



Kiosk TTP 2100 Firmware Downgrade

Instructions from version 3.96 or later, to an earlier version

If the printer has firmware version 3.96 or later, and you wish to install an earlier version of firmware, follow the instructions in this document. The printer flash PROM has been remapped with the later version of firmware. In order to downgrade the firmware, one must take additional steps to install the earlier firmware. If you have customized logos and/or fonts, make sure you have copies of these files in the proper printer format before downgrading the firmware. These instructions use 3.80 firmware as an example. Any earlier version of firmware will follow these steps.

Downgrade Overview

This overview is for users who know Toolbox and how to stop and start the spooler in the windows version of the host computer. Detailed instructions start on the next page.

Downgrading a printer to version 3.80 or 3.83 and factory defaults

1. Stop the spooler.
2. Start Toolbox 1.70 and make sure it communicates with the printer.
3. Upload 1D firmware:
1824-396 to the TTP 2110
1823-396 to the TTP 2130
4. Upload 1D firmware:
1824-383 to the TTP 2110
1823-380 to the TTP 2130
OR
Upload PDF417 firmware:
1826-383 to the TTP 2110
1825-380 to the TTP 2130
5. Upload Zebra logo to the printer.
6. Upload fonts ATM9 14, OCR-B 10, OCR-B 12, Gothic 10, and Gothic 12 to the printer, in that order.
7. Set all parameter values to default and save the parameters by sending `<ESC>&F<ESC>&<4>` to the printer.
8. The default setting is for gap detection. If you use tickets with black marks, send `<ESC>&P<61><001><ESC>&<4>`. If you use continuous media without any gaps or black marks, send `<ESC>&P<35><000><ESC>&<4>` to turn off synchronization.
9. Perform an auto calibration procedure with the media.
10. Print a self test and verify that everything is OK.
11. Repeat steps 2 to 10 for any other printers until you are done.
12. Close Toolbox and start the spooler again.

Firmware Installation, comprehensive description

Firmware is loaded to the printer using the Zebra Toolbox utility software version 1.70. If a previous version of Toolbox is installed, download the latest version from the Zebra website and install. The installation process will uninstall the older version of Toolbox.

Note:



- These instructions will use the firmware, fonts, and logo installed with Toolbox software. If Toolbox version 1.70 is already installed, one can download the firmware files from the Zebra website. Firmware files are located on www.zebra.com under Support and Downloads, select TTP 2100 Kiosk Printer, Firmware & Service Packs. Another option is to update the latest firmware, fonts and logos to the latest version from within Toolbox. Under the Help menu, select Updates and Packages. Highlight one of the selections and select Install the Selected Package. When the first one is complete, select the other package to install.

Step 1. Retrieve the Toolbox software from the Zebra website:

- Go to www.zebra.com
- Select Support and Downloads
- Under Printer Support select TTP 2100 Kiosk Printer from printer drop down list.
- Select Software Utilities
- Select the Kiosk Printer Toolbox and download¹ to your computer to a known location. The software file is a self extracting zip file. Run the executable to extract the contents to the computer.
- Run the Toolbox-setup-1-7.exe program and follow the prompts to install the software.
- After the Toolbox software has been successfully installed, run Install KPL Font Package 1.0.4.exe program to install the Zebra fonts and logos into Toolbox.
- Run Install KPL Firmware Package 1.0.8.exe program to install the latest Zebra firmware into Toolbox.

¹ You need to register for a password if you don't already have one.

Step 2. Install the firmware

- These procedures assume the printer is at firmware version 3.96 or later before beginning downgrade procedure. Consult the table for the correct version of firmware.

	Firmware version for 1D barcodes only	Firmware version for 2D PDF417 barcode only
TTP 2110	1824-383	1826-383
TTP 2130	1823-380	1825-380

Note:

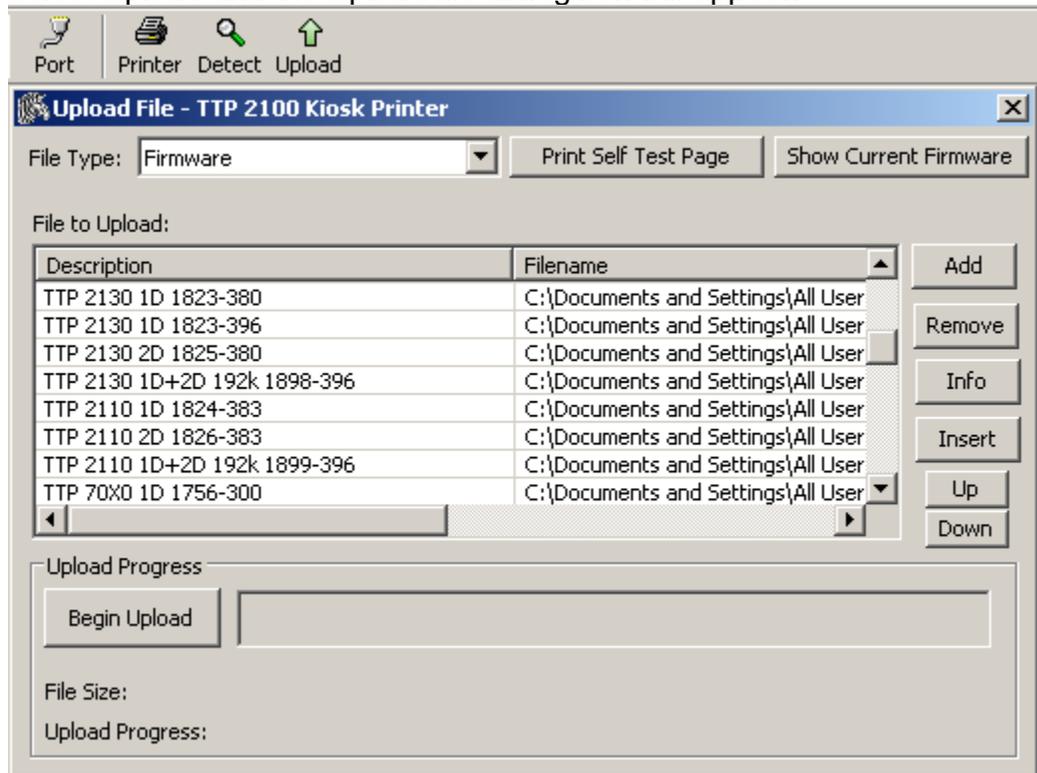


- Installing this firmware requires additional steps because the Flash PROM is being remapped to take advantage of a larger memory size. During this process, all fonts and logos will be erased. Factory logo and fonts are included in the Toolbox software. If you have custom logos and/or fonts, make sure you have copies of these files in the proper format before beginning this step.

Installation procedures for 1823-396 and 1824-396

- Before running Toolbox software, it is recommended to disable the print spooler.
 - 1a In Win XP and Vista, under the Start menu, select Run, type “cmd” and select OK.
 - 1b In Win 7, click on the Windows orb (Start) in the bottom left of the computer screen. Type “cmd” into the Search window. In the results window, right click on the command prompt icon and select “Run as Administrator”.
 2. At the cursor in the command prompt window, type “net stop spooler”, <Enter>. Leave this window open as the print spooler will need to be restarted at the end of these instructions.
- Start Toolbox and connect the printer to host computer. Power on the printer and load media.
- Select Detect icon for the software to configure for the correct printer. Select the proper media width when prompted.

- Select Upload and the Upload file dialog box will appear.



- Select Print Self Test Page to print a receipt with the current parameter settings.
- Select the 1D-firmware appropriate for the printer you are upgrading from the File to Upload list.
 - If the firmware is not available on the list, it needs to be added. The firmware files are contained within the zip file on the Zebra website. Select Add and browse to the file location for the SPI firmware. Name the file and select Open.
- Select Begin Upload. The status light on the printer will flash rapidly when the firmware is being written to the Flash PROM². Wait until you hear the presenter motor click before selecting OK in the popup window. The sound will signify the file is written properly.
- Auto calibrate the media to the printer
- Select Print Self Test Page to print a receipt to verify the firmware version.

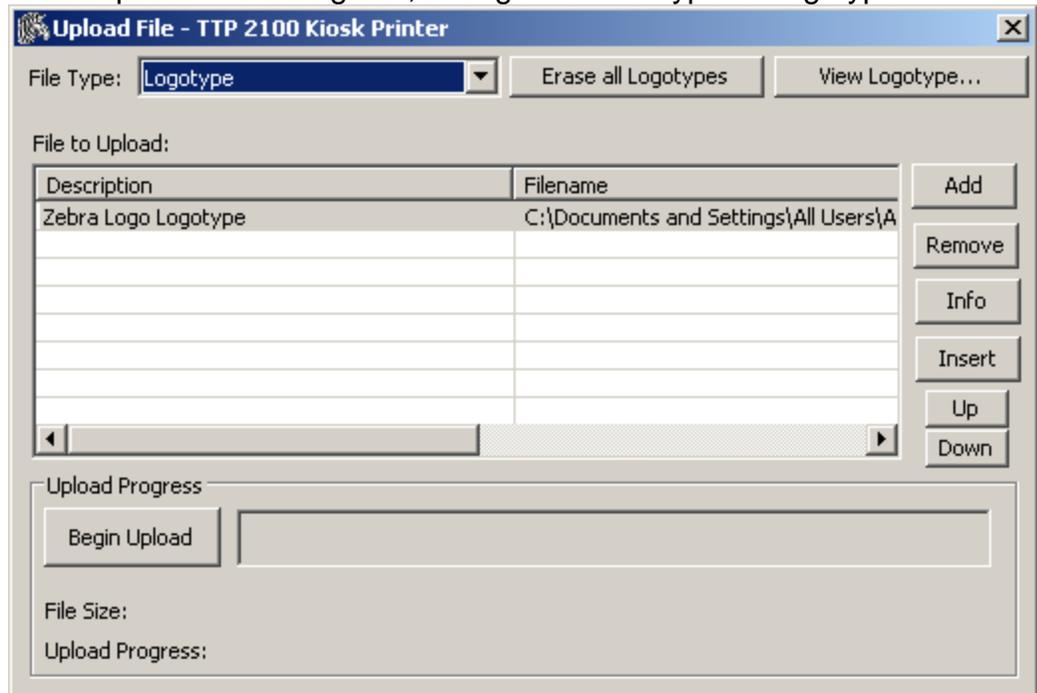
² Powering off the printer at this stage will leave the printer inoperable

Installation procedures for version 3.80 or 3.83 firmware

- Select the firmware from the File to Upload list. Check the table on page 3 for the correct version.
- Select Begin Upload. The status light on the printer will flash rapidly when the firmware is being written to the Flash PROM. Wait until you hear the presenter motor click before selecting OK in the popup window. The sound will signify the file is written properly.

Step 3. Install Logotype

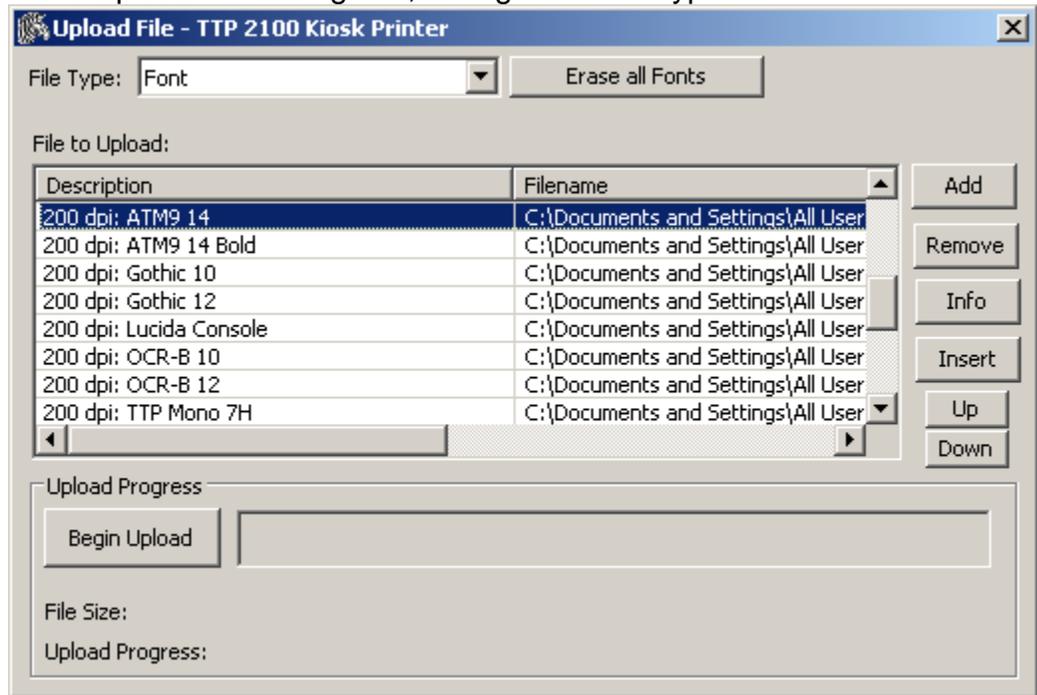
- In the Upload File dialog box, change the File Type to Logotype.



- Select “Zebra Logo Logotype” and click “Begin Upload”. The status light on the printer will flash rapidly when the logotype is being written to the Flash PROM. Wait until you hear the presenter motor click before selecting OK in the popup window. The sound will signify the file is written properly.
- If any other logos need to be added;
 - Select Add and browse to the file location for the logo. Name the file and select Open.
 - Begin Upload, following the instructions in the step above.
 - Repeat the process until all logos are loaded in the proper order.

Step 4. Install Fonts

- In the Upload File dialog box, change the File Type to Font.



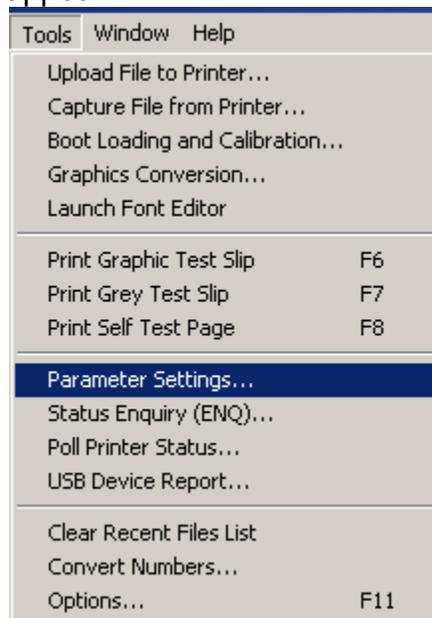
- The Zebra fonts are already included with Toolbox. It is important to pick the fonts in the right order:
 - Select 200 dpi: ATM9 14. Select Begin Upload. The status light on the printer will flash rapidly when the firmware is being written to the Flash PROM. Wait until you hear the presenter motor click before selecting OK in the popup window. The sound will signify the file is written properly.
 - Select 200 dpi: OCR-B 10 and Upload.
 - Select 200 dpi: OCR-B 12 and Upload.
 - Select 200 dpi: Gothic 10 and Upload.
 - Select 200 dpi: Gothic 12 and Upload.
- If any other fonts need to be added;
 - Select Add and browse to the file location for the font. Name the file and select Open.
 - Begin Upload, following the instructions in the step above.
 - Repeat the process until all fonts are loaded in the proper order.

Step 5. Finalize and verify the installation

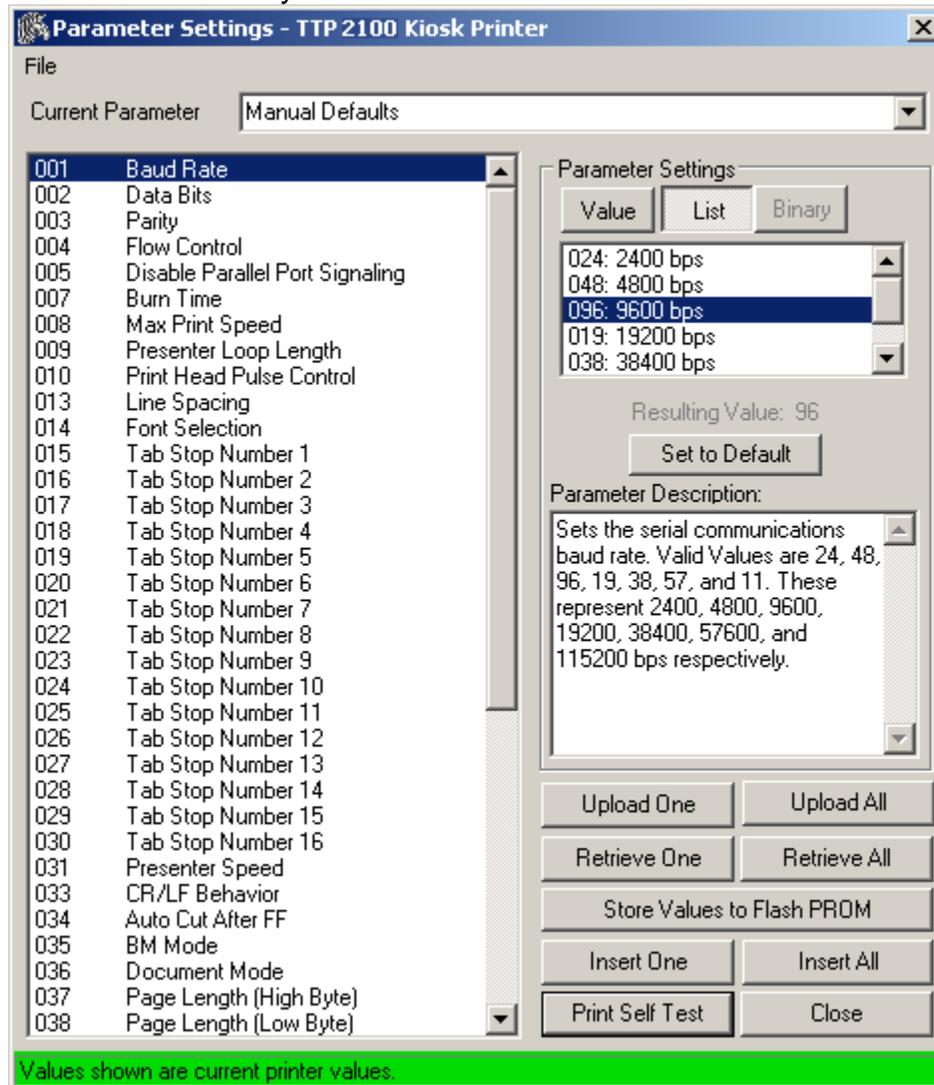
- Auto calibrate the media to the printer following the procedure outlined in the Technical Manual
- Hold the feed button on the printer pressed for two seconds to print a receipt with the new parameter settings and verify the firmware version, logotype and fonts.
- If any settings need to be changed, refer to the [Changing parameter settings](#) section for instructions.
- Close Toolbox software and enable the print spooler.
 - Go to the command prompt window. Type “net start spooler”, <Enter>. To close the window, type “exit”.

Step 6. Changing parameter settings of the printer

- Stop the spooler and start Toolbox as described on page 3.
- Under the Tools heading, select Parameter Settings and a dialog box will appear.



- Make sure the bottom bar is highlighted in green to ensure the printer parameters are properly read from the printer. If not green, select “Retrieve All” to retry.



- Select the parameter to change. One can either select the parameter value from the list, or one can enter the value directly by selecting the Value button.
- After all values have been changed, select Upload All.
- Print a Self Test Page. All changed values will be preceded by an asterisk. This makes it easy to see the values changed.
- Select Store Values to Flash PROM. This makes the values persistent through a power cycle. The presenter motor will click to verify the values are stored.
- Close Toolbox and enable the print spooler as described on page 7.



Downgrade Instructions

V 3.83 Summary of Firmware Changes

TTP 2110 Printer FW version 3.83

Release date: 16 April 2009

This firmware release includes the features of the previous TTP 2110 firmware releases. It is for use with the following TTP 2100 printer model:

Printer	Barcode Support	Firmware Header
TTP 2110	1D barcodes	01824-xxx
TTP 2110	2D PDF-417	01826-xxx
Example: 01824-380 means version 3.80		

Installation

- Download and install the Toolbox utility program which is available on www.zebra.com.
- Start the Toolbox utility program.
- Select printer type and port accordingly.
- Select Tools, Upload file to printer.
- In the File Type window that appears, select Firmware.
- Press the Add button and add the firmware file you want to load to the File to Upload list.
- When ready, select the firmware file you just added to the list and click on Begin Upload.
- Wait until after the printer buzzes to indicate firmware loading is completed.
- Print a self-test page to verify that the printer has the new firmware.

New Features

- Added Black Mark paper upside-down detection.
- Increased speed in landscape mode (for example, full text page (192 mm) in landscape mode now takes only four seconds instead of eight seconds).
- Improved paper feed at Auto Load.
- Reordered error blinking priority so that major errors are reported first. This will ensure that a terminal state (where a print head lift or power cycle is required) can always be seen.
- Added code to handle new sensor board and new parameter EEPROM (both on a SPI-bus).
- A printer with SPI sensor board now has two new parameters (n61 and n62).
- New commands:
 - a. Set SPI-slave variable(s): ESC "W" <addr><idx><len><data>
 - b. Get SPI-slave variable(s): ESC "R" <addr><idx><len>
 - c. Store SPI-slave variables: ESC "&" x05
 - d. Load SPI-slave firmware: ESC "&s" <addr><file.bin>

- Added 2of5 and EAN 128 barcode support to the PDF417 firmware.
- Added support for 2MB RAM on REV K or higher controller PCBs.

Issues Corrected

- Fixed ESC Z - Go to TOF resulting in Presenter jam error.
- Fixed No timeout at paper->Cutter synchronization.
- Fixed issue with timeout missing at paper reverse (auto load).
- Added short delay before reversing direction during auto load.
- Removed the buzzing of the presenter when checking error flashes using FF button.
- Fixed Auto Load fails after paper out.
- Fixed barcodes half-printed in landscape mode.
- Corrected position of first digit in human readable part of EAN 13.
- Fixed problems with parameter n13.
- Black mark calibration procedure now saves only the parameters it changes rather than all parameters.
- Reduced limit on garbage filter to 0.5 mm for TOF Calibration to sync on holes.
- Fixed issue ESC # does not timeout.
- Fixed Eject Retry operation lacks timeout.
- Fixed problem where certain firmware could not be downloaded because the printer detected a checksum error even if there was none.
- The serial number is zero when SPI is detected. Since SPI-EEPROM doesn't have a serial number like the 1-wire EEPROM.
- Fixed issue with Presenter not cleared before printing.
- Fixed issue where Calibrating in Self-Test mode caused unexpected behavior. The printer will now leave Self-Test mode when the print head is lifted.
- EAN128 barcodes no longer print underscore before first number on numeric display.
- Parameter n35 has been re-introduced without connection to parameter n36 except when set n36=2. Then it will set parameter n36=1, n35=1, and the new n63=0 to be backward compatible with older firmware.
- Fixed synchronization problem between parameter n61 and internal sensor board variable.
- Fixed issue when parameter n57 = 255 caused strange behavior.
- Parameter n9 is removed since TTP 2100 does not have any loop.
- Fixed issue in Fixed mode when rotated barcodes did not print properly and printing PDF barcodes in different orientations caused partial erasing.
- Fixed a timing problem when reading the 1-wire EEPROM.
- Fixed length difference in Fixed mode pages when printer has insufficient memory.
- Reintroduced the lower speed of the Presenter when it backs into the retract gap to ensure that the paper won't jam when it enters the gap.
- Fixed issue when printer failed to detect if paper falls out of presenter.
- Fixed issue where ESC FF does not operate as expected after first issuance.
- Fixed issue when after Manual Calibration, CTS never returns high.
- Fixed issue when setting parameter n31=1 and then storing, caused the printer to terminally cease functioning.

- Fixed issue when parameters n34=0 and n36=1, the printer does not produce behavior as documented in the Technical manual.
- Fixed issue when Warning Level=1, first flash after power on printer is three flashes rather than two.
- Fixed system tag update problem (multiple files were created when adding customer field).
- Fixed issue when printer prints <Barcode Error: 0> on very large PDF 417 Barcode.
- Fixed issue when using esc o without fixed mode, PDF417 Barcodes are cut off.
- Fixed issue where Command Sequence causes crash.
- Fixed issue where <ESC>P<1> formatting is not optimal.
- Fixed issue when parameter n14 is not restored after self-test.
- Fixed issue when using parameter n52, higher status codes destroy lower codes.
- Fixed issue where Dual Black mark feeding occurs when parameter n34=0 using FF.
- Fixed issue when using reverse after Self-Test, only the first execution of reverse works.
- Fixed issue when set parameter n53 = 1, Index Error is raised.
- Fixed issue when change parameter n60, it is not recognized on first slip after power on printer.
- Fixed issue when printing barcodes with no fonts loaded, printer prints garbage.
- Fixed issue on single character lines, the baseline is wrong if the line is the last one printed.
- Set parameter n31 to 175 in default setup.
- Fixed issue-Test ticket with FEED button. This issue results in a printer behavior change. The printer will now print a Self-Test page if the FEED button is pressed and the buffer is empty.
- Corrected fixed page termination operation after text buffer causes YCursor overflow which causes unexpected feed.
- Fixed occasional Error 1 ejecting media.
- Fixed Auto Load fails to detect black marks.
- Changed FEED button behavior. The feed button will now print a Self-Test page if held for three seconds and then released. It will feed a feed sheet, if pressed for less than three seconds and released.
- Fixed issue when parameter n53 =1, paper Auto Load causes a NAK 12 that shows up on LED.
- Fixed issue when printout stutters on TTP 2110 with SPI. On TTP 2110 printers with SPI based controller PCBs, the use of hardware handshaking is now required for proper printer operation.
- The default value of parameter n11 is now 60 on ESC & F or parameter reset.
- The timeout for Black Mark calibration insertion is now 30 seconds rather than 10.
- Added CRCs to non-PDF builds.
- Fixed issue when <ESC><RS><ENQ> causes retract.
- Fixed issue when <ESC>&D causes font corruption.