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
- ZebraDesigner™ Driver: Zebra driver compliant with Windows 95/98/2000/2003/ME/NT/XP, and Vista™ (downloadable from **www.Zebra.com**)

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

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

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 multiposition 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 (0º, 90º, 180º, 270º)
- Slew command
- Programmable label quantities with print, pause
- Status messages to host upon request

ZPL Font Specifications
203 dpi (8 dots/mm)

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

ZPL Font Specifications
300 dpi (12 dots/mm)

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

U = upper case, L = lower case, 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 & 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
- 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)
- 2-Dimensional: PDF417, MicroPDF417, Code 49, Maxicode, Codablock, Data Matrix, QR code, Aztec

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
- Safety: IEC 60950-1:2005 + A1:2009, EN 60950-1:2006 + A11:2009 + A12:2011 + A1:2010 +AC:2011, UL 60950-1:2007 R12.11, CAN/CSA-C22.2 No. 60950-1-07 + A1:2011 and TUV NRTL

Physical Specifications (*no options installed*)

	ZD500
Height	7.5" (191 mm)
Width	7.6" (193 mm)
Depth	10.0" (254 mm)
Weight	4.6 lbs (2.1 kg)

Environmental Specifications

- Operating Temperature: 40º to 105ºF (4.4º to 41ºC)
- Storage Temperature: -40º to 140ºF (-40º to 60ºC)
- 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.

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