

SETTINGS Menu

Table 7 • SETTINGS Menu

Print Darkness	Set the darkness to the lowest setting that provides good print quality. If you set the darkness too high, the label image may print unclearly, bar codes may not scan correctly, the ribbon may burn through, or the printhead may wear prematurely. If desired, use the Print Quality Report on page 135 to determine the best darkness setting.	
	<i>Accepted values:</i>	0.0 – 30.0
	<i>Related ZPL command(s):</i>	^MD, ~SD
	<i>SGD command used:</i>	print.tone
	<i>Printer web page:</i>	View and Modify Printer Settings > General Setup > Darkness
Print Speed	Select the speed for printing a label (given in inches per second). Slower print speeds typically yield better print quality.	
	<i>Accepted values:</i>	2, 3, 4, 5, 6
	<i>Related ZPL command(s):</i>	^PR
	<i>SGD command used:</i>	media.speed
	<i>Printer web page:</i>	N/A
Media Type	Select the type of media that you are using. <ul style="list-style-type: none"> If you select CONTINUOUS, you must include a label length in your label format (^LL if you are using ZPL). If you select GAP/NOTCH or MARK for various non-continuous media, the printer feeds media to calculate the label length. See Types of Media on page 79 for more information.	
	<i>Accepted values:</i>	<ul style="list-style-type: none"> CONTINUOUS GAP/NOTCH MARK
	<i>Related ZPL command(s):</i>	^MN
	<i>SGD command used:</i>	ezpl.media_type
	<i>Printer web page:</i>	View and Modify Printer Settings > Media Setup > Media Type
Print Method	Specify if the printer is to use Direct Thermal mode (no ribbon) or Thermal Transfer mode (using thermal transfer media and ribbon).	
	<i>Accepted values:</i>	<ul style="list-style-type: none"> THERMAL TRANS DIRECT THERMAL
	<i>Related ZPL command(s):</i>	^MT
	<i>SGD command used:</i>	ezpl.print_method
	<i>Printer web page:</i>	View and Modify Printer Settings > Media Setup > Print Method

Configuration Report

The Configuration Report (CANCEL self test) prints a set of printer and network configuration reports.

To perform the configuration, complete these steps:

1. Make sure the media is properly loaded and the top cover of the printer is closed.
2. Press and hold **CANCEL** button while setting the printer power switch to on (I).
3. Hold **CANCEL** button down until the printer status light turns green for the first time and release.
4. The Printer and Network Configuration Reports (below) will be printed a couple of seconds after printer's display reports 'PRINTER READY'.

PRINTER CONFIGURATION	
Zebra Technologies ZTC ZD500R-203dpi ZPL 40J133000272	
+10.0.....	DARKNESS
6.0 IPS.....	PRINT SPEED
+000.....	TEAR OFF
TEAR OFF.....	PRINT MODE
GAP/NOTCH.....	MEDIA TYPE
TRANSMISSIVE.....	SENSOR SELECT
THERMAL-TRANS.....	PRINT METHOD
832.....	PRINT WIDTH
1232.....	LABEL LENGTH
39.01IN 968MM.....	MAXIMUM LENGTH
NOT CONNECTED.....	USB COMM.
BIDIRECTIONAL.....	PARALLEL COMM.
RS232.....	SERIAL COMM.
9600.....	BAUD
8 BITS.....	DATA BITS
NDNE.....	PARITY
XON/XOFF.....	HOST HANDSHAKE
NDNE.....	PROTOCOL
NORMAL MODE.....	COMMUNICATIONS
<~> 7EH.....	CONTROL PREFIX
<~> 5EH.....	FORMAT PREFIX
<~> 2CH.....	DELIMITER CHAR
ZPL II.....	ZPL MODE
NO MOTION.....	MEDIA POWER UP
FEED.....	HEAD CLOSE
DEFAULT.....	BACKFEED
+000.....	LABEL TOP
+0000.....	LEFT POSITION
DISABLED.....	REPRINT MODE
00B.....	WEB SENSOR
05B.....	MEDIA SENSOR
065.....	RIBBON SENSOR
12B.....	TAKE LABEL
074.....	MARK SENSOR
021.....	MARK MED SENSOR
001.....	TRANS GAIN
100.....	TRANS LED
040.....	RIBBON GAIN
020.....	MARK GAIN
100.....	MARK LED
DPCS/FXM.....	MODES ENABLED
.....	MODES DISABLED
832 8/MM FULL.....	RESOLUTION
2.0.....	LINK-OS VERSION
V74.19.62 <.....	FIRMWARE
1.3.....	XML SCHEMA
6.5.0 57005.....	HARDWARE ID
NDNE.....	OPTION BOARD
4096k.....	RAM
57344k.....	ONBOARD FLASH
NDNE.....	FORMAT CONVERT
FW VERSION.....	IDLE DISPLAY
04/25/13.....	RTC DATE
00101.....	RTC TIME
DISABLED.....	ZBI
2.1.....	ZBI VERSION
READY.....	ZBI STATUS
TM:MBE MICRO.....	RFID READER
20.00.00.01.....	RFID HW VERSION
01.01.01.02.....	RFID FW VERSION
USA/CANADA.....	RFID REGION CODE
USA/CANADA.....	RFID COUNTRY CODE
RFID OK.....	RFID ERR STATUS
16.....	RFID READ PWR
16.....	RFID WRITE PWR
F0.....	PROG. POSITION
0.....	RFID VALID CTR
0.....	RFID VOID CTR
991 IN.....	NONRESET CNTR
991 IN.....	RESET CNTR1
991 IN.....	RESET CNTR2
2.517 CM.....	NONRESET CNTR
2.517 CM.....	RESET CNTR1
2.517 CM.....	RESET CNTR2
FIRMWARE IN THIS PRINTER IS COPYRIGHTED	

Network Configuration	
Zebra Technologies ZTC ZD500R-203dpi ZPL 40J133000272	
PrintServer.....	LOAD LAN FROM?
WIRELESS.....	ACTIVE PRINTSRVR
Wired	
ALL.....	IP PROTOCOL
000.000.000.000.....	IP ADDRESS
255.255.255.000.....	SUBNET
000.000.000.000.....	GATEWAY
000.000.000.000.....	WINS SERVER IP
YES.....	TIMEOUT CHECKING
300.....	TIMEOUT VALUE
000.....	ARP INTERVAL
9100.....	BASE RAW PORT
9200.....	JSON CONFIG PORT
Wireless*	
ALL.....	IP PROTOCOL
172.029.016.073.....	IP ADDRESS
255.255.255.000.....	SUBNET
172.029.016.001.....	GATEWAY
172.029.001.003.....	WINS SERVER IP
YES.....	TIMEOUT CHECKING
300.....	TIMEOUT VALUE
000.....	ARP INTERVAL
9100.....	BASE RAW PORT
9200.....	JSON CONFIG PORT
INSERTED.....	CARD INSERTED
02dfh.....	CARD MFG ID
9118h.....	CARD PRODUCT ID
ac:3f:a4:07:fe:b4.....	MAC ADDRESS
YES.....	DRIVER INSTALLED
INFRASTRUCTURE.....	OPERATING MODE
125.....	ESSID
100.....	TX POWER
ALL.....	CURRENT TX RATE
OPEN.....	WEP TYPE
NDNE.....	WLAN SECURITY
1.....	WEP INDEX
000.....	POOR SIGNAL
LONG.....	PREAMBLE
YES.....	ASSOCIATED
ON.....	PULSE ENABLED
15.....	PULSE RATE
OFF.....	INTL MODE
usa/canada.....	REGION CODE
usa/canada.....	COUNTRY CODE
0x3FFFFFFF.....	CHANNEL MASK
Bluetooth	
4.2.0.....	FIRMWARE
04/20/2012.....	DATE
on.....	DISCOVERABLE
3.0.....	RADIO VERSION
on.....	ENABLED
AC:3F:A4:07:FE:B5.....	MAC ADDRESS
40J133000272.....	FRIENDLY NAME
No.....	CONNECTED
1.....	MIN SECURITY MODE
nc.....	CONN SECURITY MODE
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Print Quality Report

Different types of media may require different darkness settings. This section contains a simple but effective method for determining the ideal darkness for printing bar codes that are within specifications.

During the Print Quality Report (FEED self test), a series of labels are printed at different darkness settings at two different print speeds. The relative darkness and the print speed are printed on each label. The bar codes on these labels may be ANSI-graded to check print quality.

During this test, one set of labels is printed at 2 ips, and another set is printed at 6 ips. The darkness value starts at three settings lower than the printer's current darkness value (relative darkness of -3) and increase until the darkness is three settings higher than the current darkness value (relative darkness of +3).

The speed at which labels are printed during this print quality test depends on the dot density of the printhead.

- 300 dpi printers: 7 labels are printed at the 2 ips and 6 ips print speeds.
- 203 dpi printers: 7 labels are printed at the 2 ips and 6 ips print speeds.

To perform a Print Quality Report, complete these steps:

1. Print a configuration label to show the printer's current settings.
2. Turn off (O) the printer.
3. Press and hold **FEED** while turning on (I) the printer. Hold **FEED** until the first control panel light turns off.

The printer prints a series of labels (Figure 1) at various speeds and at darkness settings higher and lower than the darkness value shown on the configuration label.

Figure 1 • Print Quality Report



- See Figure 2 and Table 6. Inspect the test labels and determine which one has the best print quality for your application. If you have a bar code verifier, use it to measure bars/spaces and calculate the print contrast. If you do not have a bar code verifier, use your eyes or the system scanner to choose the optimal darkness setting based on the labels printed in this self test.

Figure 2 • Bar Code Darkness Comparison

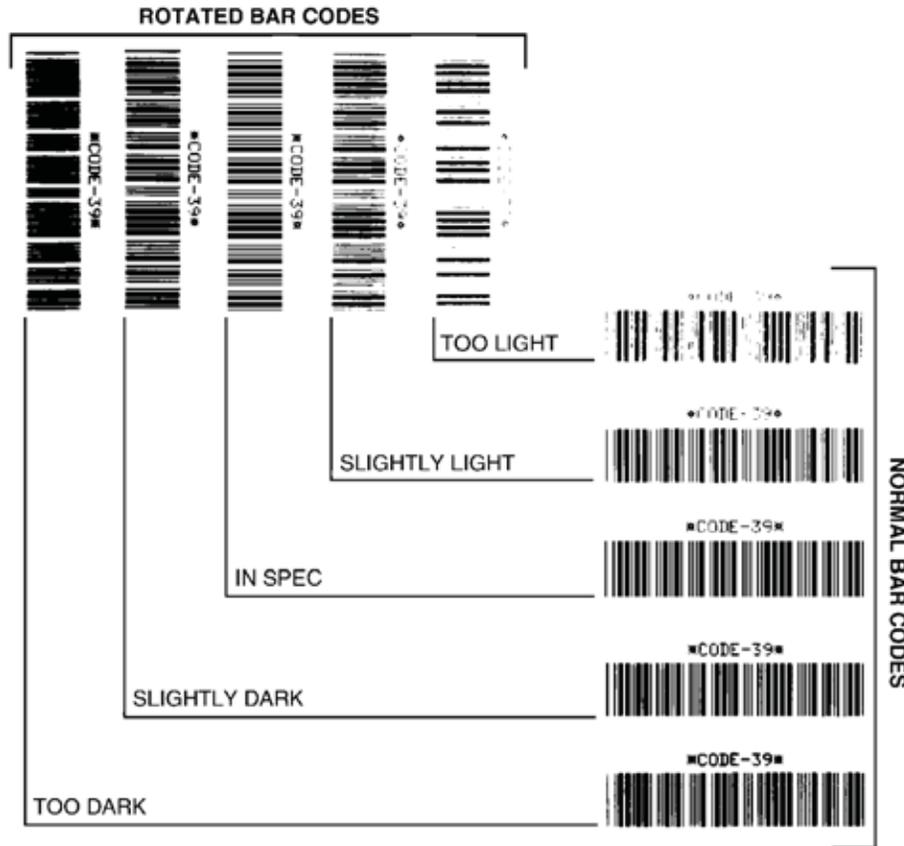


Table 6 • Judging Bar Code Quality

Print Quality	Description
Too dark	Labels that are too dark are fairly obvious. They may be readable but not “in-spec.” <ul style="list-style-type: none"> The normal bar code bars increase in size. The openings in small alphanumeric characters may fill in with ink. Rotated bar code bars and spaces run together.
Slightly dark	Slightly dark labels are not as obvious. <ul style="list-style-type: none"> The normal bar code will be “in-spec.” Small character alpha numerics will be bold and could be slightly filled in. The rotated bar code spaces are small when compared to the “in-spec” code, possibly making the code unreadable.

Table 6 • Judging Bar Code Quality (Continued)

Print Quality	Description
“In-spec”	<p>The “in-spec” bar code can only be confirmed by a verifier, but it should exhibit some visible characteristics.</p> <ul style="list-style-type: none"> • The normal bar code will have complete, even bars and clear, distinct spaces. • The rotated bar code will have complete, even bars and clear, distinct spaces. Although it may not look as good as a slightly dark bar code, the bar code will be “in-spec.” • In both normal and rotated styles, small alphanumeric characters look complete.
Slightly light	<p>Slightly light labels are, in some cases, preferred to slightly dark ones for “in-spec” bar codes.</p> <ul style="list-style-type: none"> • Both normal and rotated bar codes will be in spec, but small alphanumeric characters may not be complete.
Too light	<p>Labels that are too light are obvious.</p> <ul style="list-style-type: none"> • Both normal and rotated bar codes have incomplete bars and spaces. • Small alphanumeric characters are unreadable.

5. Note the relative darkness value and the print speed printed on the best test label.
6. Add or subtract the relative darkness value from the darkness value specified on the configuration label. The resulting numeric value is the best darkness value for that specific label/ribbon combination and print speed.
7. If necessary, change the darkness value to the darkness value on the best test label.
8. If necessary, change the print speed to the same speed as on the best test label.