

ZD510-HC Wristband Printer

Specifications are provided for reference and are based on printer tests using Zebra® brand wristbands. Results may vary in actual application settings Zebra recommends always qualifying any application with thorough testing.

STANDARD FEATURES

- Quick and easy media cartridge loading
- Automatic media loading — no user contact with the media during loading or removal
- 300 dpi print resolution (12 dots / mm)
- Healthcare Power Supply
- Link-OS
- Real Time Clock
- Print Speed (automatic selection based on installed wristbands)
 - Prints at 2 inches / second (51 mm / s) with healthcare wristbands
 - Prints at 4 inches / second (102 mm / s) with Fun and Splash hospitality / leisure wristbands
- Direct thermal printing of barcodes, text, and graphics
- Dual-wall frame, impact resistant plastic
- ZPL® or ZPL II® programming language
- 16 MB Standard SDRAM memory (256 MB Standard SDRAM)
- 8 MB Standard Flash memory (512 MB Standard Flash)
- E3™ Element Energy™ Equalizer
- Connectivity: USB 2.0, USB Host, Bluetooth Low Energy, 10/100 Ethernet
- Odometer for print length tracking
- Illuminated Media Low / Media Out indicator
- Tool-less printhead and platen replacement
- Unicode™ compliant for multi-language printing



- XML Enabled Printing — allows XML communications from information systems
- Instant media calibration — no wasted media
- 16 resident expandable bitmap fonts
- Resident scalable font
- Head-up sensor
- Media Low and Media Out sensors
- Standard Tear-off mode feature

OPTIONAL FEATURES

- Factory installed wireless — Wi-Fi certified 802.11ac and Bluetooth 4.1; MFi-certified (Apple)
- Font Packs — Asian and other international font kits
- ZBI 2.0 — Field installed

PRINT DNA SOFTWARE SOLUTIONS

Development Tools — An intuitive, easy-to-use software program for creating complex wristband and label designs, purchased separately (option)

Management Tools — Offers basic features for simple wrist band and label design (standard)

Productivity Tools — A design tool for designing and distributing wristband templates for later recalling and printing via XML data streams

Visibility Tools — Centrally manage Zebra printers from a single PC screen anywhere on your global network (option)

ZBI 2.0 — Powerful programming language that lets printers run standalone applications, connect to peripherals, and much more (option)

ZBI-Developer — Programming utility makes it dramatically easier for programmers to create and test complex ZBI 2.0 programs and distribute them to the printer (standard with ZBI 2.0)

Firmware

ZPL II — Universal language for Zebra printers. Simplifies wrist band and label formatting and enables format compatibility with existing systems that run Zebra printers.

Web View — Connect and control Zebra barcode printers via the printer's Web interface using a common Web browser.

Alert — Printers equipped with ZebraNet print servers will notify you via any email-enabled, wired, or wireless device to minimize downtime.

Z-BAND WRISTBAND CARTRIDGE SPECIFICATIONS

Healthcare wristbands feature silver antimicrobial coating, which test results show effectively protects the wristband against *S. aureus*, *P. aeruginosa*, *E. coli*, and MRSA

Select Wristband Options

| Style | Size | Length | |
|------------------|-------------|------------|---------------|
| | | inches | mm |
| Z-Band Direct | Adult | 1 × 11 | 25.4 × 279.4 |
| Z-Band Direct | Child | 1 × 7 | 25.4 × 177.8 |
| Z-Band Direct | Infant | 1 × 6 | 25.4 × 152.4 |
| Z-Band QuickClip | Adult | 1 × 1.1875 | 30.16 × 279.4 |
| Z-Band QuickClip | Child | 1 × 7 | 25.4 × 177.8 |
| Z-Band Splash | 1 size only | 1 × 10 | 25.4 × 254 |
| Z-Band Fun | 1 size only | 1 × 10 | 25.4 × 254 |

For a complete list of Z-band Wristbands please see Zebra.com

Healthcare

- Z-Band Direct have adhesive closure.
- Wristbands available in White, Red, Blue, Yellow, Green, Orange, Pink and Purple.
- Z-Band QuickClip have clip closure.
- Clips available in White, Red, Blue, Yellow, Green, Pink and Purple.

Hospitality / Leisure

- Z-Band Fun and Splash have adhesive closure.
- Wristbands available in Red, Blue, Yellow, Green, Orange, Pink and Purple.
- Z-Band Splash has waterproof adhesive closure.

CALIBRATION PROCEDURE

The ZD510-HC is equipped with an automatic calibration feature that doesn't waste wristbands.

PRINTING SPECIFICATIONS

- Resolution: 300 dots / inch (dpi) (12 dots / mm)
- Dot size (W x L): 0.0033" x 0.0039" (0.084mm x 0.099mm)
- Minimum print length: 3" (76 mm)
- 3 wristband widths: 0.75", 1.00", and 1.1875" (19.05, 25.4, and 30.16 mm)
- Barcode modulus "X" dimension: 300 dpi = 3.33 mil to 32.67 mil

PHYSICAL SPECIFICATIONS

| Attribute | ZD510-HC |
|-----------|------------------|
| Height* | 7.0" (178 mm) |
| Width | 5.0" (127 mm) |
| Depth | 9.5" (242 mm) |
| Weight | 3.1 lbs (1.4 kg) |

* Requires 6 in. (153mm) above printer to load cartridge

ZPL PROGRAMMING LANGUAGE (ZPL/ZPL II)

- Communicates in printable ASCII characters
- Compatible with mainframe, mini, and PC hosts
- Downloadable objects include graphics and bitmap fonts, wristband templates and formats
- Automatic memory allocation for format while printing
- Automatic serialization of fields
- Format inversion (white on black)
- Mirror-image printing
- Four position field rotation (0°, 90°, 180°, 270°)
- Programmable wristband quantities with print, pause
- Status messages to host upon request

FONT MATRICES: 300 DPI (12 DOTS / MM) PRINTHEADS

| Font | Matrix (in dots) (H x W) | Type† | Minimum Character Size (H x W) | Max CPI |
|------|--------------------------|--------|--------------------------------|---------|
| A | 9 x 5 | U-L-D | 0.035" x 0.020" | 50.5 |
| B | 11 x 7 | U | 0.043" x 0.030" | 33.7 |
| C, D | 18 x 10 | U-L-D | 0.070" x 0.040" | 25.3 |
| E | 41 x 20 | OCR-B | 0.160" x 0.086" | 11.7 |
| F | 26 x 13 | U-L-D | 0.101" x 0.053" | 18.9 |
| G | 60 x 40 | U-L-D | 0.234" x 0.158" | 6.3 |
| H | 30 x 19 | OCR-A | 0.177" x .0092" | 10.8 |
| GS | 24 x 24 | SYMBOL | 0.094" x 0.086" | 11.7 |
| P | 20 x 18 | U-L-D | 0.078" x 0.059" | N / A |
| Q | 28 x 24 | U-L-D | 0.109" x 0.079" | N / A |
| R | 35 x 31 | U-L-D | 0.137" x 0.102" | N / A |
| S | 40 x 35 | U-L-D | 0.156" x 0.116" | N / A |
| T | 48 x 42 | U-L-D | 0.187" x 0.139" | N / A |
| U | 59 x 53 | U-L-D | 0.230" x 0.175" | N / A |
| V | 80 x 71 | U-L-D | 0.312" x 0.234" | N / A |
| Ø | 15 x 12 | U-L-D | Scalable (Smooth) Font | |

† U = Uppercase L = Lowercase D = Descenders

- Character Fonts: Standard bitmapped Zebra fonts: A, B, C, D, E (OCR-B), F, G, H, (OCR-A), GS, P, Q, R, S, T, U, V and Ø Smooth font (CG Triumvirate™ Bold Condensed).
- Supports user defined fonts and graphics — including custom logos
- Bitmap fonts are expandable up to 10 times, height and width independent. Fonts E and H (OCR-B and OCR-A), however, are not considered in spec when expanded.
- Smooth scalable font Ø (CG Triumvirate™ Bold Condensed) is expandable dot-by-dot, height and width independent, while maintaining edges to a maximum 1500 x 1500 dots.

ZPL BARCODE SYMBOLOGIES

- Barcode Ratios: 2:1 (non-rotated) and 3:1
- Linear Barcodes: Code 11, Code 39, Code 93, Code 128, UPC-A, UPC-E, EAN-8, EAN-13, EAN-14, UPC-A and UPC-E with EAN 2 or 5 digit extensions, Plessey, POSTNET, Standard 2 of 5, Industrial 2 of 5, Interleaved 2 of 5, LOGMARS, MSI, Codabar, and GS1 DataBar™ (formerly RSS)
- 2D Barcodes: PDF417, MicroPDF-417, Code 49, Maxicode, Codablock, Data Matrix, QR code, and Aztec

ELECTRICAL SPECIFICATIONS

Universal power supply (PFC Compliant)
100-240VAC, 50-60Hz (70 Watts) External
Power Supply

AGENCY APPROVALS

- Emissions: FCC Part 15, Subpart B, VCCI, RCM
- Emissions & Susceptibility – (CE): EN 55032:2012 class B & EN 55024:2010, EN 61000-3-2, EN 61000-3-3, CISPR 32:2015
- Safety: CB Scheme IEC 60950-1 & IEC 62368-1, TUV NRTL
- Power Supply: IEC 60601-1:2012

ZD510-HC ENVIRONMENTAL SPECIFICATIONS

- Operating Temperature: 32 to 104 (0 to 40 C) for operating temperature
- Storage Temperature: -40° to 140°F (-40° to 60°C)
- Operating Humidity: 20% to 85% non-condensing R.H.
- Storage Humidity: 5% to 85% non-condensing R.H.

WRISTBAND CARTRIDGE ENVIRONMENTAL SPECIFICATIONS

- Service Temperature: -40° to 140° F (-40° to 60° C)
- Storage Temperature: 32° to 70° F (0° to 21° C) at 35% to 50% RH

PREVENTATIVE MAINTENANCE

Zebra recommends cleaning the printer on a regular basis using standard Zebra printer parts and cleaning supplies. Consult your User Guide for further details.

Disinfectants / Cleaning Solutions

Please consult the Guide to Cleaning and Disinfecting Zebra Healthcare Printers on Zebra.com for a full list of approved cleaning and disinfecting agents.

For more information, visit www.zebra.com/zd510hc



NA and Corporate Headquarters
+1 800 423 0442
inquiry4@zebra.com

Asia-Pacific Headquarters
+65 6858 0722
contact.apac@zebra.com

EMEA Headquarters
zebra.com/locations
contact.emea@zebra.com

Latin America Headquarters
+1 847 955 2283
la.contactme@zebra.com