ZEBRA® ZD500™ PRINTER SPECIFICATIONS

Specifications are provided for reference and are based on printer tests using Genuine Zebra™ supplies. Results may vary in actual application settings or when using other than recommended Zebra supplies. Zebra recommends always qualifying any application with thorough testing.

Standard Features

Printer Features
- Thermal transfer or direct thermal print methods
- ZPL® programming language
- Dual-wall frame construction
- Tool-less printhead and platen replacement
- OpenACCESS™ for easy media loading
- Quick and easy ribbon loading
- Simplified calibration of media
- Quad connectivity: USB, Parallel, Serial, and Ethernet
- 128 MB Std SDRAM memory (4 MB available to user)
- 256 MB Std Flash memory (56 MB available to user)
- Real-time clock
- LCD user interface
- Zebra E3™ Printhead Energy Control
- ENERGY STAR® qualified
- Link-OS® -enabled
- Print Touch™ app
- Unicode compliant for multi-language printing
- 16 resident expandable ZPL II® bitmap fonts
- Two resident scalable ZPL fonts
- Auto-switching 100-240V power supply
- Multi-position gap and moveable black-line media sensors
- Head-up sensor
- Standard tear-off mode feature
- Programmable print speeds of 2, 3, 4, 5 & 6 ips (51, 76, 102, 127 & 152 mm/s)
- 3" media core adaptor
- Zebra printer driver for Windows®

Firmware
- ZPL II – Universal language for Zebra printers. Simplifies label formatting and enables format compatibility with existing systems that run Zebra printers.
- XML-enabled Printing — allows XML communications for barcode label printing capability.
- Web View – Connect and control Zebra bar code 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.

Optional Features
- 300 dpi print resolution (12 dots/mm)
- Wireless – 802.11 a/b/g/n and Bluetooth® 3.0
- UHF RFID printer/encoder (factory installed)
- Dispenser (peeler) – Label peel and present with present sensor
- Cutter:
  - Continuous paper, linered label and tag stock
  - Maximum thickness 0.010" (0.254 mm)
- Font Packs – Asian and other international font kits
- Power Cord – US, Europe, UK, Australia, Japan and Taiwan
- ZBI 2.0™ – Field installed via activation key

Accessories
- ZKDU™ – Keyboard display unit for ZPL and EPL™
- KDU Plus™ – Full-size keyboard with LCD for stand-alone printing applications
**Link-OS Solutions**

**Software Tools**
- Document Design: Quickly design a customized print solution using your business data and Zebra’s intuitive, plug-and-print design tools
- Printer Integration: Zebra offers apps and products designed to help you integrate Zebra devices into your existing systems
- Printer Management: Manage your print operations locally and globally with Zebra’s suite of device management tools
- Developer Tools: Provides you with the tools you need to create your own apps, including documentation, source code, programming languages, templates and more
- Zebra Setup Utility: Single printer configuration utility
- Zebra Universal Driver: The most powerful driver available from Zebra for Windows 95/98/2000/2003/ME/NT/XP

**Communication and Interface Capabilities**
- RS-232 auto-sensing Serial interface, DB-9
- USB V2.0, bi-directional
- Centronics® Parallel 36 pin
- Ethernet – 10/100 internal
- Wireless – 802.11 a/b/g/n and Bluetooth 3.0

**Printing Specifications**

<table>
<thead>
<tr>
<th>Resolution</th>
<th>203 dots/inch (dpi) (8 dots/mm)</th>
<th>300 dots/inch (dpi) (12 dots/mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed inch/sec - ips (mm/sec)</td>
<td>Programmable 2, 3, 4, 5 with 6 max. (51, 76, 102, 127 with max.152)</td>
<td>Programmable 2, 3 with 4 max. (51, 76, with max 102)</td>
</tr>
<tr>
<td>Dot pitch</td>
<td>0.0049” (0.13 mm)</td>
<td>0.0033” (0.08 mm)</td>
</tr>
<tr>
<td>Max. print length</td>
<td>39.0” (991 mm)</td>
<td>39.0” (991 mm)</td>
</tr>
<tr>
<td>Min. print length</td>
<td>One dot</td>
<td>One dot</td>
</tr>
<tr>
<td>Max. print width</td>
<td>4.09” (104 mm)</td>
<td>4.09” (104 mm)</td>
</tr>
<tr>
<td>Min. print width</td>
<td>One dot</td>
<td>One dot</td>
</tr>
<tr>
<td>Barcode modulus “X” Dimension</td>
<td>5 mil to 50 mil</td>
<td>3.27 mil to 32.67 mil</td>
</tr>
</tbody>
</table>

**Ribbon Specifications (Thermal Transfer Units)**

**NOTE:** For optimum print quality and printer performance, use of Genuine Zebra ribbon is recommended as well as a notched ribbon core
- Ribbon Width: 1.33” (33.8 mm) to 4.3” (109 mm)
- Ribbon Capacity: 1 roll of ribbon per 1 roll of 5” OD media
- Core ID: 0.5” (12.7 mm)
- Ribbon OD: 1.36” (35 mm)
- Ribbon Length: 244’ (74 m) using 0.000328” ribbon thickness
- Ribbon Type: wax, wax/resin and resin

**Media Specifications**

**NOTE:** For optimum print quality and printer performance, use of Genuine Zebra supplies is recommended.
- Media Width: 0.75” (19 mm) - 4.25” (108 mm)
- Label Length:
  - Minimum using tear-off mode: .25” (6.3 mm)
  - Minimum with label present sensor used - 0.50” (12.7 mm)
  - Minimum with cutter - 1.0” (25.4 mm)
- Core Inner Diameter: 0.5”/12.7 mm, 1.0”/25 mm, 1.375”/35 mm, 1.5”/37.1 mm, 3”/76 mm
- Maximum Roll Diameter: 5.00” (127 mm)
- Media Thickness: 0.003” (0.08 mm) - 0.012” (0.305 mm)
- Media Sensing: fixed reflective and multi-position transmissive gap, moveable black line and notch
- Media Types: Roll-fed or fan-fold, die-cut or continuous direct thermal labels with or without black mark, tag stock, continuous receipt paper and wristbands
- Dispenser peeler may not work with all media types and should be tested for media compatibility.

**Calibration Procedure**

- A manual calibration procedure can also be performed, if required. Consult your “User’s Guide” for more details on the specific manual calibration steps.
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, label 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°)
• Slew command
• Programmable label quantities with print, pause
• Status messages to host upon request

ZPL Font Specifications
203 dpi (8 dots/mm)

<table>
<thead>
<tr>
<th>Font</th>
<th>Matrix (in dots) (H x W)</th>
<th>Type*</th>
<th>Minimum Char. Size (H x W)</th>
<th>Maximum C.P.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>9 x 5</td>
<td>U-L-D</td>
<td>.044&quot; x .030&quot;</td>
<td>33.3</td>
</tr>
<tr>
<td>B</td>
<td>11 x 7</td>
<td>U</td>
<td>.054&quot; x .044&quot;</td>
<td>22.7</td>
</tr>
<tr>
<td>C</td>
<td>18 x 10</td>
<td>U-L-D</td>
<td>.089&quot; x .059&quot;</td>
<td>16.9</td>
</tr>
<tr>
<td>D</td>
<td>28 x 15</td>
<td>OCR-B</td>
<td>.138&quot; x .098&quot;</td>
<td>10.2</td>
</tr>
<tr>
<td>E</td>
<td>26 x 13</td>
<td>U-L-D</td>
<td>.128&quot; x .079&quot;</td>
<td>12.7</td>
</tr>
<tr>
<td>F</td>
<td>60 x 40</td>
<td>U-L-D</td>
<td>.295&quot; x .236&quot;</td>
<td>4.2</td>
</tr>
<tr>
<td>G</td>
<td>21 x 13</td>
<td>OCR-A</td>
<td>.103&quot; x .093&quot;</td>
<td>10.8</td>
</tr>
<tr>
<td>H</td>
<td>24 x 24</td>
<td>SYMBOL</td>
<td>.118&quot; x .118&quot;</td>
<td>8.5</td>
</tr>
<tr>
<td>P-V</td>
<td>15 x 12</td>
<td>U-L-D</td>
<td>Backward compatible w/ S-300 Scalable (Smooth) Font</td>
<td></td>
</tr>
</tbody>
</table>

ZPL Font Specifications
300 dpi (12 dots/mm)

<table>
<thead>
<tr>
<th>Font</th>
<th>Matrix (in dots) (H x W)</th>
<th>Type*</th>
<th>Minimum Char. Size (H x W)</th>
<th>Maximum C.P.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>9 x 5</td>
<td>U-L-D</td>
<td>.030&quot; x .020&quot;</td>
<td>50.8</td>
</tr>
<tr>
<td>B</td>
<td>11 x 7</td>
<td>U</td>
<td>.037&quot; x .030&quot;</td>
<td>33.8</td>
</tr>
<tr>
<td>C</td>
<td>18 x 10</td>
<td>U-L-D</td>
<td>.060&quot; x .040&quot;</td>
<td>25.4</td>
</tr>
<tr>
<td>D</td>
<td>41 x 20</td>
<td>OCR-B</td>
<td>.138&quot; x .085&quot;</td>
<td>11.5</td>
</tr>
<tr>
<td>E</td>
<td>26 x 13</td>
<td>U-L-D</td>
<td>.085&quot; x .053&quot;</td>
<td>19.06</td>
</tr>
<tr>
<td>F</td>
<td>60 x 40</td>
<td>U-L-D</td>
<td>.200&quot; x .160&quot;</td>
<td>6.36</td>
</tr>
<tr>
<td>G</td>
<td>30 x 19</td>
<td>OCR-A</td>
<td>.100&quot; x .098&quot;</td>
<td>10.02</td>
</tr>
<tr>
<td>H</td>
<td>24 x 24</td>
<td>SYMBOL</td>
<td>.80&quot; x .80&quot;</td>
<td>12.7</td>
</tr>
<tr>
<td>P-V</td>
<td>15 x 12</td>
<td>U-L-D</td>
<td>Scalable (Smooth) Font</td>
<td></td>
</tr>
</tbody>
</table>

*U = upper case, L = lower case, D = descenders

- T, U, V & 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 max. 1500 x 1500 dots
- Swiss 721 font

*Contains UFST® from Agfa Monotype Corporation

ZPL Barcode Symbologies
- Barcode Ratios: 2:1 (non-rotated) and 3:1
- 2-Dimensional: PDF417, MicroPDF417, Code 49, Maxicode, Codablock, Data Matrix, QR code, Aztec

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE
Electrical Specifications
• Auto-detectable (PFC Compliant) 100-240VAC, 50-60Hz, rated at 100 Watts
• ENERGY STAR qualified

Agency Approvals
• Emissions: FCC Part 15, Subpart B, VCCI, C-Tick
• Emissions and Susceptibility: (CE): EN55022
• Class-B, EN61000-3-2, EN61000-3-0 and EN55024, CCC, Wi-Fi®-certified

Environmental Specifications
• Operating Temperature: 40° to 105°F (4.4° to 41°C)
• Storage Temperature: -40° to 140°F (-40° to 60°C)
• Operating Humidity: 10% to 90% non-condensing R.H.
• Storage Humidity: 5% to 95% non-condensing R.H.

Preventative Maintenance
• Zebra recommends cleaning the printer on a regular basis using standard Zebra printer parts and cleaning supplies. Consult your “User’s Guide” for further details.

Physical Specifications (no options installed)

<table>
<thead>
<tr>
<th></th>
<th>ZD500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>7.5” (191 mm)</td>
</tr>
<tr>
<td>Width</td>
<td>7.6” (193 mm)</td>
</tr>
<tr>
<td>Depth</td>
<td>10.0” (254 mm)</td>
</tr>
<tr>
<td>Weight</td>
<td>4.6 lbs (2.1 kg)</td>
</tr>
</tbody>
</table>