7

1. Fill Event Arrays

   In the monitoring thread you create and fill an array of handles with the error and status event handle.

   ```
   myHandle[0] = pInfo->hError;
   myHandle[1] = pInfo->hStatus;
   ```

2. Start the Waiting Loop

   Then you are ready to start the waiting loop.

```
for ( ; ; )
{
    if (pInfo->m_hStatusEventKillThread)
    {
        OutputDebugStringA("### [Thread msg.] Kill thread...\n");
        pInfo->m_hStatusEventKillThread = FALSE;
        AfxEndThread( 1 );
        return 1;
    }
    if ((dwRet = WaitForMultipleObjects(2, myHandle, FALSE, pInfo-
>dSleepTime))!=WAIT_FAILED)
    {
        if (dwRet==WAIT_OBJECT_0 || dwRet==WAIT_OBJECT_0+1)
        {
            if ((dwRet = GetPrinterData(hPrinter, "Error", &dType, (LPBYTE)&dwResult,
sizeof(dwResult), &dNeeded))!=ERROR_SUCCESS)
            {
                sprintf( str, "### [Status Thread error %d] read [%08X]\n", dwRet,
dwResult);
                OutputDebugStringA(str);
            }
            sprintf( str, "### [Status Thread] read [%08X]\n", dwResult);
            OutputDebugStringA(str);
            SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status),
WM_SETTEXT, 0, (LPARAM)(str));
            if (dwResult & 0x00000000)
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_OK"));
            if (dwResult & PRINTER_STATUS_ERROR)
```

```
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_ERROR"));
                    if (dwResult & PRINTER_STATUS_PENDING_DELETION)
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PENDING_DELETION"));
                    if (dwResult & PRINTER_STATUS_PAPER_JAM)
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PAPER_JAM"));
                    if (dwResult & PRINTER_STATUS_PAPER_OUT)
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PAPER_OUT"));
                    if (dwResult & PRINTER_STATUS_PAPER_PROBLEM)
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PAPER_PROBLEM"));
                    if (dwResult & PRINTER_STATUS_OFFLINE)
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_OFFLINE"));
                    if (dwResult & PRINTER_STATUS_IO_ACTIVE)
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_IO_ACTIVE"));
                    if (dwResult & PRINTER_STATUS_BUSY)
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_BUSY"));
                    if (dwResult & PRINTER_STATUS_PRINTING)
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PRINTING"));
                    if (dwResult & PRINTER_STATUS_OUTPUT_BIN_FULL)
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_OUTPUT_BIN_FULL"));
                    if (dwResult & PRINTER_STATUS_PROCESSING)
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PROCESSING"));
                    if (dwResult & PRINTER_STATUS_USER_INTERVENTION)
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_USER_INTERVENTION"));
                    if (dwResult & PRINTER_STATUS_DOOR_OPEN)
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_DOOR_OPEN"));


                    if (dwResult & PRINTER_STATUS_TONER_LOW)
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PAPER_NEAR_END"));
                    if (dwResult & PRINTER_STATUS_NO_TONER)
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PAPER_WEEKEND"));
                    if (dwResult & PRINTER_STATUS_NOT_AVAILABLE)
                    {
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_EXTERNAL_ERROR"));
if ((dwRet = GetPrinterData(hPrinter, "ExternalError", &dType, (LPBYTE)dwResult,
sizeof(dwResult), &dNeeded))!=ERROR_SUCCESS)
                        {
                            sprintf( str, "### [Status Thread error %d] read [%08X]\n",
dwRet, dwResult);
                            OutputDebugStringA(str);
                        }
```

```
                        sprintf( str, "### [Status Thread External Error] read [%08X]\n",
dwResult);
                        OutputDebugStringA(str);
                        SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status),
WM_SETTEXT, 0, (LPARAM)(str));
                    }
                }
                else
                    SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status),
WM_SETTEXT, 0, (LPARAM)("Timeout"));
        }
        else
        {
                dwRet = GetLastError();
                sprintf( str, "### Wait function failed! [%d]\n", dwRet);
                OutputDebugStringA(str);
        }
}
```

When an event occurs you need to get the status with GetPrinterData using the “Error” key and decode the result according to the sample or any way you feel necessary. In any case you can send a message or do any form of status reporting you want to do.

Implementation in Monitor Thread for OS Windows 7 and Above

Status function called from within the monitoring thread:

```
void getStatus(LPVOID pParam)
{
CStatusThreadInfo* pInfo = (CStatusThreadInfo*)pParam;
char str[150];
long dwResult=0, dwRet=0;
DWORDdType, dNeeded;
DWORDdwPgCnt=0;
DWORDdwCutCnt=0;

// Get status from the Language Monitor
if ((dwRet = GetPrinterData(hPrinter, "Error", &dType, (LPBYTE)&dwResult,
sizeof(dwResult), &dNeeded))!=ERROR_SUCCESS)
{
    sprintf_s( str, 150, "### [Status Thread error %d] read [%08X]\n", dwRet, dwResult);
    OutputDebugStringA(str);
}
sprintf_s( str, 150, "### [Status Thread] read [%08X]\n", dwResult);
OutputDebugStringA(str);
```

```
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)(str));

// parse the status result and output the result

if (dwResult & 0x00000000)

    SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status),
WM_SETTEXT, 0, (LPARAM)("PRINTER_STATUS_OK"));

if (dwResult & PRINTER_STATUS_ERROR)

    SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status),
WM_SETTEXT, 0, (LPARAM)("PRINTER_STATUS_ERROR"));

if (dwResult & PRINTER_STATUS_PENDING_DELETION)

SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PENDING_DELETION"));

if (dwResult & PRINTER_STATUS_PAPER_JAM)

SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PAPER_JAM"));

if (dwResult & PRINTER_STATUS_PAPER_OUT)

SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PAPER_OUT"));

if (dwResult & PRINTER_STATUS_PAPER_PROBLEM)

SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PAPER_PROBLEM"));

if (dwResult & PRINTER_STATUS_OFFLINE)

    SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status),
WM_SETTEXT, 0, (LPARAM)("PRINTER_STATUS_OFFLINE"));

if (dwResult & PRINTER_STATUS_IO_ACTIVE)

SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_IO_ACTIVE"));

if (dwResult & PRINTER_STATUS_BUSY)

    SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status),
WM_SETTEXT, 0, (LPARAM)("PRINTER_STATUS_BUSY"));

if (dwResult & PRINTER_STATUS_PRINTING)

SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PRINTING"));

if (dwResult & PRINTER_STATUS_OUTPUT_BIN_FULL)

SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_OUTPUT_BIN_FULL"));

if (dwResult & PRINTER_STATUS_PROCESSING)

SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PROCESSING"));

if (dwResult & PRINTER_STATUS_USER_INTERVENTION) {

SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_USER_INTERVENTION"));

    dwCutCnt++;

    sprintf_s( str, 150, "[%d]", dwCutCnt);

    SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_CUT_ERR),
WM_SETTEXT, 0, (LPARAM)str);

}

if (dwResult & PRINTER_STATUS_DOOR_OPEN)
```

```
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_DOOR_OPEN"));


if ((dwResult & PRINTER_STATUS_PAPER_NEAR_END)||(dwResult &
PRINTER_STATUS_TONER_LOW))
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PAPER_NEAR_END"));
if ((dwResult & PRINTER_STATUS_PAPER_WEEKEND)||(dwResult &
PRINTER_STATUS_NO_TONER))
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PAPER_WEEKEND"));
if ((dwResult & PRINTER_STATUS_PAPER_PRESENTER) || (dwResult &
PRINTER_STATUS_OUTPUT_BIN_FULL)) {
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_PAPER_PRESENTER"));
    dwPgCnt++;
    sprintf_s( str, 150, "[%d]", dwPgCnt);
    SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_PG_CNT),
WM_SETTEXT, 0, (LPARAM)str);
}
// if we have more information available about the specific error get it now
if ((dwResult & PRINTER_STATUS_EXTERNAL_ERROR) || (dwResult &
PRINTER_STATUS_USER_INTERVENTION) || (dwResult &
PRINTER_STATUS_NOT_AVAILABLE))
{
SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status), WM_SETTEXT, 0,
(LPARAM)("PRINTER_STATUS_EXTERNAL_ERROR"));
if ((dwRet = GetPrinterData(hPrinter, "EXTERNALERROR", &dType,
(LPBYTE)&dwResult, sizeof(dwResult), &dNeeded))!=ERROR_SUCCESS)
    {
     sprintf_s( str, 150, "### [Status Thread error %d] read [%08X]\n", dwRet,
dwResult);
                OutputDebugStringA(str);
    }
    sprintf_s( str, 150, "### [Status Thread External Error] read [%08X]\n", dwResult);
    OutputDebugStringA(str);
    SendMessage(GetDlgItem((HWND)pInfo->myHwnd, IDC_Status),
WM_SETTEXT, 0, (LPARAM)(str));
}
}
```

Status Monitoring Thread

Note • See Implementation in Monitor Thread for OS Prior to Windows 7 for implementation with event handling.

```
UINT StatusThreadProc( LPVOID pParam)
{
CStatusThreadInfo* pInfo = (CStatusThreadInfo*)pParam;
long dwResult=0, dwRet=0;
char str[150];
HANDLE myHandle[2];
DWORDdwPgCnt=0;
DWORDdwCutCnt=0;

if (pInfo == NULL)
{
    OutputDebugStringA("### entering Status Poll thread Failed!\n");
    return 1;   // if pObject is not valid
}

OutputDebugStringA("### entering Status Poll thread...\n");
BOOL isWin7 = IsWin7();

for ( ; ; )
{
    if (pInfo->m_hStatusEventKillThread)
    {
        OutputDebugStringA("### [Thread msg.] Kill thread...\n");
        pInfo->m_hStatusEventKillThread = FALSE;
        AfxEndThread( 1 );
        return 1;
    }
    // in Windows 7 and above the event system used in XP is broken and the status has to
be acquired through polling
    if (isWin7)
    {
        getStatus(pParam);
        Sleep(pInfo->dSleepTime);
    }
}
return 1;
}
```

Status Implementation with C#

Prerequisite is to declare all the Win API stuff for C#:

```
class PrintSpoolerApi
   {
      [DllImport("winspool.drv", SetLastError = true, CharSet = CharSet.Auto)]
      public static extern bool OpenPrinter(
         [MarshalAs(UnmanagedType.LPTStr)]
         string printerName,
         out IntPtr printerHandle,
         PrinterDefaults printerDefaults);

      [DllImport("winspool.drv",
         SetLastError = true,
         CharSet = CharSet.Ansi,
         CallingConvention = CallingConvention.StdCall)]
         public static extern  UInt32 GetPrinterData(
         IntPtr hPrinter,
         [MarshalAs(UnmanagedType.LPStr)]
         string pValueName,
         ref uint pType,
         ref UInt32 pData,
         uint nSize,
         ref uint pcbNeeded  );

      [DllImport("winspool.drv", SetLastError = true, CharSet = CharSet.Auto)]
      public static extern bool GetPrinter(
         IntPtr printerHandle,
         int level,
         IntPtr printerData,
         int bufferSize,
         ref int printerDataSize);

      [DllImport("winspool.drv", SetLastError = true, CharSet = CharSet.Auto)]
      public static extern bool ClosePrinter(
         IntPtr printerHandle);

      [StructLayout(LayoutKind.Sequential)]
      public struct PrinterDefaults
      {
         public IntPtr pDatatype;
         public IntPtr pDevMode;
         public int DesiredAccess;
      }
```

```
public enum PrinterProperty
{
   ServerName,
   PrinterName,
   ShareName,
   PortName,
   DriverName,
   Comment,
   Location,
   PrintProcessor,
   Datatype,
   Parameters,
   Attributes,
   Priority,
   DefaultPriority,
   StartTime,
   UntilTime,
   Status,
   Jobs,
   AveragePpm
};

public struct PrinterInfo2
{
   [MarshalAs(UnmanagedType.LPTStr)]
   public string ServerName;
   [MarshalAs(UnmanagedType.LPTStr)]
   public string PrinterName;
   [MarshalAs(UnmanagedType.LPTStr)]
   public string ShareName;
   [MarshalAs(UnmanagedType.LPTStr)]
   public string PortName;
   [MarshalAs(UnmanagedType.LPTStr)]
   public string DriverName;
   [MarshalAs(UnmanagedType.LPTStr)]
   public string Comment;
   [MarshalAs(UnmanagedType.LPTStr)]
   public string Location;
   public IntPtr DevMode;
   [MarshalAs(UnmanagedType.LPTStr)]
   public string SepFile;
   [MarshalAs(UnmanagedType.LPTStr)]
   public string PrintProcessor;
```

```
        [MarshalAs(UnmanagedType.LPTStr)]
        public string Datatype;
        [MarshalAs(UnmanagedType.LPTStr)]
        public string Parameters;
        public IntPtr SecurityDescriptor;
        public uint Attributes;
        public uint Priority;
        public uint DefaultPriority;
        public uint StartTime;
        public uint UntilTime;
        public uint Status;
        public uint Jobs;
        public uint AveragePpm;
    }
```

Getting status with GetPrinterData using C#

```
public static unsafe UInt32 GetPrinterStatus(string printerUncName)
    {
        var pHandle = new IntPtr();
        var defaults = new PrinterDefaults();
        string StatusKey="Error";
        uint pType=0;
        byte[] pData=new byte[255];
        uint pcbNeeded=0;



        try
        {
            //Open a handle to the printer
            bool ok = OpenPrinter(printerUncName, out pHandle, defaults);

            if (!ok)
            {
                //OpenPrinter failed, get the last known error and thrown it
                throw new Win32Exception(Marshal.GetLastWin32Error());
            }

            //Here we determine the size of the data we to be returned
            //Passing in 0 for the size will force the function to return the size of the data
requested
            //byte* pbData = &pData[0];
            UInt32 pbData = 0;
            UInt32 nVal = 0;
            nVal = GetPrinterData(pHandle, StatusKey, ref pType, ref pbData, (uint)4, ref
pcbNeeded);
```

```
            int err = Marshal.GetLastWin32Error();

            if (err == 122)
            {
               if (nVal > 0)
               {
                  //Allocate memory to the size of the data requested
                  pData = new byte[pcbNeeded];
                  //Retrieve the actual information this time
                  nVal = GetPrinterData(pHandle, StatusKey, ref pType, ref pbData,
(uint)pData.Length, ref pcbNeeded);
                  err = Marshal.GetLastWin32Error();
                  return pbData;
               }
            }
            return pbData;
         }
         finally
         {
            //Always close the handle to the printer
            ClosePrinter(pHandle);
         }
      }
Using GetPrinter
public static PrinterInfo2 GetPrinterProperty(string printerUncName)
      {
         var printerInfo2 = new PrinterInfo2();

         var pHandle = new IntPtr();
         var defaults = new PrinterDefaults();
         try
         {
            //Open a handle to the printer
            bool ok = OpenPrinter(printerUncName, out pHandle, defaults);

            if (!ok)
            {
               //OpenPrinter failed, get the last known error and thrown it
               throw new Win32Exception(Marshal.GetLastWin32Error());
            }

            //Here we determine the size of the data we to be returned
```

```
            //Passing in 0 for the size will force the function to return the size of the data
requested
            int actualDataSize = 0;
            GetPrinter(pHandle, 2, IntPtr.Zero, 0, ref actualDataSize);

            int err = Marshal.GetLastWin32Error();

            if (err == 122)
            {
               if (actualDataSize > 0)
               {
                  //Allocate memory to the size of the data requested
                  IntPtr printerData = Marshal.AllocHGlobal(actualDataSize);
                  //Retrieve the actual information this time
                  GetPrinter(pHandle, 2, printerData, actualDataSize, ref actualDataSize);

                  //Marshal to our structure
                  printerInfo2 = (PrinterInfo2)Marshal.PtrToStructure(printerData,
typeof(PrinterInfo2));
                  //We've made the conversion, now free up that memory
                  Marshal.FreeHGlobal(printerData);
               }
            }
            else
            {
               throw new Win32Exception(err);
            }

            return printerInfo2;
         }
         finally
         {
            //Always close the handle to the printer
            ClosePrinter(pHandle);
         }
      }
```

WMI Script to get Basic Status

```
' VBScript source code
ttpname=""
strComputer = "."
Set objWMIService = GetObject("winmgmts:" _
   & "{impersonationLevel=impersonate}!\\" & strComputer & "\root\cimv2")
Set wbemObjectSet = objWMIService.ExecQuery("SELECT * FROM Win32_Printer")
For Each wbemObject In wbemObjectSet
   if wbemObject.Default = TRUE then
      ttpname = wbemObject.Caption
      Wscript.Echo  "Printer " & ttpname
      Select Case wbemObject.PrinterStatus
      Case 1
            strPrinterStatus = "Other"
         strExtendedPrinterStatus  = wbemObject.ExtendedPrinterStatus
           Case 2
         strPrinterStatus = "Unknown"
           Case 3
         strPrinterStatus = "Idle"
           Case 4
         strPrinterStatus = "Printing"
           Case 5
         strPrinterStatus = "Warmup"
           Case 6
         strPrinterStatus = "Stopped printing"
           Case 7
         strPrinterStatus = "Offline"
      End Select
      Wscript.Echo  "Printer Status: " & strPrinterStatus
      Select Case wbemObject.DetectedErrorState
      Case 0
        Wscript.Echo  "DetectedErrorState: " & wbemObject.DetectedErrorState & "
Unknown"
      case 1
        Wscript.Echo  "DetectedErrorState: " & wbemObject.DetectedErrorState & "
Other"
      case 2
        Wscript.Echo  "DetectedErrorState: " & wbemObject.DetectedErrorState & " No
Error"
      case 3
        Wscript.Echo  "DetectedErrorState: " & wbemObject.DetectedErrorState & " Low
Paper"
      case 4
        Wscript.Echo  "DetectedErrorState: " & wbemObject.DetectedErrorState & " No
Paper"
```

```
        case 5
            Wscript.Echo  "DetectedErrorState: " & wbemObject.DetectedErrorState & " Low
Toner"
        case 6
            Wscript.Echo  "DetectedErrorState: " & wbemObject.DetectedErrorState & " No
Toner"
        case 7
            Wscript.Echo  "DetectedErrorState: " & wbemObject.DetectedErrorState & " Door
Open"
        case 8
            Wscript.Echo  "DetectedErrorState: " & wbemObject.DetectedErrorState & "
Jammed"
        case 9
            Wscript.Echo  "DetectedErrorState: " & wbemObject.DetectedErrorState & "
Offline "
        case 10
            Wscript.Echo  "DetectedErrorState: " & wbemObject.DetectedErrorState & "
Service Requested"
        case 11
            Wscript.Echo  "DetectedErrorState: " & wbemObject.DetectedErrorState & "
Output Bin Full"
        End Select
    Select Case wbemObject.ExtendedDetectedErrorState
        Case 0
            Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " Unknown"
        case 1
            Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " Other"
        case 2
            Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " No Error"
        case 3
            Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " Low Paper"
        case 4
            Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " No Paper"
        case 5
            Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " Low Toner"
        case 6
            Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " No Toner"
        case 7
            Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " Door Open"
        case 8
```

```
        Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " Jammed"
      case 9
        Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " Service Requested"
      case 10
        Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " Output Bin Full"
      case 11
        Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " Paper Problem"
      case 12
        Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " Cannot Print Page"
      case 13
        Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " User Intervantion Required"
      case 14
        Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " Out of Memory"
      case 15
        Wscript.Echo  "ExtendedDetectedErrorState: " &
wbemObject.ExtendedDetectedErrorState & " Server Unknown"
      End Select
   end if
Next
Wscript.Echo  "Printer " & ttpname
```

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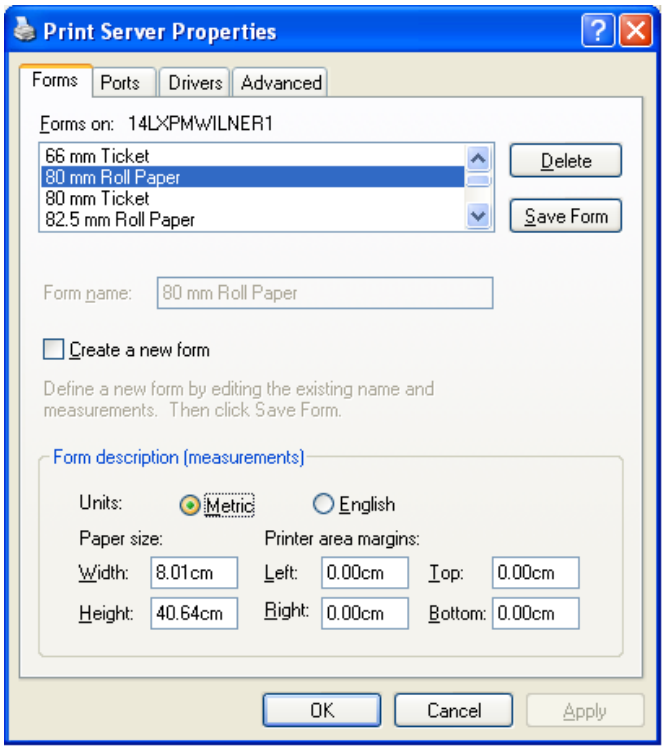
Print Forms

Contents

Setup Print Forms in Windows XP and Vista

Windows XP and Vista allows you to control global settings for print servers by using the **Print Server Properties** dialog. You can access this dialog by doing the following:

1. Double-click on the printer's icon in the **Control Panel** or select **Settings** in the **Start** menu and then choose the **Printers** option.
2. In the **Printers** window, select **Server Properties** from the **File** menu.



3. Use the **Forms** tab of the P**rint Server Properties** dialog to view printer forms.

Viewing and Creating Print Forms

Forms are used by the print server to define the standard sizes for paper, envelopes, and transparencies. To view the current settings for a printer form, follow these steps:

1. Open the **Print Server Properties** dialog and then click on the **Forms** tab as shown above.
2. Use the **Forms On** list box to select the form you want to view.

   The form settings are shown in the **Measurements** area. You can't change or delete the default system forms.

To create a new form, follow these steps:

Note • You must give the form you create a new name to ensure that the original form remains usable.

1. Access the **Forms** tab of the **Print Server Properties** dialog.
2. Use the **Forms On** list box to select the existing form on which you want to base the new form.
3. Select the **Create A New Form** check box.
4. Enter a new name for the Form in the **Form Description For** field.

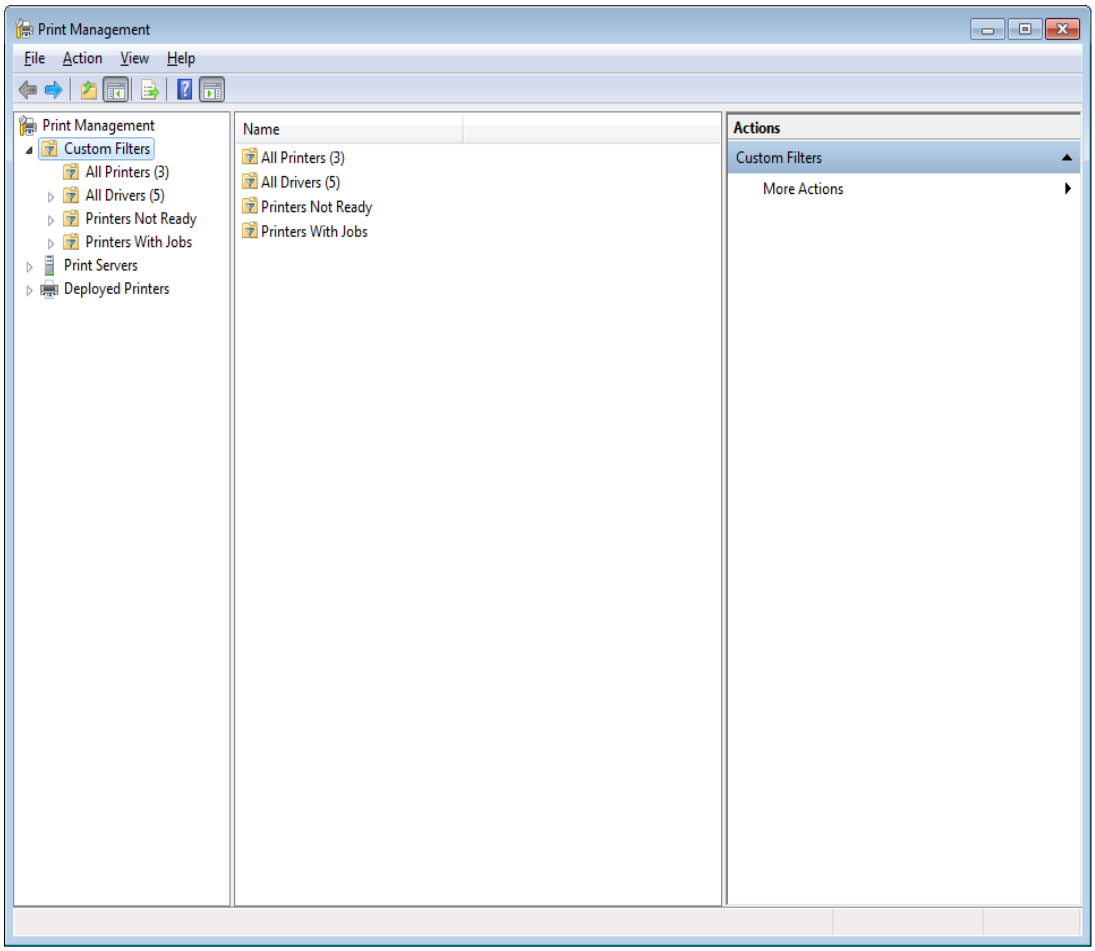
5. Use the fields in the **Measurements** area to set the paper size and margins.
6. Click the **Save Form** button to save the form. Give the form a new name to ensure that the original form remains usable.

Setup Print Forms in Windows 7

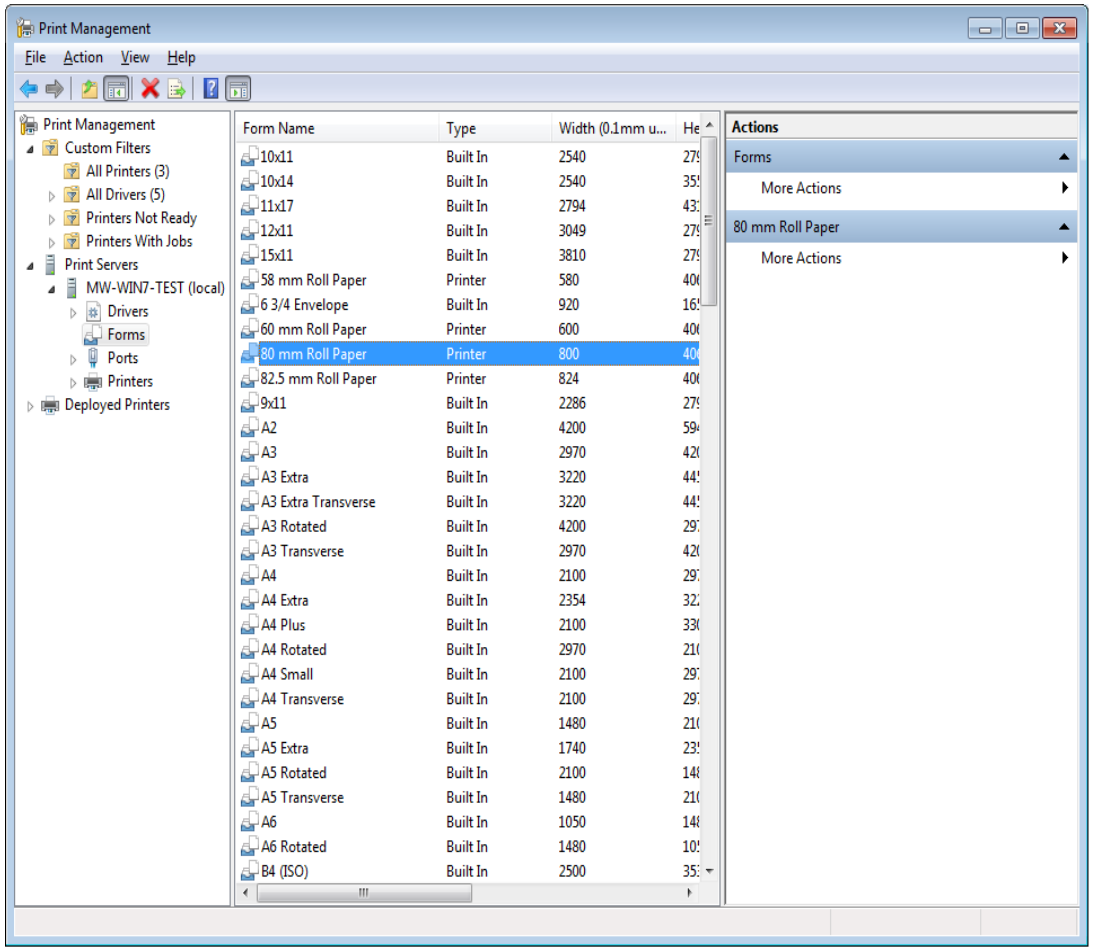
You can use **Print Management** to manage print forms.

Note • You must be signed in as an Administrator to use Print Management.

1. To open Print Management, type **printmanagement.msc** in the search box, and then press **`Enter`**.
2. Open **Print Management**.



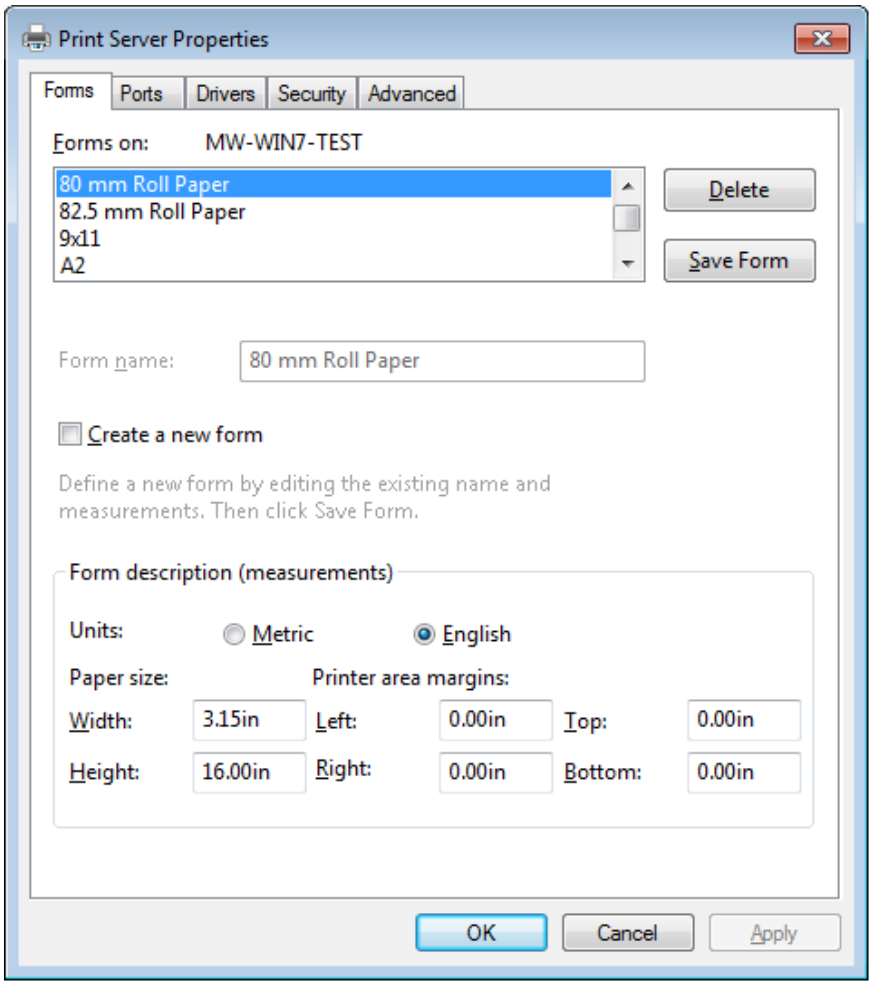
3. In the left pane, click **Print Servers**, click the applicable print server, right-click **Forms**, and then click **Manage Forms**.



In the **Print Server Properties** dialog, do the following steps.

4. To create a new form, select an existing form, select the **Create a new form** check box, change the printer measurement units, paper size, and printer area margins as needed, click **Save Form**, and then click **OK**.

Note • You must give the form you create a new name to ensure that the original form remains usable.



5. To delete a form, select the form, click **Delete**, and then click **OK**.

Additional References

- How to find PaperSize for custom print sizes under Windows NT and later versions by using Windows API functions

  http://support.microsoft.com/kb/304639

  Article ID: 304639 - Last Review: February 2, 2005 - Revision: 4.4
- Manage Forms in Windows 7 and Server 2008 R2

  http://technet.microsoft.com/en-us/library/dd759110.aspx
- Configuring Print Server Properties in Windows XP and Vista

  http://technet.microsoft.com/en-us/library/cc722527.aspx

Notes •

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