



Zebra® TTP 2030

**Windows® CE
Printer Driver
User Guide**



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Contents

1 • Introduction	1
Who Should Use This Document	1
How This Document Is Organized	1
Document Conventions	1
2 • Windows CE Driver	3
Description	3
Windows CE Driver	3
Printer Driver	4
Port Monitor	5
Print Spooling	5
Status Monitoring	5
Control Panel Extension	8
TTP2000CPL	8
Printer and Driver Parameter Setting and Maintenance	8
Installation	9
CE Driver Installation	9
Firmware Update	9
UI Option	9
Command Line Option	10
Printer Settings	11
Device Settings	11
Tools	16
About	17
Setting Black Mark Mode	18

3 • Troubleshooting 19

- Status Light Descriptions 19
 - LED States 19
 - Status Indicator 21
- Print Quality Problems 21
- Media Sensing Problems 23
 - Black Mark Calibration Process 23
- Other Problems 25
- Contact Technical Support 26

Introduction

Who Should Use This Document

This guide is intended for use by any person who needs to setup the TTP 2030 printer for use with a Windows CE device.

How This Document Is Organized

The manual is set up as follows:

Introduction	Contact information, document conventions.
Windows CE Driver	Installation, updates, preferences, and properties.
Troubleshooting	Status light description, user interface, error handling, and fixes to common printing problems.

This manual will be updated from time to time as printer functions and features may be added or amended. You will always find the latest edition on our website at www.zebra.com.

If you require information for functions not found in this manual edition, please contact Technical Support for your region or the Zebra partner the printer was purchased from.

Document Conventions

The following conventions are used in this document to convey certain information.

Alternate Color – Cross-references contain links to other sections in this guide. If you are viewing this guide online, click the [blue text](#) to jump to its location.



Indicates information that emphasizes or supplements important points of the main text.

Windows CE Driver

Description

Windows CE Driver

The following description applies to CE 6 and EC 7.

The illustration shows the relationship between the various system components involved in printing.

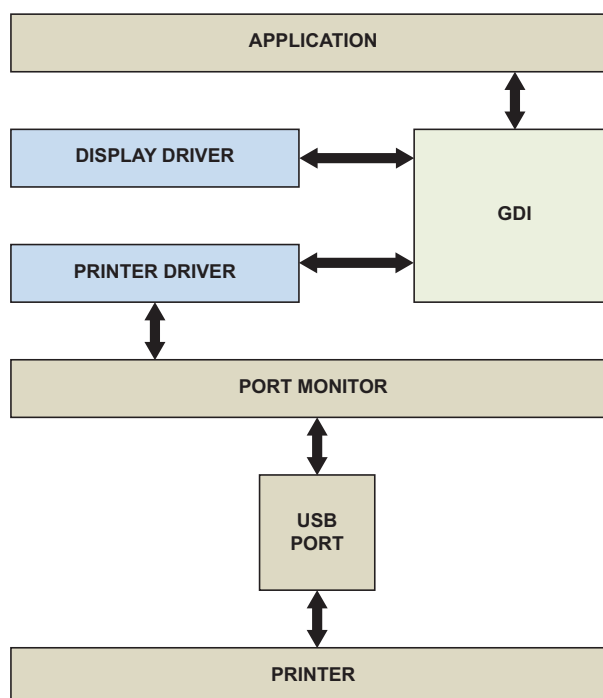


Figure 1 • System Flowchart

Printer Driver

The printer driver for the TTP 2030 is named TTP2000.DLL. The Windows CE graphics device interface (GDI) and display driver perform most of the work involved in printing. At the beginning of the printing process, GDI creates a device context with attributes that are retrieved from the printer driver during a call to DrvEnablePDEV. The display driver, not the printer driver, is used to render subsequent drawing commands that are issued from the application into the device context. Therefore, some drawing functions that are present in a printer driver, such as DrvStrokePath, are never called because the printer driver only renders the document internally.

The printer driver converts the bitmap data from a GDI bitmap format into the format that is recognized by the printer. This can include such operations as color reduction to the color space of the printer, data compression, and data conversion into the format that is used by the printer – a format sometimes known as a page-description language (PDL). Then, the printer driver calls the port monitor to send the rendered image to the printer.

Only a small number of the graphics driver functions defined for printer drivers are required in printer drivers for Windows CE. Printer drivers are required to implement only those graphics driver functions that are necessary for gathering printer metrics, setting up the printer, starting and ending print jobs, and preparing content for printing.

The following table shows the functions implemented in the driver:

Table 1 • Driver Functions

Function	Description
DrvCopyBits	Translates between device-managed raster surfaces and graphics device interface (GDI) standard format bitmaps.
DrvDisablePDEV	Used by MGDI to notify a driver that the specified PDEV structure is no longer needed.
DrvDisableSurface	Used by the GDI to notify a driver that the surface created by the DrvEnableSurface function for the current device is no longer needed.
DrvEnableDriver	Specifies the initial driver entry point exported by the driver DLL for devices that link directly to GWES, such as display drivers and printer drivers. It fills a DRVENABLEDATA structure with the driver version number and calling addresses of functions supported by the driver.
DrvEnablePDEV	Enables a device context for drawing and returns device metrics for the target printer or display device in a GDIINFO structure. Printer drivers call a display driver's DrvEnablePDEV function to create and initialize the device context, and then substitute the printer's device metrics before returning the device context to the GDI for bitmap rendering.
DrvEnableSurface	Sets up a surface to be drawn on and associates it with a specified PDEV.
DrvEndDoc	Called by the GDI to finish or abort a print job.

Table 1 • Driver Functions

Function	Description
DrvGetModes	Lists the modes supported by a specified device.
DrvStartDoc	Called by the GDI to start a print job.
DrvStartPage	Called by the GDI to start printing the next page of a print job.
GetPrinterInfo	Obtains information about printers, such as the name of the printer or whether the printer can print in color.
PrinterClose	Closes a printer handle previously opened by a call to the PrinterOpen function.
PrinterOpen	Opens a specified printer port and returns a handle to the printer.
PrinterSend	Sends a block of data to a printer.
ReportPrinterStatus	Returns the status of a printer or printing operation that is in progress.
GetPrinterStatus	Returns a specific TTP 2030 status.

Port Monitor

The port monitor for the TTP 2030 is called TTPPort.DLL. Printing is supported over universal serial bus (USB) port only. The printing architecture provides application programming interfaces (APIs) that are exposed by the Graphics, Windowing, and Events Subsystem (GWES) to communicate with the printer driver. The printer driver communicates with the port driver that sends the print data over the supported bus. Therefore, the printer driver is independent of the bus and the corresponding bus driver.

Print Spooling

No separate printer spooler component exists in Windows CE, unlike the desktop versions of the Windows OS. With Windows CE, spooling or background printing is implemented in the printer driver itself. However, because print spooling typically consumes a lot of memory, limited memory might be a problem. A practical print spooler usually has to implement a complicated compression scheme to store spooled documents before printing.

Status Monitoring

In order to allow applications to get status from the printer, there are two functions implemented:

- ReportPrinterStatus – the default function described in the MSDN documentation.
- GetPrinterStatus – the function that returns the actual printer status (described below).

GetPrinterStatus

This function gets the specific Printer status for the TTP 2030.

Syntax `DWORD WINAPI GetPrinterStatus(HANDLE hPrinter, LPPRINTERSTATUS status)`

Parm

`hPrinter` - HANDLE - Handle to the printer
`status` - LPPRINTERSTATUS - The status to be set.

Return `DWORD` - Returns

`ERROR_SUCCESS` if everything went Ok, else :

`ERROR_UNKNOWN_PORT` - If `hPrinter` is `INVALID_HANDLE_VALUE`

`ERROR_READ_FAULT` - If read fail

`ERROR_WRITE_FAULT` - If write fail

`ERROR_NOT_SUPPORTED` - If `hPrinter` is not supported

TTP 2030 Status codes

The following table shows all status codes that can be reported by the TTP 2030 printer from the application.

Table 2 • Status Codes

Status code	Meaning
ACK	OK (printer is operable).
NAK 1	Paper left in presenter module. Attempt to clear the paper path failed.
NAK 2	Cutter jammed.
NAK 3	Out of paper.
NAK 4	Printhead lifted.
NAK 5	Paper-feed error. No paper detected in presenter although 10 cm has been printed. Paper might be wound around the platen or, in some way, has been forced above the presenter module.
NAK 6	Temperature error. The printhead temperature has exceeded the 60 °C maximum limit.
NAK 7	Presenter not running.
NAK 8	Paper jam during retract.
NAK 0A	Black mark not found.
NAK 0B	Black mark calibration error.
NAK 0C	Index error.
NAK 0D	Checksum error.
NAK 0E	Wrong firmware type or target for firmware loading.

Table 2 • Status Codes

NAK 0F	Firmware cannot start because no firmware is loaded or firmware checksum is wrong.
NAK 10	Retract function timed out. If the customer doesn't take the paper and the printer clears the presenter due to a timeout, the pending error bit is set and error code NAK 10h is reported.

Types of Status Monitoring

In order to incorporate the way status monitoring works for the TTP 2030 printer setup, it is important to understand what happens in a kiosk when you print, and when status monitoring should take place.

Status monitoring can be handled in two ways:

- Monitoring in the printing application
- Monitoring in a separate application

When monitoring takes place in the printing application, normally the printer is observed before sending a print job to see if the printer is 'OK' and then send the print job. After the print job is signaled as being printed, the status is checked 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 the printer is polled as often as possible to get most accurate information on what the printer is doing. This is usually very time consuming and care must be taken to achieve synchronization and control over the current print job.

Monitoring While Printing

Status monitoring has been implemented in the internal printing structure of the driver. When a document is opened, printed, and closed, the driver will check the printer status before and after printing and will also react to write errors if any occur. It will then set the printer status and raise the error event.

Monitoring While Idle

In order to get status any time a status thread has to be implemented which reads printer status and provides changed status information in the same manner. The following code snippet in C# may be used as a guide to develop such an application. The code is using the TTPConfig DLL.

```
TTPConfig config = new TTPConfig();
config.Load();//Load settings from registry

string msg = "";
try
{
    config.open("LPT1:");
    //getStatus is not synchronized with other read/write
    functions
    byte status = config.getStatus();
    msg = "Status : " + status;
    config.close("LPT1:");
}
catch (Exception ex)
{
    msg = ex.Message;

    MessageBox.Show("Status : " + msg);
}
```

Control Panel Extension

In order to open the control panel and double click the program icon, a control panel extension is supplied with the driver.

TTP2000CPL

This component enables users to change settings for the printer and printer driver. You can access the Control Panel through Start > Settings > Control Panel.

Printer and Driver Parameter Setting and Maintenance

To provide an easy interface to set printer and driver parameters on the CE device, an application is provided that handles device settings, and offers a Tools tab (see *Tools on page 16*) to perform certain maintenance functions and print a printer configuration sheet.

The driver settings are done via the TTP 2030 Settings application that can be found in the Control Panel.

Installation

CE Driver Installation

The Zebra CE driver ZIP package includes the following files:

- TTP2000CPL.CPL – The Control Panel that enables users to change settings for the printer and printer driver
- TTP2000.DLL – the Printer Driver
- TTPPort.DLL – the Port Monitor
- TTPErr.DLL – the error handler
- TTP2030.CPY – a sample copy file
- TTPDevice.EXE – the Parameter setup application
- TTPConfig.DLL – a helper DLL for the parameter setup application
- FWDownload.EXE – the firmware update application

Extract the Zebra CE driver files for the TTP 2030 from the ZIP file and deploy the driver files (TTP2000, TTPPort, TTPErr and TTP2000CPL) to the Windows directory. The sample copy file (TTP2030.CPY) is included as a template for writing a copy file. This file is used during each restart to copy files from permanent storage to their respective directories.

Firmware Update

UI Option

Check the firmware version installed on the printer by printing a configuration label (see *Tools on page 16*), the firmware version will be shown.

To update the firmware

1. Go to the Zebra Website at www.zebra.com and follow the instructions to download the latest version to your computer.
2. Copy the firmware package to the device to which the printer is connected and that runs the driver.
3. Select the port that the target printer is connected to and then click **Select FW**.
4. Navigate to the firmware file and click **Download Firmware**.
5. To confirm the installation, click **Yes**.

The status light on the printer flashes intermittently between green and red indicating that a firmware update is in progress. The printer resets when it has finished the upload.

Command Line Option

The download application offers a command line option to allow for remote deployment of the firmware file and application, and execution via a shortcut.

To create a shortcut file


- 1. Create a shortcut link file (.lnk) using an editor like Notepad. Name the file **ShortCutTest.lnk**. The format for the shortcut link is:

```
<length of string>#<command line>
```

An example of a shortcut link and how it is formed is shown below.

Figure 2 • Example Shortcut Link


Length of string	Command line		
	75#\Application\Zebra\FWDownload.exe /P LPT1: /F \Application\Zebra\V1819.3.86		
Number of characters in the command line including spaces and quotes	Firmware download application including directory location where the file is stored	/P is the port used to send data to the printer	/F is the firmware file including directory location where the file is stored



Note • You must use quotation marks if the file resides in a directory with spaces, such as “\Program Files”.

- 2. Place the shortcut link on the first line of the shortcut link file.
- 3. Save the shortcut link file, and copy it to the \Windows\Start Menu directory on the Windows CE or Pocket PC device.

The shortcut appears on the **Start** menu.



Note • After the program has finished, a log file (TTP2030FWDownload.log) showing the actions and results during the update process is saved to the system root directory.

Printer Settings

Device Settings

The **TTP 2030 Settings** dialog box controls the printer and driver settings.

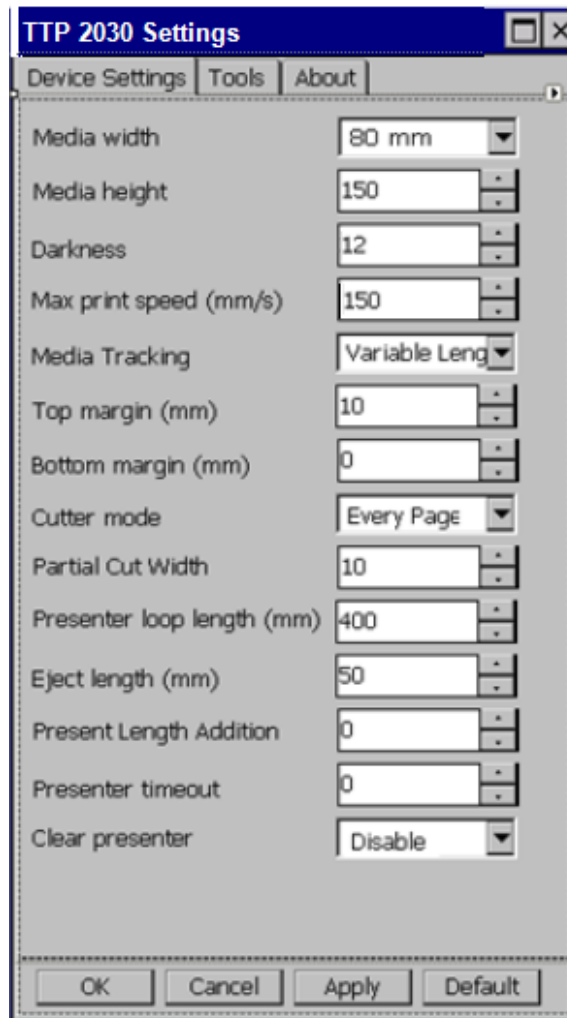


Figure 3 • Device Settings Tab

The following table describes the values and defaults of the parameters:

Table 3 • Parameter Settings and Defaults

Parameter	Value Range	Default Value
Media Width	58 mm, 60 mm, 80 mm, 82.5 mm	80 mm
Media Height	90 mm to 600 mm	150 mm
Darkness	1 to 15	9
Max Print Speed (mm/s)	47 mm to 150 mm	150 mm

Table 3 • Parameter Settings and Defaults

Parameter	Value Range	Default Value
Media Tracking	Continuous, Variable Length, Mark Sensing	Variable Length
Top Margin (mm)	2 mm to 10 mm	10 mm
Bottom Margin (mm)	0 to 9 mm	0
Cutter Mode	None, Every Page, End of Document	Every Page
Partial Cut Width	0, 10 mm to 60 mm	0
Presenter Loop Length	0 to 600 mm	416 mm
Eject Length	20 mm to 600 mm	50 mm
Present Length Addition	0 to 255 mm	0
Presenter Timeout	0 to 300 seconds	0
Clear Presenter	Disable, Enable	Disable
Presenter Mode	Eject, Retract	Eject

- **OK** – applies the settings and exits the program
- **Cancel** – does not apply the settings and exits the program
- **Apply** – applies the settings but does not exit the program
- **Default** – sets all settings to factory default

The following parameter settings are sent to the printer during each print job.

Media Width

The media width can be set to 58 mm, 60 mm, 80 mm and 82.5 mm. The default setting is 80 mm.

Media Height

The media height can be set between the minimum page length of 90 mm and the maximum page length of 600 mm. The default setting is 150 mm.

Darkness

The Darkness can be set between 1 and 15 with 1 being the lightest. The default setting is 9.

Max Print Speed

The max print speed can be set between 47 mm and 150 mm per second (mm/s). The default setting is 150 mm/s. The actual print speed may vary depending on the darkness and the content printed.

Media Tracking

Media Tracking sets Continuous, Variable Length, or Mark Sensing with the default set to Variable Length. When media tracking is set to *Continuous*, the driver sends the full page size to the printer (Page Mode), the page length will always be the same as the selected paper size (e.g., if 58 mm x 200 mm Media is selected, the print will be 200 mm long in Page Mode). When media tracking is set to *Variable Length*, the driver will shorten the length of the page to the length of the printed element. The driver will end the page after the last printed element (text, barcode, or graphic) then send a feed, cut, and eject command. The page length may vary from page to page but will always be a minimum of 76 mm. When *Mark Sensing* is set, the driver will send the page size to the printer, the printer will restrict the print to the area between the black marks. If the printed area is larger than the space between the black marks, it will print additional pages (receipts). The margin values in the receipt application must be corrected after setting the driver values. If the margin in the application is set to 9 mm and the driver is set to 2 mm, the application setting will be enforced unless the driver is changed accordingly.

Top Margin

The Top Margin is the equivalent to the distance between the cutter and the print head and is by default 10 mm. If it is set between the minimum of 2 mm or 10 mm it will reverse the paper.

Bottom Margin

The Bottom margin can be set between 0 and 9 mm and will be added to the bottom of the page in *Variable Mode* and will limit the printable area in *Continuous Mode* and *Mark Sensing*. The default is 0.

Cutter Mode

Cutter Mode can be set to None, Every Page and Cut at the document end. The default is Every Page. When set to Every Page and a multi-page document is printed each page will be cut. If set to *Cut at document end* and a multi-page document is printed all pages will print and only one cut at the end of the document will be issued. Partial Cut Width is used with *Cut at document end*.

Partial Cut Width

Partial cut leaves multi-page receipts attached at the specified width. The partial cut width can be set to 0 and between 10 and 60 mm; the default is 0 and it disables partial cut (full cut). Partial cut can only be used with the *Cut at document end* selection in Cutter Mode.

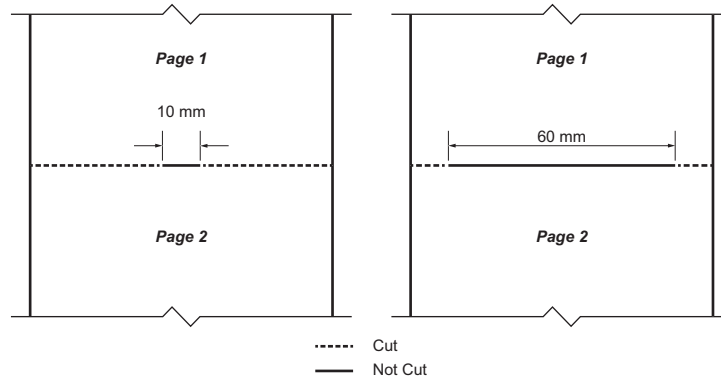


Figure 4 • Partial Cut Diagram

Presenter Loop Length

Presenter Loop Length determines how much paper is held in the presenter loop. The presenter loop length can be set between 0 and 600 mm and the default value is 416 mm. A setting of 0 disables the presenter loop and media feed directly through the presenter.

Eject Length

Eject Length determines how much paper is exposed for the customer. The range is from 20mm to 600mm with the default set to 50mm. If the eject length is set larger than the length of the receipt, the printer will retain a portion of the receipt in the presenter unless the “Clear Presenter” option is set to “Enable”.

Present Length Addition

Presenter Length Addition is an additional length to compensate for the thickness of the kiosk wall. The range is from 0 to 255 mm with the default set to 0.

Presenter Timeout

Presenter Timeout determines how long the presenter will hold the receipt before ejecting it. The range for the timeout is from 0 to 300 seconds with the default set at 0.



Note • Presenter timeout value must have a minimum of 10 seconds in order to work properly.

Clear Presenter

Clear Presenter determines if a receipt is retained, or if it is ejected from the presenter after the timeout.

Presenter Mode

The Presenter Mode determines if a receipt will be ejected or retracted when a new receipt enters the presenter. In either case, the receipt will be retracted if the timeout occurs.

Tools

The **Tools** tab enables printer maintenance functions.

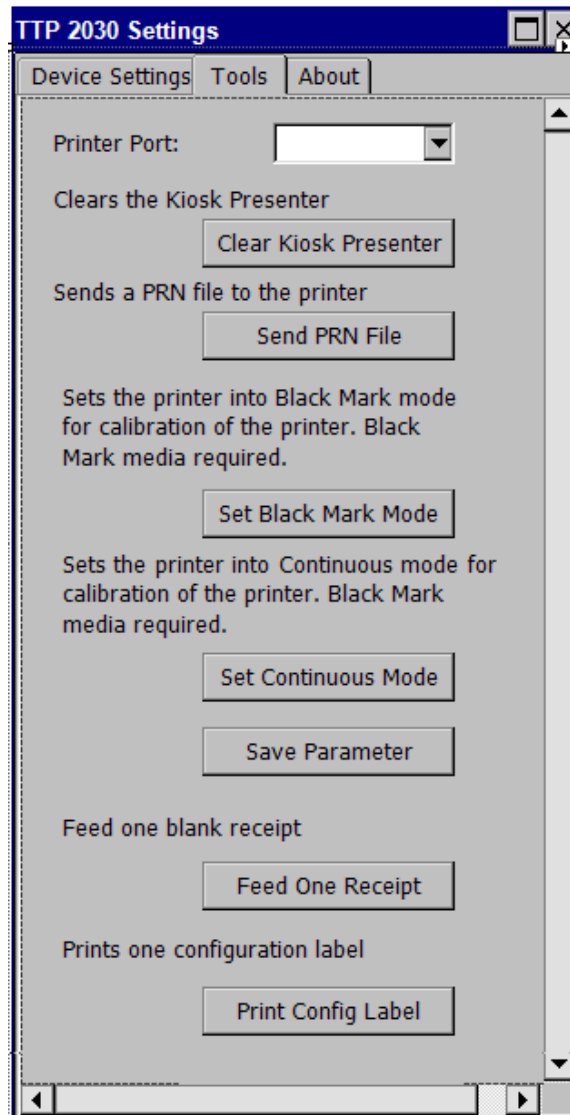


Figure 5 • Tools Tab

Printer Port setting – tells the driver to which port the printer is connected

Clear Kiosk Presenter – ejects any media in the presenter

Send PRN File – sends a saved PRN file to the printer

Set Black Mark Mode – sets the printer to use black mark media

Set Continuous Mode – sets the printer to print continuous pages

Save Parameter – saves the Parameter Settings

Feed One Receipt – feeds a single blank receipt

Print Config Label – prints a page with the printer configuration information

About

The **About** tab shows the current driver version.



Figure 6 • About Tab

Setting Black Mark Mode

The printer is optimized to detect black marks printed with IR sensitive ink and ignore preprint in IR blind ink as follows:

- 80 and 82.5 mm media – the black marks are centered 30 mm to the right of the paper center when viewing the imaged side of the receipt and print direction is downward
- 58 and 60 mm media – the black marks are centered 22 mm to the left of the paper when viewing the imaged side of the receipt and the print direction is downward

The printer supports media with black mark thickness in printing direction of 2.5-9.0 mm, and a width of 5.0-10.0 mm when the black mark is centered on the sensor.

Refer to the *TTP 2000 Series Technical Manual (P1002902)* available at www.zebra.com/support for black mark media requirements and media guide installation instructions.

To set black mark mode:

1. Choose the correct media guide for the desired media width.
2. Load the desired media.
3. In the **Tools** tab of the Windows driver, click **Set Black Mark Mode**.
A dialog box appears asking you to confirm your selection.
4. Click **Yes**.
The printer feeds the media, detects the black marks, and ejects the media.
5. Press the **Feed** button on the printer several times to confirm the printer is cutting directly in the center of the black marks.
6. In the **Device Settings** tab of the Windows driver, set the **Media Tracking** to **Mark Sensing**.



Note • If you revert back to **Continuous** mode, set the **Media Tracking** back to **Continuous** or **Variable**.

Troubleshooting

Status Light Descriptions

LED States

Immediately after power is applied to the printer, a brief self test is performed and the status light will report the following conditions:

Table 1 • LED States

Solid Green	0 - OK	This code is reported when no other codes are active. It indicates the printer is functioning normally.
One Red Flash	1 - Paper Jam in Presenter	This code indicates that media is stuck in the presenter. This error is set when the printer attempts to eject the media but cannot complete the operation. This error is cleared by removing the media from the presenter sensor.
Two Red Flashes	2 - Cutter Jam	This code indicates that the printer could not find the cutter blade or could not properly manage its position. The error is set when the printer attempts to cut but fails after three retries. This error is cleared by cycling the power off and on.

Table 1 • LED States

Three Red Flashes	3 - Out of Paper	This code indicates that the selected EOP sensor has detected no media present. This value is signaled when the mark engine has detected a mark larger than "TOF marker length" plus 5mm, or when the A/D reading of the EOP sensor drops below the "End of paper threshold". This error is cleared after successful media load (either via calibration or via regular media load).
Four Red Flashes	4 - Print Head Lifted	This code indicates that the print head has been lifted. This error is cleared by returning the print head to its locked position.
Five Red Flashes	5 - Paper Feed Error	This code indicates that the paper failed to reach the presenter sensor within the expected amount of time. The error is signaled if the media does not reach the presenter sensor after feeding the length from the cutter to the sensor plus 15mm. This error is cleared by opening and closing the print head, or by cycling power off and on.
Yellow Flashing	6 - Head Temperature Error	This code indicates that the print head has exceeded the maximum permitted temperature. This status code is set when the print head temperature exceeds 65° C (149° F). When this condition occurs, the printer feeds 100mm (4 inches) of blank media, cuts, and presents. This error is cleared automatically when the print head temperature falls below 55° C (131° F).
Rapid Amber Flashing	Firmware missing or corrupt	This code indicates that the bootware has detected an incorrect or missing checksum in the firmware. This error is cleared when the firmware is reloaded or updated. Refer to the TTP 2000 Series Technical Manual for firmware upload procedure.

Status Indicator

The orange status indicator has several functions:

- ON constantly – the printer is operational
- Flash, flash, pause, flash, flash – is the *warning-code* for paper low. The warning-code is reset automatically when the condition causing it is removed. This behavior can be enabled by setting parameter 52 (Warning Level) to 001.
- Flashes rapidly – indicates error. Press and hold the Feed button and the number of flashes will reflect the *status-code*.

1	Presenter jam, paper cannot be ejected / retracted
2	Cutter cannot return to home position
3	Out of paper
4	Printhead lifted
5	Paper feed error (under head)
6	Temp error, printhead is above 60°C
7	Paper jam during present
8	Paper jam during retract
10	Black mark not found (on media load)
11	Black mark calibration error
Fast flashes	Checksum error at firmware loading
Steady light	Wrong firmware type

Status codes are reset when the:

- Conditions causing them are removed
- Printer is power cycled (turned off/on)
- Printhead is lifted and then lowered to clear a paper jam

Print Quality Problems

No print on the label

- The media may not be direct thermal media.
- Is the media loaded correctly? Is the thermal media coating facing upward?
- The printhead may be dirty or damaged.
- The printhead is dirty. Clean the printhead. Refer to the *TTP 2000 Service Manual* (P1002903) available at www.zebra.com/partners for instructions.
- The printhead is damaged. Replace the printhead. Refer to the *TTP 2000 Service Manual* (P1002903) available at www.zebra.com/partners for instructions.

- The printhead cable may be damaged or not connected properly.
 - Check the cable connections at the printhead and the main logic board.
 - Check for damage to the cable. Replace the cable if damaged.

The printed image does not look right

- The printhead is dirty. Clean the printhead. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.
- The printhead has worn out. The printhead is a consumable item and will wear out due to friction between the media and printhead. Using unapproved media may shorten life or damage your printhead. Replace the printhead. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.
- Adjust the print darkness and/or print speed. See *Device Settings on page 11*.
 - The Windows printer driver or application software can change these settings and may require a change to optimize print quality.
- The media being used is incompatible with the printer. Be sure to use the recommended media for your application, and always use Zebra-approved media.
- The platen (driver) roller may be losing traction due to foreign objects attached to its surface or the rubbery smooth surface may have become polished and slippery.
 - The platen may need cleaning or replacement. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.

There are long tracks of missing print (blank vertical lines) on several labels

- The printhead may be dirty or damaged.
 - The printhead is dirty. Clean the printhead. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.
 - The printhead is damaged. Replace the printhead. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.
- The printhead has worn out. The printhead is a consumable item and will wear out due to friction between the media and printhead. Using unapproved media may shorten life or damage your printhead. Replace the printhead. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.

The printing does not start at the top of the receipt or misprinting of one to three receipts

- Reload the media. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.

Media Sensing Problems

The TTP 2030™ printer default media mode is Variable. The printer will remain in this mode until it is changed by the Windows Driver.

Black Mark Calibration Process



Important • In variable and fixed page mode, only the paper out level will be calibrated while in black mark mode all parameters affecting black mark detection will be calibrated.

1. Prepare the printer for calibration:

If your Firmware is version...	Then...
3.54 or higher	Set Parameter 35 (Black Mark Mode) to a value of 1
3.50 or lower	Set Parameter 36 (Document Mode) to a value of 2

2. Open the printhead by pushing the lever on top.
3. Remove the paper from the printer.
4. With the printhead open, hold the Feed button for five seconds.
5. While still holding the Feed button, close the printhead.
6. When the Status light goes off, let go of the Feed button.
7. Insert the paper. The printer performs a calibration and stops. If the status light is on and not flashing after calibration, the calibration is successful.
8. Open the printhead, remove the paper, then close the printhead and insert the paper into the printer. The printer is now ready to be used.

To confirm that the calibration was successful, press the Feed button once. If the printer feeds and cuts at the correct position, the printer is calibrated correctly. If the printer cuts at the incorrect position, repeat steps 1-7 above.

To fine tune the cut, modify the value of parameter 46 (Black Mark Sensor Calibration) or change the Cut position value in the driver.

If the printer does not detect blacklines (or notches with black mark sensing) after feeding the media the default maximum label length distance of 24 inches (610 mm), then the printer will report a media error.

The printer will not load the media

- The leading edge of the media is not cut straight, so the media sensor does not see the media to auto-feed it. Cut the paper at 90 degree angle to the sides and try again.
- The media has changed or a different media guide has been installed.
 - Make sure the appropriate media guide is installed for the media being used. Refer to the *TTP 2000 Series Technical Manual (P1002902)* available at www.zebra.com/support for instructions.
 - Load the media manually. Refer to the *TTP 2000 Series Technical Manual (P1002902)* available at www.zebra.com/support for instructions.
- The platen (driver) roller may be losing traction due to foreign objects attached to its surface or the rubbery smooth surface may have become polished and slippery.
 - The platen may need cleaning or replacement. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.
- The media sensor may be dirty or damaged. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.
- The printhead assembly is not closed.
 - Check the status light on either side of the printer. If the status light is showing four red flashes then the printhead is not closed. Push down on the printhead assembly until it locks into place.
- There is a paper jam under the printhead. Refer to the *TTP 2000 Series Technical Manual (P1002902)* available at www.zebra.com/support for instructions.
- The large media roll may be over torquing the feed motor. Install the large media roll adapter. Refer to the *TTP 2000 Series Technical Manual (P1002902)* available at www.zebra.com/support for instructions.

The printer will not eject the media

- The presenter rollers are dirty or damaged. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.
- There is a jam under the presenter. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.
- The presenter sensor may be dirty or damaged. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.
- The presenter has not cleared the previous receipt.
 - Check the status light on either side of the printer. If the status light is showing one flash, then the printer is reporting media in the presenter. Remove any media that may be in the presenter.
- The presenter motor may need to be replaced. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.
- The presenter drive gears may be damaged or worn. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.

Other Problems

The receipts are not cutting properly

- The cutter blade may be worn. Replace the cutter blades. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.
- The cutter tensioner may be worn or damaged. Replace the cover plate assembly. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.
- Check the Cutter Mode setting, and the Partial Cut Width setting in the Windows CE driver. See *Device Settings* on page 11.
- The cutter motor may need to be replaced. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.
- The cutter drive gear, drive pin, or cutter actuator may be damaged or worn. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.
- Check for the latest firmware and driver version.

There are no lights on the printer

- Make sure there is power applied to the printer.
- The main logic board may be damaged. Refer to the *TTP 2000 Service Manual (P1002903)* available at www.zebra.com/partners for instructions.

A receipt format was sent to but not recognized by the printer

- If the status LED is on or flashing, refer to *LED States* on page 19.
- Make sure the USB cable is correctly installed. Refer to the *TTP 2000 Series Technical Manual (P1002902)* available at www.zebra.com/support for instructions.

The receipts are not cutting at the black mark

- Make sure you are using the appropriate media guide for the desired media width. Refer to the *TTP 2000 Series Technical Manual (P1002902)* available at www.zebra.com/support for media guide installation instructions.
- Make sure you are using the appropriate media. Refer to the *TTP 2000 Series Technical Manual (P1002902)* available at www.zebra.com/support for black mark media requirements.
- Use the Windows CE driver to set the printer to black mark mode. See *Setting Black Mark Mode* on page 18.
- Reload the media. Refer to the *TTP 2000 Series Technical Manual (P1002902)* available at www.zebra.com/support for instructions.

Contact Technical Support

Technical Support via the Internet is available 24 hours per day, 365 days per year at www.zebra.com.

For questions on the operation of Zebra equipment and software, please call your distributor. For additional assistance, contact us.

Please have your model and serial numbers available.