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Direct Thermal (d)



Thermal Transfer (t)

ZEBRA GC420 d/t 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

- 32 bit RISC processor
- ZPL II[®] programming language
- EPL2[®] programming language
- Triple connectivity Serial, USB and Parallel
- 4 ips maximum print speed
- 203 dpi print resolution (8 dots/mm)
- 4.09" print width
- Direct Thermal (d) and Thermal Transfer (t) printing of bar codes, text and graphics
- 8MB of flash memory
- 8MB SDRAM – enables printing of up to 39" long labels
- OpenACCESS[™] design for easy media loading
- Head-up sensor
- Reflective and transmissive media sensing
- Metal tear edge
- 5" outside diameter media capability
- Fan-fold media feed slot
- 5 resident expandable bitmap fonts (USA, European)
- Multiple DOS and Windows[®] codepage support
- Windows drivers
- Printer utilities
- Linear & 2-D bar code symbologies

Accessories

- **KDU** – Keyboard Display Unit provides a data-entry terminal for stand alone applications
- **KDU Plus** - Full size keyboard with LCD for stand alone printing applications

ZebraLink Solutions

Software

ZebraDesigner Pro – An intuitive, easy-to-use software program for creating complex label designs (option).

ZebraDesigner – Offers basic features for simple label design (unlicensed product free, licensed product option)

ZebraNet Bridge Enterprise – printer management software (unlicensed product free, licensed product option)

ZebraNet Utilities v 7.0 – Provides enhanced printing, conversion, and administration capabilities; message management; and more.

Zebra Universal Driver – The most powerful driver available from Zebra.

Firmware

EPL2[®] – Eltron Programming Language simplifies label formatting and enables format compatibility with legacy applications

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

Printing Specifications

Resolution: 203 dots/inch (dpi) (8 dots/mm)

- Dot Pitch: 0.0049" (0.125mm)
- Maximum print length: 39.0" (991mm)
- Minimum print length: 0.005" (0.125mm – one dot)
 - Maximum print width: 4.09" (104mm)
 - Minimum print width: 0.005" (0.125mm – one dot)
- Programmable print speed: 2, 3, 4 ips (51, 76 and 102mm/s)
- Bar code modulus "X" dimension: 5mil to 50 mil

Media Specifications

- Media Width: 1.00 - 4.25" (25.4 - 108 mm)
- Label Length:
 - Minimum – 0.38" (9.6 mm)
 - Maximum with standard memory – 39" (990 mm)
- Core Diameter – 1.00 - 1.5" (25.4 - 38 mm)
- Max Roll Diameter – 5.00" (127 mm)
- Media Thickness – 0.003 - 0.007" (0.08 - 0.18 mm)
- Media Sensing – gap, black line, notch
- Media Type:
 - Roll-fed or fan-fold
 - Label stock (die cut or continuous, direct thermal or thermal transfer)
 - Tag stock (die cut or continuous, direct thermal or thermal transfer)
 - Receipt paper (continuous, direct thermal)
 - Wristband stock (direct thermal or thermal transfer)

Ribbons/Ribbon System (GC420t)

- Ribbon Width: 1.33 - 4.3" (33.8 - 110 mm)
- Ribbon Capacity: 1 roll ribbon per roll media
- Ribbon OD: 1.34" (34 mm)
- Core ID: 0.5" (12.7 mm)
- Ribbon Length: 244' (74 M) using 0.000328" ribbon thickness
- Ribbon Type: wax, wax/resin, and resin
- Detection: Ribbon out sensor wheel. Detects when wheel is moving and senses when ribbon is out

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)

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

* 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.

ZPL Bar Code Symbologies

- **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, and GS1 DataBar™ (formerly RSS)
- **2-dimensional bar codes:** PDF417, MicroPDF-417, Code 49, Maxicode, Codablock, Data Matrix, QR code, and Aztec

EPL Programming Language (EPL2)

- ASCII EPL2 programming language (Page Mode)
- Field Rotations
- Variable field support (up to 100)
- Counter support (up to 10)
- Variable field addition and subtraction
- Status reporting
- Form, fonts, and graphics storage
- Simple set of formatting commands
- Support of selected bar codes

Font Specifications

Standard bitmap font set

Type	Width	Height	Sp	CPI	Chars
Font1	8	12	2	20.3	160
Font2	10	16	2	16.9	160
Font3	12	20	2	4.5	160
Font4	14	24	2	12.7	160
Font5	32	48	4	5.6	80

Bar Codes

- **Linear bar codes:** Code 39, Code 128A, B & C (User selectable/Auto), UCC/EAN-128, Code 93, Codabar, Interleaved 2 of 5, UPC-A, UPC-E, UPC-A with 2 and 5 add on, UPC-E with 2 and 5 add on, EAN 13, EAN 8, EAN 13 with 2 and 5 add on, EAN 8 with 2 and 5 add on, Postnet (5, 9, 11, & 13 digit) Japanese Postnet, Plessey (MSI-1), MSI-3, German Post Code, RSS-14 (limited, truncated, stacked)
- **2-dimensional bar codes:** Maxicode (modes 2,3,4,6), PDF417 (MicroPDF417 and MacroPDF417), Data Matrix

Code pages supported:

- DOS: 437, 850, 851, 852, 855, 857, 860, 861, 862, 863, 865, 866, 869, 737, Big 5, GB2312, GB18030
- Windows: 1250, 1251, 1252, 1253, 1254, 1255, 1256, and 1257

Interface/Connectivity Types

- Serial- RS232:
 - Software selectable
 - baud rate (default 9600)
 - parity (default none)
 - data length (default 8)
 - stop bit (default 1)
 - Flow control – hardware and software
 - Connector: DB-9 Type: 9 pin D Sub connector female (standard)
 - Includes +5 VDC- 160 mA power output capability
- Parallel:
 - Centronics
 - Connector: 36 Pin
 - Includes +5VDC –300mA power output capability
- USB:
 - Version 1.1, bi-directional
 - Supported in Win98 and Win98SE, Win Me and Windows 2000 platforms
 - Connector – Type B Female

Electrical Specifications

- Auto-ranging external power supply with C7 type connector
- Output: 20 VDC, 2.5A
- Input: 100-240 VAC, 50-60 Hz

Agency Approvals: TUV-R NRTL, TUV-R CB, NOM, KCC, CE, FCC Class-B

Physical Specifications

	GC420d	GC420t
Height:	6.7" (170 mm)	6.8" (173 mm)
Width:	7.9" (201 mm)	7.9" (201 mm)
Depth:	8.2" (208 mm)	9.4" (239 mm)
Weight:	3lbs (1.4 kg)	3.2lbs (1.5 kg)

Operating Environment

- Operating Temperature: 40°F to 105°F; (5°C to 41°C)
- Storage Temperature: -40°F to 140°F; (-40°C to 60°C)
- Operating Humidity: 10% to 90% non-condensing
- Storage Humidity: 5% to 95% non-condensing

Preventative Maintenance: Zebra recommends cleaning the printer on a regular basis using standard Zebra cleaning supplies. Refer to the User's Guide for more details.

Cleaning: The exterior is cleaned with a lint-free cloth, and if necessary, a mild detergent solution or desktop cleaner can be used. Interior components (printhead, platen, media path, and dispenser bar) are cleaned with alcohol or blown air.

Media Registration: Media registration and minimum label length are affected by media type, width, and print speed. Performance improves as these factors are optimized. Zebra recommends always qualifying any application with prior testing.