ZEBRA® GK420D™ & GK420T™ PRINTER SPECIFICATIONS

Specifications are provided for reference and are based on printer tests using Genuine Zebra™ supplies and accessories. 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

- Maximum speed 5 ips (127 mm/sec)
- OpenACCESS™ design for easy media loading
- 203 dpi print resolution (8 dots/mm)
- Direct thermal (d) and Thermal transfer (t) printing of bar codes, text, and graphics
- Fully-enclosed 5.0" (127 mm) media compartment
- Dual-wall frame construction
- ZPL II® programming language
- EPL2 page mode programming language
- EPL Line Mode support (GK420d)
- 32 bit RISC processor
- 8 MB Standard SDRAM memory (3 MB available to user)
- 4 MB Standard Flash memory (1.5 MB available to user)
- Zebra E³™ Printhead Energy Control
- Triple communications interface: Serial, USB & Parallel
- User interface feed button (ZPL® style)
- Odometer for print length tracking
- Unicode™ compliant for multi-language printing
- Auto-calibration of media
- 16 resident expandable bitmap fonts (ZPL language)
- One resident scalable font (ZPL language)
- 5 resident expandable bitmap fonts (EPL language)
- Auto-switching 100-240V power supply
- IEC 60601-1 Certified (GK420 Healthcare models only)
- Transmissive and reflective media sensing
- Head-up sensor
- Programmable print speed: 2, 3, 4 & 5 ips (51, 76, 102, 127 mm/sec)
- Standard tear-off mode feature
- Zebra printer driver for Windows®
- ENERGY STAR® 2.0 qualified

Optional Features

- **Dispenser (peeler)** – Label peel and present with label present sensor (not available on GK420 Healthcare)
- **Ethernet -** 10/100 internal offered in combination with USB interface (replaces Serial and Parallel ports)
- **Font Packs** – Asian and other international font kits
- **Power Cord** – US, Europe, UK, Australia, Argentina, Japan, and China
- **ZBI 2.0™** – Field installed via activation key

Accessories

- **ZKDU™ and KDU Plus™** – keyboard display units for stand-alone printing solutions

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 (standard)
- **ZebraNet™ Bridge Enterprise** – Centrally manage Zebra printers anywhere on your global network from a single PC screen (option)
- **ZebraNet Utilities v 7.0** – Provides printer administration, management, alerting capabilities and more for Windows® 95/98/2000/2003/ME/NT/XP (standard)
- **ZebraDesigner™ Windows Driver** – Microsoft certified for Windows Vista®, Windows 7, Windows 8 Windows 8.1, Windows 2008, and Windows 2012 (downloadable from www.Zebra.com)

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

- **ZBI 2.0** – Powerful programming language that lets printers run standalone applications, connect to peripherals, and much more (option)
- **ZBI-Developer** – Programming environment for developers to simplify creation, testing and distribution to printers of complex ZBI 2.0 programs (standard with ZBI 2.0)
- **POS Driver** – Supports integration with Windows-based point-of-sale applications.

Networking Options

Ethernet - 10/100 internal - Offered in combination with USB & Serial interface (replaces Serial and Parallel ports)

Firmware

- **EPL2** – Eltron Programming Language simplifies label formatting and enables format compatibility with legacy applications
- **EPL** – Line Mode support (GK420d) enables format compatibility with legacy applications
- **ZPL II** – Zebra Programming Language Provides sophisticated label formatting and printer control. Compatible with tabletop and mobile Zebra printers.
- **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

Printing Specifications

Parameter	203 dpi (8 dots/mm)
Dot pitch	0.0049" (0.125 mm)
Maximum print length	39.0" (991 mm)
Minimum print length	0.005" (0.127 mm – one dot)
Print length in line mode	Unlimited (GK420d)
Maximum print width	4.09" (104 mm)
Minimum print width	0.005" (0.127 mm – one dot)
Programmable print speed	2, 3, 4 & 5 ips (51, 76, 102, 127 mm/sec)
Bar code modulus "X" dimension	203 dpi = 5 mil to 50 mil

Media Specifications

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

- Media Width: 0.75" (19 mm) – 4.25" (108 mm)
- Label Length:
  - Using tear off mode:

Minimum Length	Model	Printing Mode
0.38" (9.7 mm)	GK420d	Direct thermal
0.38" (9.7 mm)	GK420t	Thermal transfer
0.5" (12.7 mm)	GK420t	Direct thermal

  - Minimum using dispenser - 0.50" (12.7 mm)
  - Maximum - 39.00" (990 mm)
- Core Inner Diameter: 0.5" (12.7 mm), 1.0" (25.4 mm), 1.5" (37.1 mm)
- Max Roll Diameter: 5.00" (127 mm)
- Media Thickness: 0.003" (0.08 mm) - 0.0075" (0.19 mm)
- Media Sensing: fixed reflective and transmissive gap, black line, and notch
- Media Types: Roll-fed or fan-fold, die cut or continuous direct thermal labels with or without black line, tag stock, continuous receipt paper, and wristbands
- Dispenser peeler (optional) may not work with all media types and should be tested for media compatibility.

Calibration Procedure

- The GK420 is equipped with a standard auto-calibration feature that can be set to initiate 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.

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	
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 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 Barcodes:** 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

EPL Font Specifications
203 dpi (8 dots/mm)

Font	Width (dot)	Height (dot)	CPI
1	8	12	20.3
2	10	16	16.9
3	12	20	4.5
4	14	24	12.7
5	32	48	5.6
8-Simp	32	32	6.3*
8-Trad	32	32	6.3*

* Spacing of Asian characters is controlled via the i command. The formula for CPI is 203 / (32 + i). Thus as i increases, CPI decreases. For example: If i = 2, CPI = 203/34 = 6.0

EPL Barcodes Symbologies

- **Linear barcodes**: 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, and GS1 DataBar (formerly RSS)
- **2-dimensional Barcodes:** Maxicode (modes 2,3,4,6), PDF417, MacroPDF417, QR Code, Data Matrix, and Aztec

Communications Specifications

- Centronics® Parallel (36 Pin) connector ports
- RS-232 auto-sensing, adaptive Serial interface, DB-9
- USB V1.1, bi-directional
- Internal 10/100 Ethernet – optional (replaces Serial and Parallel ports)

Electrical Specifications

- Auto-detectable (PFC Compliant) 100-240VAC, 50-60Hz rated at 70Watts
- ENERGY STAR 2.0 qualified printers
- IEC 60601-1 Certified (GK420 Healthcare models only)

Agency Approvals

G-Series GK420 Models (excluding Healthcare):

- **Emissions**: FCC Part 15, Subpart B (Class B), ICES 003 , VCCI, C-Tick, CQC, EAC, KCC, BSMI, ICES-003
- **Emissions and Susceptibility**: EN55022 (Class B), EN55024, EN61000-3-2, EN61000-3-3
- **Safety**: CB Scheme IEC 60950-1, TUV NRTL, C-Tick, CCC, NOM, EAC, KCC, BSMI, BIS

GK420 Healthcare Models:

- **Emissions**: FCC Part 15, Subpart B (Class B), ICES 003
- **Emissions and Susceptibility**: EN55022 (Class B), EN55024, EN61000-3-2, EN61000-3-3
- **Safety**: CB Scheme IEC 60950-1, TUV NRTL

Warranty :

1 year warranty on Printer and
*6 months conditional warranty on print head

Physical Specifications
(*no options installed*)

	GK420d	GK420t
Height	6.0" (152 mm)	7.5" (191 mm)
Width:	6.75" (171 mm)	7.6" (193 mm)
Depth:	8.25" (210 mm)	10.0" (254 mm)
Weight:	3.0 lbs (1.4 kg)	4.6 lbs (2.1 kg)

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.

Healthcare Features
(Healthcare models only)

- Disinfectant-ready plastics
- Approved cleaning agent ingredients (see separate "Guide to Disinfecting and Cleaning Zebra Healthcare Printers" for more details):
  - Isopropyl and Ethyl alcohol (including wipes)
  - Ammonium
  - Hydrogen peroxide
  - Phosphoric acid
  - Bleach/sodium hypochlorite
  - Mild dish soap
- Medical-grade power supply certified to IEC 60601-1 standards to protect patient and staff safety by reducing the risk of electrical shock
- Enable production of labels that meet the Clinical and Laboratory Standards Institute® (CLSI) harmonization standard
- Certified and recommended by all of the leading Electronic Health Records (EHR) providers