ZEBRA® GX420D™, GX420T™ AND GX430T™ 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
- Maximum speed 6 ips (152 mm/second)
- Direct thermal (d) and Thermal transfer (t) printing of barcodes, text and graphics
- 4 ips (102 mm/second) maximum print speed - GX430t
- OpenACCESS™ design for easy media loading
- 203 dpi print resolution (8 dots/mm)
- 300 dpi print resolution (12 dots/mm) - GX430t
- 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 - GX420d
- 32 bit RISC processor
- 8 MB Std SDRAM memory (3 MB available to user)
- 4 MB Std 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 printer length tracking
- Unicode™ compliant for multi-language printing
- Simplified calibration of media
- 16 resident expandable ZPL II bitmap fonts
- One resident scalable ZPL font
- Five resident expandable EPL2 fonts
- Auto-switching 100-240V power supply
- Transmissive and reflective media sensing
- Head-up sensor
- Standard tear-off mode feature
- Programmable print speeds of 2, 3, 4, 5 & 6 ips (51, 76, 102, 127 & 152 mm/seconds)
- Zebra printer driver for Windows®

Optional Features
- 64 MB Flash Memory with Real-Time Clock – total of 68 MB (65.5 MB available to user) for applications requiring additional levels of memory, time and date information
- Adjustable Media Sensor – full-width reflective black line sensor and multi-position gap sensor
- Ethernet – 10/100 internal offered in combination with USB v1.1 & Serial interface (replaces Parallel port)
- Wireless – 802.11b/g or Bluetooth® 2.0 with LCD display (replaces Parallel port)
- Dispenser (peeler) – Label peel and present with present sensor
- Cutter:
  - Continuous paper, linered label & tag stock
  - Maximum thickness 0.0069” (0.175 mm)
- 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
- 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 (optional)
- **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 Universal Driver** – The most powerful driver available from Zebra for Windows 95/98/2000/2003/ME/NT/XP (standard)
- **ZBI 2.0** – Powerful programming language that lets printers run stand-alone applications, connect to peripherals and much more (option)
- **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)

**Networking Options**

- **Ethernet** – 10/100 internal offered in combination with USB v1.1 & Serial interface (replaces Parallel port)
- **Wireless** – 802.11b/g or Bluetooth 2.0 with LCD display (replaces Parallel port)

**Firmware**

- **EPL2** – Eltron Programming Language simplifies label formatting and enables format compatibility with legacy applications
- **EPL** – Line Mode support (GX420d) 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.
- **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 users via any email-enabled, wired or wireless device to minimize downtime (ZPL mode)

**Printing Specifications**

<table>
<thead>
<tr>
<th>Resolution</th>
<th>203 dots/inch (dpi) (8 dots/mm)</th>
<th>300 dots/inch (dpi) (12 dots/mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>Programmable 2, 3, 4, 5 with max. (51, 76, 102, 127 with max.152)</td>
<td>Programmable 2, 3 with 4 max. (51, 76, with max.102)</td>
</tr>
<tr>
<td>Dot pitch</td>
<td>0.0049” (0.13 mm)</td>
<td>0.0033” (0.08 mm)</td>
</tr>
<tr>
<td>Max. print length</td>
<td>39.0” (991 mm)</td>
<td>39.0” (991 mm)</td>
</tr>
<tr>
<td>Min. print length</td>
<td>One dot</td>
<td>One dot</td>
</tr>
<tr>
<td>Max. print width</td>
<td>4.09” (104 mm)</td>
<td>4.09” (104 mm)</td>
</tr>
<tr>
<td>Min. print width</td>
<td>One dot</td>
<td>One dot</td>
</tr>
<tr>
<td>Barcode modulus</td>
<td>5 mil to 50 mil</td>
<td>3.27 mil to 32.67 mil</td>
</tr>
<tr>
<td>X dimension</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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:** 1.33” (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 Zebra genuine supplies is recommended.

- **Media Width:** 0.75” (19 mm) to 4.25” (108 mm)
- **Label Length:**
  - Using tear-off mode:
    - Minimum with label present sensor used - 0.50” (12.7 mm)
  - Minimum with cutter - 1.0” (25.4 mm)
- **Maximum with standard memory:** 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 mark, 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 GX420 and GX430 are 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)

<table>
<thead>
<tr>
<th>Font</th>
<th>Matrix (in dots) (H x W)</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>Scalable (Smooth) Font</td>
<td></td>
</tr>
<tr>
<td>Ø</td>
<td>15 x 12</td>
<td>U-L-D</td>
<td>Scalable (Smooth) Font</td>
<td></td>
</tr>
</tbody>
</table>

300 dpi (12 dots/mm), GX430t

<table>
<thead>
<tr>
<th>Font</th>
<th>Matrix (in dots) (H x W)</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>.030&quot; x .020&quot;</td>
<td>50.8</td>
</tr>
<tr>
<td>B</td>
<td>11 x 7</td>
<td>U</td>
<td>.037&quot; x .030&quot;</td>
<td>33.8</td>
</tr>
<tr>
<td>C,D</td>
<td>18 x 10</td>
<td>U-L-D</td>
<td>.060&quot; x .040&quot;</td>
<td>25.4</td>
</tr>
<tr>
<td>E</td>
<td>41 x 20</td>
<td>OCR-B</td>
<td>.138&quot; x .085&quot;</td>
<td>11.5</td>
</tr>
<tr>
<td>F</td>
<td>26 x 13</td>
<td>U-L-D</td>
<td>.085&quot; x .053&quot;</td>
<td>19.06</td>
</tr>
<tr>
<td>G</td>
<td>60 x 40</td>
<td>U-L-D</td>
<td>.200&quot; x .160&quot;</td>
<td>6.36</td>
</tr>
<tr>
<td>H</td>
<td>30 x 19</td>
<td>OCR-A</td>
<td>.100&quot; x .098&quot;</td>
<td>10.02</td>
</tr>
<tr>
<td>GS</td>
<td>24 x 24</td>
<td>SYMBOL</td>
<td>.080&quot; x .080&quot;</td>
<td>12.7</td>
</tr>
<tr>
<td>P-V</td>
<td></td>
<td>U-L-D</td>
<td>Scalable (Smooth) Font</td>
<td></td>
</tr>
<tr>
<td>Ø</td>
<td>15 x 12</td>
<td>U-L-D</td>
<td>Scalable (Smooth) Font</td>
<td></td>
</tr>
</tbody>
</table>

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

- 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

*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

EPL Programming Language (EPL2)
• ASCII EPL2 programming language (Page Mode)
• EPL Line 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 barcodes

EPL Font Specifications
203 dpi (8 dots/mm)

<table>
<thead>
<tr>
<th>Font</th>
<th>Width (dot)</th>
<th>Height (dot)</th>
<th>C.P.I.</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

300 dpi (12 dots/mm)

<table>
<thead>
<tr>
<th>Font</th>
<th>Width (dot)</th>
<th>Height (dot)</th>
<th>C.P.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>20</td>
<td>25.0</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
<td>28</td>
<td>18.8</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>36</td>
<td>15.0</td>
</tr>
<tr>
<td>4</td>
<td>24</td>
<td>44</td>
<td>12.5</td>
</tr>
<tr>
<td>5</td>
<td>48</td>
<td>80</td>
<td>6.3</td>
</tr>
</tbody>
</table>

EPL Barcodes
• 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 13 with 2 and 5 add on, EAN 8, 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: Maxicode (modes 2,3,4,6), PDF417, MacroPDF417, QR Code, Data Matrix and Aztec

Communications Specifications
• Centronics® Parallel (36 Pin) connector ports
• RS-232 Serial interface, DB-9
• USB V1.1
• Internal 10/100 Ethernet – optional (replaces Parallel port)
• Wireless – 802.11b/g or Bluetooth with LCD display – optional (this configuration eliminates Parallel port)

Electrical Specifications
• Auto-detectable (PFC Compliant) 100-240VAC, 50-60Hz, rated at 100 Watts
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, TUV NRTL, IRAM, NOM, AAMI, and CCC

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.

Physical Specifications
(no options installed)

<table>
<thead>
<tr>
<th></th>
<th>GX420d</th>
<th>GX420t/GX430t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>6.0” (152 mm)</td>
<td>7.5” (191 mm)</td>
</tr>
<tr>
<td>Width</td>
<td>6.75” (171 mm)</td>
<td>7.6” (193 mm)</td>
</tr>
<tr>
<td>Depth</td>
<td>8.25” (210 mm)</td>
<td>10.0” (254 mm)</td>
</tr>
<tr>
<td>Weight</td>
<td>3 lbs (1.4 kg)</td>
<td>4.6 lbs (2.1 kg)</td>
</tr>
</tbody>
</table>