ZEBRA GK420d™ & GK420t™ 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
- Maximum speed 5 ips (127 mm/s)
- 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” (127mm) media compartment
- Dual-wall frame
- ZPL II® programming language
- EPL2® page mode programming language
- EPL Line Mode support (GK420d)
- 32 bit RISC processor
- 8MB Standard SDRAM Memory (3MB available to user)
- 4MB 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
- Transmissive and reflective media sensing
- Head-up sensor
- Programmable print speed: 2, 3, 4 & 5ips (51, 76, 102, 127 mm/s)
- Standard Tear-off mode feature
- Zebra printer driver for Windows

### Optional Features
- **Dispenser (peeler)** – Label peel and present with label present sensor
- **ZebraNet™ 10/100 Print Server** - enables Ethernet 10/100 network communication and printing
  - **Internal** option is accompanied by USB (replaces serial and parallel port)
  - **External** option requires Centronics parallel port
- **Font Packs** – Asian and other international font kits
- **Power cord** – US, Europe, UK, Australia, Argentina, Japan, and China
- **ZBI 2.0** – Factory or field installed

### Accessories
- **KDU Plus**– full size keyboard with LCD for stand alone printing applications
- **KDU**– keyboard display unit for stand-alone printing applications where space is limited

### 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 from a single PC screen anywhere on your global network (option)
- **ZebraNet Utilities v 7.0** – Provides enhanced printing, conversion, and administration capabilities; message management and more (standard)
- **Zebra Setup Utilities** – wizard based one-stop installation and setup software (downloadable from [www.Zebra.com](http://www.Zebra.com))
- **ZBI-Developer** – Programming utility makes it dramatically easier for programmers to create and test complex ZBI 2.0 programs and distribute them to the printer (standard with ZBI 2.0)
- **POS driver** – UPOS compliant driver based upon UPOS v1.11 specification. Support for both .net v1.1 and Active-X. Drivers and programming guide (downloadable from [www.zebra.com](http://www.zebra.com))

### Networking
- **Web View** – Connect and control Zebra bar code printers via the printer’s Web interface using a common Web browser (ZPL mode)
- **Alert** – Printers equipped with ZebraNet print servers will notify you via any email-enabled, wired, or wireless device to minimize downtime (ZPL mode)

### 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.)
- **XML** – XML-enabled printing
- **ZBI 2.0** – Powerful programming language that lets printers run standalone applications, connect to peripherals, and much more (option)
NOTE: Ribbon Specifications (thermal transfer units)

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" (0.127mm – one dot)
- Print length in line mode: Unlimited (GK420d)
- Maximum print width: 4.09" (104mm)
- Minimum print width: 0.005" (0.127mm – one dot)
- Programmable print speed: 2, 3, 4 & 5ips
  (51, 76, 102, 127 mm/s)
- Bar code modulus “X” dimension: 203 dpi = 5mil to 50mil

Ribbon Specifications (thermal transfer units)

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

- Ribbon Width: 1.33" (33.8mm) to 4.3" (109mm).
- 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' (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: 0.75" (19mm) – 4.25" (108mm)
- Label Length:
  - Using tear off mode:
    - Minimum using dispenser -0.50"(12.7 mm)
    - Maximum - 39.00" (990mm)
  - Min Core Inner Diameter: 0.5" (12.7mm)
  - Max Roll Diameter: 5.00" (127mm)
  - Media Thickness: 0.003" (0.08mm) - 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

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 Font Specifications

203 dpi (8 dots/mm)

<table>
<thead>
<tr>
<th>Font</th>
<th>Matrix (in dots)</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,D</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>E</td>
<td>28 x 15</td>
<td>OCR-B</td>
<td>.138&quot; x .098&quot;</td>
<td>10.2</td>
</tr>
<tr>
<td>F</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>G</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>H</td>
<td>21 x 13</td>
<td>OCR-A</td>
<td>.103&quot; x .093&quot;</td>
<td>10.8</td>
</tr>
<tr>
<td>GS</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></td>
<td>U-L-D</td>
<td>Backward compatible w/ S-300</td>
<td></td>
</tr>
<tr>
<td>Ø</td>
<td>15 x 12</td>
<td>U-L-D</td>
<td>Scalable (Smooth)</td>
<td></td>
</tr>
</tbody>
</table>

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

ZPL Barcode Symbologies

- 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 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
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)

<table>
<thead>
<tr>
<th>Font</th>
<th>Width (dot)</th>
<th>Height (dot)</th>
<th>CPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>12</td>
<td>20.3</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>16</td>
<td>16.9</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>20</td>
<td>4.5</td>
</tr>
<tr>
<td>4</td>
<td>14</td>
<td>24</td>
<td>12.7</td>
</tr>
<tr>
<td>5</td>
<td>32</td>
<td>48</td>
<td>5.6</td>
</tr>
<tr>
<td>8-Simp</td>
<td>32</td>
<td>32</td>
<td>6.3*</td>
</tr>
<tr>
<td>8-Trad</td>
<td>32</td>
<td>32</td>
<td>6.3*</td>
</tr>
</tbody>
</table>

* 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 Bar Codes Symbologies
- **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 9, 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 bar codes**: Maxicode (modes 2,3,4,6), PDF417, MacroPDF417, QR Code, Data Matrix, and Aztec

Communications Specifications
- RS-232 Serial interface, DB-9 (Auto-sensing port)
- USB V1.1, bi-directional
- Centronics parallel, 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

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, and CCC

Physical Specifications *(no options installed)*

<table>
<thead>
<tr>
<th>GK420d</th>
<th>GK420t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>6.0” (152mm)</td>
</tr>
<tr>
<td>Width</td>
<td>6.75” (171mm)</td>
</tr>
<tr>
<td>Depth</td>
<td>8.25” (210mm)</td>
</tr>
<tr>
<td>Weight</td>
<td>3.0lbs (1.4kg)</td>
</tr>
</tbody>
</table>

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

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE
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