Zebra GX420t / GX430t

Desktop Thermal Printer

User Guide

Manual Calibration

Manual calibration is recommended whenever you are using pre-printed media or if the printer will not correctly auto calibrate.

1. Make sure media is loaded.

2. Turn on the printer power.

3. Press and hold the Feed button until the green status light flashes once, then twice and then continuing until the flash groups reach the group of seven flashes. Release the Feed button.

4. The printer will set the media sensor for the label backing being used. After it is done making this adjustment, the roll will automatically feed until a label is positioned at the printhead. A profile of the media sensor settings (similar to the example below) will print. Upon completion, the printer will save the new settings in memory and the printer is ready for normal operation.

5. Press the Feed button. One entire blank label will feed. If this does not happen, try defaulting (refer to the four-flash sequence in "Feed Button Modes" later in this chapter) and recalibrating the printer.

Note • Performing a manual calibration disables the auto calibration function. To return to auto calibration, default the printer (refer to the four-flash sequence in *Feed Button Modes on page 97* in this section).

Troubleshooting Tests

Printing a Configuration Label

To print out a listing of the printer's current configuration, refer to the one-flash sequence in in this section

```
            PRINTER CONFIGURATION

Zebra Technologies
ZTC GX420t

15.0............... DARKNESS
6 IPS.............. PRINT SPEED
+000............... TEAR OFF
TEAR OFF........... PRINT MODE
GAP/NOTCH.......... MEDIA TYPE
WEB............... SENSOR TYPE
MANUAL............. SENSOR SELECT
THERMAL-TRANS...... PRINT METHOD
800............... PRINT WIDTH
1234.............. LABEL LENGTH
39.0IN   989MM..... MAXIMUM LENGTH
CONNECTED.......... USB COMM.
BIDIRECTIONAL...... PARALLEL COMM.
9600.............. BAUD
8 BITS............ DATA BITS
NONE.............. PARITY
XON/XOFF.......... HOST HANDSHAKE
NONE.............. PROTOCOL
<~>  7EH.......... CONTROL CHAR
<^>  5EH.......... COMMAND CHAR
<,>  2CH.......... DELIM. CHAR
ZPL II............ ZPL MODE
CALIBRATION........ MEDIA POWER UP
CALIBRATION........ HEAD CLOSE
DEFAULT............ BACKFEED
+000............... LABEL TOP
+0000.............. LEFT POSITION
NO................. HEXDUMP
034................ WEB S.
096................ MEDIA S.
011................ WEB GAIN
050................ MARK S.
013................ MARK GAIN
095................ MARK MED S.
015................ MARK MEDIA GAIN
095................ CONT MEDIA S.
007................ CONT MEDIA GAIN
075................ RIBBON OUT
040................ RIBBON GAIN
000................ TAKE LABEL
CWF................ MODES ENABLED
................... MODES DISABLED
832 8/MM FULL...... RESOLUTION
V56.15.1ZP32 <-.... FIRMWARE
V06.00.0207........ HARDWARE ID
CUSTOMIZED......... CONFIGURATION
2944k............R: RAM
1536k............E: ONBOARD FLASH
NONE.............. FORMAT CONVERT
77,291 IN.......... LAST CLEANED
77,291 IN.......... HEAD USAGE
77,291 IN.......... TOTAL USAGE
77,291 IN.......... RESET CNTR1
77,291 IN.......... RESET CNTR2
31A07330008........ SERIAL NUMBER
2007-09-20 22:48:18 TIME STAMP

FIRMWARE IN THIS PRINTER IS COPYRIGHTED
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Recalibration

Recalibrate the printer if it starts to display unusual symptoms, such as skipping labels. Refer to the two-flash sequence in in this section.

Resetting the Factory Default Values

Sometimes, resetting the printer to the factory defaults may solve some problems. Refer to the four-flash sequence in *Feed Button Modes* on page 97 in this section.

Communications Diagnostics

If there is a problem transferring data between the computer and printer, try putting the printer in the communications diagnostics mode. The printer will print the ASCII characters and their respective hexadecimal values (a sample is shown below) for any data received from the host computer. To find out how,

There are multiple ways to enter hex data dump mode:

- The **~JD** ZPL command
- The **dump** EPL command
- On power up with the Feed button pressed. Refer to the power off mode procedure in *Feed Button Modes* on page 97 in this section.

The printer will print 'Now in DUMP' (see below) and advance to the top of the next label.

```
Now in DUMP
Press Feed to exit
or send ~JE
```
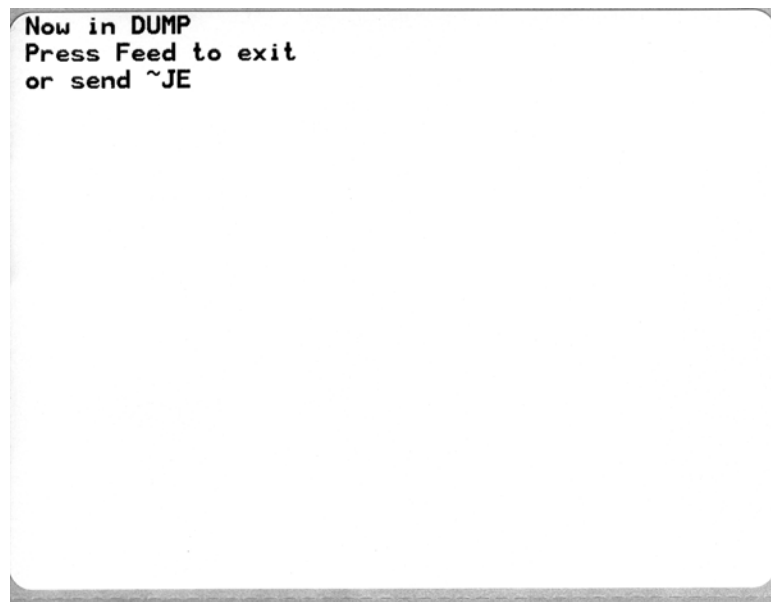
The following example of a communications DUMP mode printed out. The printout displays hexadecimal data 00h-FFh (0-255 decimal) with a unique character for each hexadecimal value displayed above the hexadecimal data.
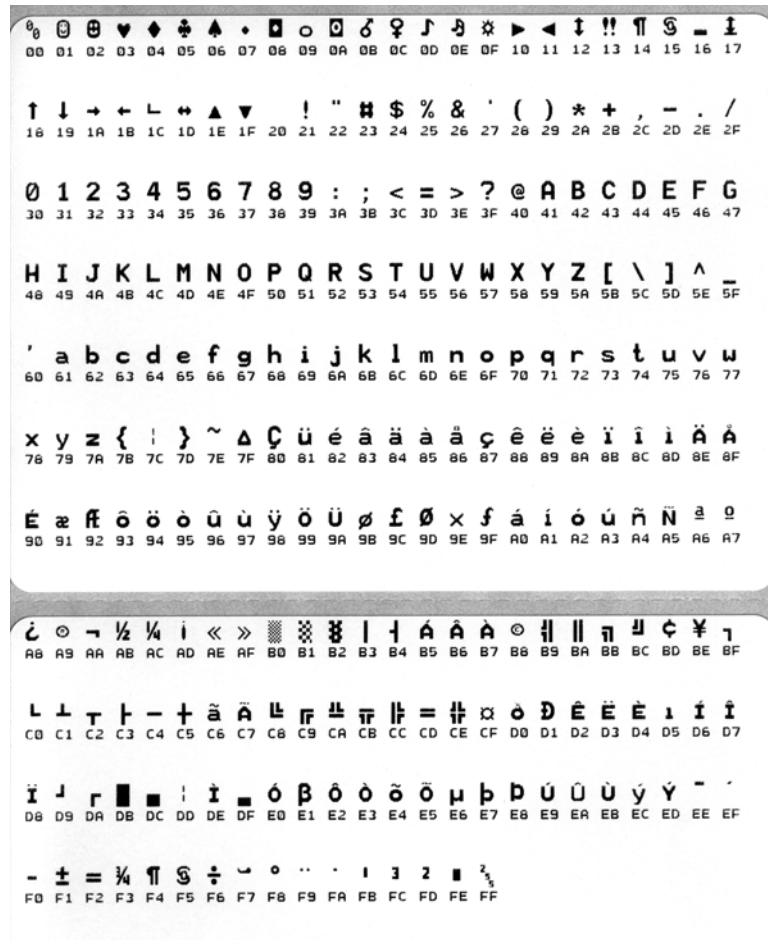
The blank lines between the lines of data are where serial port and Bluetooth data handling errors get logged. The errors are:

- F = Frame Error
- P = Parity Error
- N = Noise Error
- O = Data Overrun Error

To exit the diagnostic mode and resume printing, turn off and then turn on the printer. An alternate method for exiting the diagnostic mode is to press the Feed button as many times as it takes to clear the printer's command buffer and print 'Out of DUMP' on the label.

Out of DUMP

Feed Button Modes

Power Off Mode (Communications Diagnostics Mode)	
With the printer power off, press and hold the Feed button while you turn on the power.	
Flash Sequence	**Action**
Rapid Red Flashing	**Firmware Download Mode** - The printer starts rapidly flashing red to denote entry into the Firmware Download mode. Releasing the Feed button here will start initializing the printer for download. The printer is ready to start downloading firmware when the status light begins to slowly flash between red and green. See *Sending Files to the Printer* on page 44 for more information on using the Firmware (and File) Download utility available for use with this printer. Firmware updates for your printer, if available, are posted on the Zebra on our web site at: www.zebra.com
Amber	**Normal Operations Mode** - The printer continues into a normal printer initialization. Releasing the Feed button here will allow the printer to start normally without firmware download or operating in communications diagnostics mode.
Green	**Communications Diagnostic (Dump) Mode** - Release the Feed button immediately after the printer status light turns green. The printer will print 'Now in DUMP' at the top of the label and then advance to the next label. After printing the first label, the printer will automatically enter into diagnostic mode in which the printer prints out a literal representation of all data subsequently received. *To exit the diagnostic mode and resume printing, turn off and then turn on the printer. An alternate method for exiting the diagnostic mode is to press the Feed button as many times as it takes to clear the printer's command buffer and print 'Out of DUMP' on the label.*

Power On Modes
With the printer power on and top cover closed, press and hold the Feed button for several seconds. The green status LED will flash a number of times in sequence. The explanation at the right (Action) shows what happens when you release the key after the start specific number of flashes and before the next flash sequence starts.

Flash Sequence	**Action**
*	**Configuration Status** - Prints a detailed printer configuration status label. The label can be used to verify printing, assist printer to computer communication configuration, maintenance, troubleshooting, and help us with customer care communications.
* **	**Standard Media Calibration** - The printer detects and sets media type and media length, and it adjusts the media sensors for optimal performance with the installed media. The printer will feed one to four labels. *Note: Users familiar with the Zebra EPL desktop printer use this Feed mode to replace power-up AutoSensing calibration.*
* ** ***	**Serial Port Configuration** - *Applies only to printers with serial interface ports.* To reset the communication parameters. Press and release the Feed button while the LED rapidly flashes amber and green. For autobaud synchronization: Send the **^XA^XZ** command sequence to the printer while the LED rapidly flashes amber and green. When the printer and host are synchronized, the LED changes to solid green. NOTE: No labels will print during autobaud synchronization.
* ** *** ****	**Factory Defaults** - Resets the printer to the default factory settings and modes. See the configuration label for a list of the primary settings affected by this Feed Mode option. Other settings are exclusively set, viewed and controlled by programming are also reset. The printer then performs a standard media calibration.
* ** *** **** *****	**Print Width Adjustment** - Prints a succession boxes starting at the minimum print width and ending in the printer's maximum print width in 4mm increments. Press the Feed button once when the printer has reached the desired maximum print width. Note that the printer driver and applications can override this setting.
* ** *** **** ***** ******	**Print Darkness (Density) Adjustment** - Prints a succession of bar code simulation patterns starting at the minimum darkness (print density/heat) and ending in the printer's maximum darkness in increments of four (4) using the ZPL darkness setting range values. Press the Feed button once the pattern is clear and legible. Do not continue to increase the darkness setting. Bar code line widths may become distorted reducing readability. Note that the printer driver and applications can override this setting.
* ** *** **** ***** ****** *******	**Manual Media Calibration** - The printer runs extensive tests to detect and set media type and media length, and then it adjusts the media sensors for optimal performance with the installed media. Manual calibration is recommended whenever you are using pre-printed media, print on the liner or if the printer will not correctly auto calibrate. A graphical profile of the media sensing will print. See *Manual Calibration* on page 93 for more details and considerations.

If the Feed button remains pressed after a 8-flash sequence, the printer exits the configuration mode when the Feed button is released.