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ZEBRA TLP 3844-Z™ PRINTER SPECIFICATIONS

Specifications are provided for reference and are based on printer tests using Zebra brand ribbons and labels. 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

- OpenACCESS™ design for easy media loading
- 300 dpi print resolution (12 dots/mm)
- Thermal transfer (TLP) printing of bar codes, text, and graphics
- Fully enclosed 5.0" (127mm) media compartment
- Double-walled ABS case construction
- ZPL® or ZPL II® programming language, software selectable
- 32 bit RISC processor
- 8MB Standard SDRAM Memory (4MB available to user)
- 4MB Standard Flash Memory (2.75 available to user)
- Zebra E³ Printhead Energy Control
- Triple communications interface: RS-232 Serial, Bi-directional Centronics® parallel (36 Pin) & USB v. 1.1
- Auto-Calibration
- Scalable fonts
- Auto-switching 120V and 240V power supply
- 2D Symbologies
- Transmissive and reflective media sensing
- Head-up sensor
- Programmable print speeds of 2,3 and 4 inches/second (ips)
- ZebraLink™ - real-time connectivity control solution:
 - ⇒ *WebView / Alert* – (requires optional ZebraNet® PrintServer II)
 - ⇒ *ZBI™* - Programming Language Interpreter for translation of foreign data streams

Optional Features

- **8MB Flash Memory w/ Real Time Clock** – for a total of 12MB (10.75 available to user) for applications requiring additional levels of memory and time and date information for applications that require date or freshness coding.
- **Dispenser** – Label peel and present with label taken sensor.
- **ZebraNet™ Print Server II** – (internal or external via parallel connection) enables network print capability.
- **Cutter**
- **Rewinder**
- **Font Packs**

Software

- **ZPL and ZPL II Zebra Programming Language®** – The 3844-Z printer comes equipped with ZPLII – the universal language of Zebra printers – ensures easy integration into existing systems that run Zebra printers – without the need for additional software.
- **Flash Upgradeable Firmware** – flash memory can be easily upgraded via parallel port download from a computer.
- **BAR-ONE® software** - Windows™-based “WYSIWYG” on-screen label design and print application software.

Printing Specifications

- Resolution: 300 dots/inch (dpi) (12 dots/mm)
- Dot Pitch: 0.0049" (0.125 mm)
- Maximum print length: 39.0" (990 mm) w/Std memory
- Minimum print length: 0.005" (0.125 mm – one dot)
- Maximum print width: 4.09" (104 mm)
- Minimum print width: 0.005" (0.125 mm – one dot)
- Programmable print speed: 2,3 and 4 ips (51,76 and 102 mm/s)

Ribbon Specifications

NOTE: For optimum print quality and printer performance, use of Zebra genuine ribbon is recommended as well as a notched ribbon core.

- Ribbon Width: 1.30 inches (33 mm) to 4.30 inches (110 mm).
- Ribbon Capacity: The capacity of the ribbon roll is to be sufficient enough to completely print one roll of media. (1 roll of 5"OD media is the full ribbon capacity)
- Core ID: 0.5" (12.7 mm).
- Ribbon OD: 1.36" (33 mm).
- Ribbon Length: 244' (74m) using 0.000328" ribbon thickness
- Ribbon Type: Wax, wax/resin and resin.

Media Specifications

NOTE: For optimum print quality and printer performance, use of Zebra genuine supplies is recommended.

- Media Width - 1.00" (25.4 mm) – 4.25" (108 mm)
- Label Length:
 - Minimum - 0.38" (9.7 mm)
 - Minimum with label taken sensor used - 0.50" (12.7 mm)
 - Maximum with standard memory - 39.00" (990 mm)
- Core Inner Diameter: 1.00" (25.4 mm), 1.5" (38 mm)
- Max Roll Diameter: 5.00" (127 mm)
- Media Thickness: 0.003" (0.075 mm) - 0.007" (0.18 mm)
- Media Sensing: gap, black line, notch
- Media Types - Roll-fed or fan-fold, die cut or continuous direct thermal labels with or without black mark, tag stock

Calibration Procedure

- The 3844-Z is equipped with a standard auto-calibration feature that initiates automatically during start-up of the printer - utilizing two to four labels to calibrate for efficient operation and less waste. The printer will also save the new settings in memory until the next calibration is performed.
- A manual calibration procedure can also be performed, if required. Consult your User's Guide for more details on the specific manual calibration steps.

Font Specifications 300 dpi (12 dots/mm)

Fonts	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		
Ø	15 x 12	U-L-D	Scalable (Smooth) Font	

- 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).
- Character Sets: IBM® Code Page 850 International characters & graphic symbols
- 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.
- IBM® Code Page 850 International Characters available in fonts A,B,D,E,F,G and Ø through software control.

Bar Code Symbolologies & Specifications

- Bar code ratios: 2:1 (non-rotated) and 3:1
- Linear bar codes: 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, RSS-14.
- 2-dimensional bar codes: PDF417, MicroPDF-417, Code 49, Maxicode, Codablock, Datamatrix, QR code, RSS Composite

Zebra 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
- ZBI™ (Zebra BASIC Interpreter) on 3844-Z:
 - ⇒ Interpreting program module that sits between the communication ports and the ZPLII processing engine
 - ⇒ Can be used to convert non-ZPL printer programming language to ZPL commands
 - ⇒ Based on ANSI BASIC computer language

Communications Specifications

- Centronics® Parallel (36 Pin) connector ports
- RS-232 Serial interface
- USB v 1.1
- Optional internal Ethernet (ZebraNet PrintServer II)

Electrical Specifications

- Auto-detectable (PFC Compliant) 100-240VAC, 50-60Hz

Agency approvals

- Emissions:** FCC Part 15, Subpart B, VCCI, C-Tick
- Emissions and Susceptibility:** (CE): EN55022 Class-B, EN61000-3-2, EN61000-3-3 and EN55024
- Safety:** CB Scheme IEC 60950:1991 +A1 +A2 +A3 +A4, UL 60950 and C-UL, IRAM, NOM, AAMI

Physical Specifications

(Printer only, no options installed)

TLP 3844-Z	
Height	6.8" (173 mm)
Width:	7.8" (198 mm)
Depth:	9.4" (238 mm)
Weight:	3.7lbs (1.7kg)

Environmental Specifications

- Operating Temperature: 40° to 105°F (5° 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.