Introduction

Thank you for choosing the Zebra QLn™ Series Mobile Printers. These rugged printers will become a productive and efficient addition to your workplace thanks to their innovative design. Because it is made by Zebra Technologies you can be assured of world-class support for all of your bar code printers, software, and supplies.

This document provides an easy reference for operating and maintaining the QLn Series Mobile Printer. Complete and current documentation for this printer is provided by the QLn Series User Guide available on the Internet at: www.zebra.com/manuals.

QLn420 QLn320 QLn220

<table>
<thead>
<tr>
<th>Media width</th>
<th>Media width:</th>
<th>Media width:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 in. to 4.4 in. (50.8 to 111.76 mm)</td>
<td>1.0 in. to 3.125 in. (25.4 mm to 79.4 mm)</td>
<td>.63 in. to 2.18 in. (16 mm to 55.37 mm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Printer Dimensions</th>
<th>Printer Dimensions</th>
<th>Printer Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>H: 7.35 in. (186.7 mm)* W: 6.50 in. (165.1 mm) D: 3.25 in. (82.5 mm) * with belt clip</td>
<td>H: 6.85 in. (173.659 mm)* W: 4.65 in. (117.856 mm) D: 3.15 in. (76.9 mm) * with belt clip</td>
<td>H: 6.73 in. (170.9 mm)* W: 3.60 in. (91.4 mm) D: 2.75 in. (69.9 mm) * with belt clip</td>
</tr>
</tbody>
</table>

Always refer to the Important Safety Information data sheet shipped with each printer and the Technical Bulletin shipped with each battery pack. These documents detail procedures to ensure maximum reliability and safety while using this printer.
QLn Series Mobile Printers
Quick Start Guide

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Battery Install & Charging

Media Loading

Connect Printer/Printer Controls

Cleaning and Troubleshooting

Accessories and Contact Info

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QLn Series Overview (QLn420 Shown)

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19. Battery
20. USB/RS232 Comm Ports
21. MAC Address Label
22. Docking Contacts
23. DC Input

1. Platen Roller
2. Bar Sensor
3. Media Support Disks
4. Tear Bar
5. Label Presence Sensor
6. Peeler Lever
7. Peeler Bail
8. Media Cover Button
9. Key Pad
10. Strap Post
11. Status Screen
12. Printhead
13. Media Cover
14. Gap Sensor
15. Power Button
16. Feed Button
17. LED Charge Indicator
QLn Series Mobile Printers
Quick Start Guide

Removing the Battery (QLn220 Shown)

- Rotate the Belt Clip out of the way of the Battery
- Squeeze clip on battery pack and remove.

Installing the Battery

18. Belt Clip
19. Battery
20. DC Input
21. MAC Address Label
22. Docking Contacts/Cover
23. USB/RS232 Comm Ports
Charging the Battery
There are five (5) ways to charge the QLn Series battery, two of which being with the battery outside the printer (Quad Charger and Smart Charger-2), and three inside the printer (AC Power Adapter, Single Bay Ethernet Cradle, and Four Bay Ethernet Cradle). All five options are detailed in the following sections.

UCLI72-4 Quad Charger (All QLn Series Printers)
The UCLI72-4 Quad Charger charges up to four QLn Series battery packs simultaneously. Batteries must be removed from the printer to be charged in the Quad Charger.

The indicators under the battery will allow you to monitor the charging process per the table below:

<table>
<thead>
<tr>
<th>Charger Bay</th>
<th>Amber Indicator</th>
<th>Green Indicator</th>
<th>Power Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Green</td>
<td>Off</td>
<td>Charging</td>
</tr>
<tr>
<td>2</td>
<td>Flashing</td>
<td>80% charged O.K. to use</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Off</td>
<td>On</td>
<td>Completely Charged</td>
</tr>
<tr>
<td></td>
<td>Flashing</td>
<td>Off</td>
<td>Fault</td>
</tr>
</tbody>
</table>

1. Plug Power Supply into A.C. Outlet.
2. Slide Battery Pack into Charger bay.
3. Rock Battery Pack into place.

Amber Indicator
Green Indicator
Charger Bay
Power Supply

• Plug the SC2 charger into the AC outlet.
• Insert the smart battery pack in the SC2 charger.
• The LED on the front of the charger will indicate the battery pack's charge status. Green indicates fully charged, Yellow indicates charging, and Amber indicates a fault.

When the SC2 is plugged in but no battery is present, the Charge Status LED indicator will be green.

• A second LED will indicate the health of the battery pack:
  Green=GOOD, Yellow=CAPACITY DIMINISHED, Yellow Flashing=PAST USEFUL LIFE, and Amber=UNUSABLE-REPLACE BATTERY. If the LED is off, there is either no battery or power present.


The charge state of the QLn Series battery is reflected by the LED Charge Indicator located on the front of printer (as illustrated in the Printer Controls section on Page 11).

Caution • Do not incinerate, disassemble, short circuit, or expose to temperatures higher than 60°C (140°F).
AC Power Adapter (included in kit p/n P1031365-024) (All QLn Series Printers)

- Open the protective cover on the QLn Series printer to expose the DC input charger jack.
- Connect the appropriate AC power cord for your geography to the adapter and then plug the power cord into an AC receptacle.
- Plug the barrel plug from the AC adapter into the charger jack on the printer.
- The printer will power up and begin charging. The printer can be left on or turned off at this point. Charging will continue in either state, the status of which will be monitored by the LED charge indicator on the front of the printer.

Batteries are shipped uncharged. Remove protective shrink-wrap and labels from new battery packs and allow them to charge completely prior to initial use.

While it’s possible to charge the battery when using the printer, charge times will increase under this condition.

The QLn220 and 320 extended capacity battery is not compatible with the QLn-EC and EC4 Ethernet cradles.
Docking Contact Access

In order to dock a QLn Series printer on one of the above cradle accessories, you must first access the docking contacts located on the bottom of the printer. On the QLn220 and 320 printers, you must remove the “Docking Cradle Access” sticker (as shown) to expose the docking contacts.

Similarly, you must remove the plastic docking contacts cover from the bottom of the QLn420 (as shown) to access the docking contacts.
Loading the Media  (QLn320/220)

A. Press Latch Button
   Media Cover flips open

B. Pull Media Supports apart where shown.
   Media Roll Note direction media pulls off the roll.

C. Close Media Cover

Loading the Media  (QLn420)

1. Media Roll Note direction media pulls off the roll.
2. Pull Media Supports apart where shown.
3. Close Media Cover
4. Pull Media out of Printer
Loading the Media in QLn320/220 (Peeler Activated)

A. To disengage the peeler bail, press down until it locks in the home position.

1.  

2.  

3.  

4.  

5.  

6.  

7.  

8.  

To disengage the peeler bail, press down until it locks in the home position.
Loading the Media in QLn420 (Peeler Activated)

A. To disengage the peeler bail, press in on the peeler release button while pressing down on the peeler lever until it locks in the home position.

B. To engage the peeler bail, slide the peeler lever up until it locks into position.

C. Close the media cover after loading media..

D. To disengage the peeler bail, press in on the peeler release button while pressing down on the peeler lever until it locks in the home position.
Connecting the Printer

Connect The Printer With a Cable
You can connect your printer to a terminal or a PC using either RS232C or USB protocols. USB drivers are included in the Zebra Designer Driver which is available on the QLn Series product CD or can be downloaded from the Zebra Web site at [www.zebra.com/software](http://www.zebra.com/software).

Cable Communications with a Terminal.

Cable Communications with a PC

To provide strain relief for the communication cables, twist the locking cap in a clockwise direction to secure. Only one cable can be used at a time in this orientation.
**Not every icon will be displayed on the Status Bar at one time, only those applicable to the printer’s configuration.**

**Printer Status Bar**
Indicates the status of several printer functions.**

- **Feed Button**
  Press to advance a blank label or a software determined length of journal media.

- **Power Button**
  Press to turn unit on. There will be a 10 second boot up time.
  Press again to turn unit off.

- **LED Charge Indicator**
  - Solid Yellow: Charging
  - Solid Green: Fully charged
  - Off: No DC Power Applied
  - Off: With DC Power Applied: Charge Fault

- **Status Screen**
  Default screen the printer will display when the user is not navigating the main menu screen.

- **Navigation Bar**
  Displays user-selectable options.

- **Soft Keys**
  Press to select a function on the Navigation Bar.

- **Four Way Navigation Buttons**
  Scroll through menu choices on Status Screen
  Press “OK” to enter.

- **Main Menu Screen**
  Displays graphical options including Communication, Display, Media, Battery, and Help.
Printer Controls (QLn420)

Power Button
Press to turn unit on. There will be a 10 second boot up time.
Press again to turn unit off.

Feed Button
Press to advance a blank label or a software determined length of journal media.

LED Charge Indicator
Solid Yellow: Charging
Solid Green: Fully charged
Off: No DC Power Applied
Off: With DC Power Applied: Charge Fault

Printers Status Bar
Indicates the status of several printer functions.

Status Screen
Default screen the printer will display when the user is not navigating the main menu screen.

Navigation Bar
Displays user-selectable options.

Soft Keys
Press to select a function on the Navigation Bar.

Four Way Navigation Buttons
Scroll through menu choices on Status Screen
Press “OK” to enter.

Main Menu Screen
Displays graphical options including Settings, Tools, Network, Battery, Languages, Sensors, Ports and Bluetooth.

** Not every icon will be displayed on the Status Bar at one time, only those applicable to the printer’s configuration.
Cleaning the Printers

Caution • To avoid possible personal injury or damage to the printer never insert sharp or pointed objects into the printer mechanism.

<table>
<thead>
<tr>
<th>Area</th>
<th>Cleaning Method</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printhead</td>
<td>Use a Zebra cleaning pen to clean the print elements from end to end (the print elements are located in the thin gray line on the printhead).</td>
<td>After every five rolls of media (or more often, if needed). When using linerless type media, cleaning is required after every roll of media.</td>
</tr>
<tr>
<td>Platen Surface</td>
<td>Rotate the platen roller and clean it thoroughly with the cleaning pen or 70% Isopropyl alcohol.</td>
<td>After every five rolls of media (or more often, if needed).</td>
</tr>
<tr>
<td>Linerless Platen Surface</td>
<td>Units with linerless platens: Rotate platen &amp; clean bearing points only. Avoid use of alcohol on the surface of linerless platens!</td>
<td>Linerless media requires more frequent cleaning, i.e. after every roll.</td>
</tr>
<tr>
<td>Peeler bar</td>
<td>Clean thoroughly with the cleaning pen.</td>
<td>As needed</td>
</tr>
<tr>
<td>Scraper (Linerless units only)</td>
<td>Clean thoroughly with the cleaning pen.</td>
<td>After every five rolls of media (or more often, if needed)</td>
</tr>
<tr>
<td>Tear bar</td>
<td>Clean thoroughly with the cleaning pen.</td>
<td>As needed</td>
</tr>
<tr>
<td>Exterior</td>
<td>Wipe with water-dampened cloth or 70% Isopropyl alcohol wipe.</td>
<td></td>
</tr>
<tr>
<td>Interior</td>
<td>Brush/air blow. Ensure the Bar Sensor, Gap Sensor and Label Present Sensor windows are free of dust.</td>
<td>As needed</td>
</tr>
<tr>
<td>Interior of units with Linerless Platens</td>
<td>Clean inside surfaces of Media Supports &amp; Media Support Disks with the supplied cleaning pen or 70% Isopropyl alcohol on a cotton swab.</td>
<td>After every five rolls of media (or more often, if needed)</td>
</tr>
</tbody>
</table>
LCD Control Panel

The top of the display shows icons indicating the status of various printer functions. Check the indicator status and refer to the referenced Troubleshooting table below.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Status</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Bluetooth" /></td>
<td>On</td>
<td>Bluetooth Link established</td>
</tr>
<tr>
<td><img src="image2.png" alt="Bluetooth" /></td>
<td>Not Present</td>
<td>Bluetooth Link inactive</td>
</tr>
<tr>
<td><img src="image3.png" alt="Bluetooth" /></td>
<td>Blinking</td>
<td>Connecting and Transmitting Labels</td>
</tr>
<tr>
<td><img src="image4.png" alt="Antenna Blinking 1 Parenthesis" /></td>
<td>Antenna Blinking</td>
<td>Looking for AP</td>
</tr>
<tr>
<td><img src="image5.png" alt="Antenna and 2 Parentheses Solid" /></td>
<td>Antenna and 2 Parentheses Solid</td>
<td>Associated and Attempting WLAN Authentication</td>
</tr>
<tr>
<td><img src="image6.png" alt="Antenna and 2 Parentheses Blinking" /></td>
<td>Antenna and 2 Parentheses Blinking</td>
<td>Receiving Data</td>
</tr>
<tr>
<td><img src="image7.png" alt="Battery" /></td>
<td>4 Bars</td>
<td>&gt;80% Charged</td>
</tr>
<tr>
<td><img src="image8.png" alt="Battery" /></td>
<td>3 Bars</td>
<td>60%-80% Charged</td>
</tr>
<tr>
<td><img src="image9.png" alt="Battery" /></td>
<td>2 Bars</td>
<td>40%-60% Charged</td>
</tr>
<tr>
<td><img src="image10.png" alt="Battery" /></td>
<td>1 Bar</td>
<td>20%-40% Charged</td>
</tr>
<tr>
<td><img src="image11.png" alt="Battery" /></td>
<td>0 Bars</td>
<td>Low Battery</td>
</tr>
<tr>
<td><img src="image12.png" alt="Media Cover" /></td>
<td>Blinking</td>
<td>Media Cover Open</td>
</tr>
<tr>
<td><img src="image13.png" alt="Retrieve" /></td>
<td>Blinking</td>
<td>Retrieving printer data</td>
</tr>
<tr>
<td><img src="image14.png" alt="Solid" /></td>
<td>Solid</td>
<td>Connected &amp; Not Receiving Label Data</td>
</tr>
<tr>
<td><img src="image15.png" alt="Not Present" /></td>
<td>Not Present</td>
<td>No Ethernet Connection</td>
</tr>
<tr>
<td><img src="image16.png" alt="Data Processing" /></td>
<td>Blinking</td>
<td>Data processing in progress</td>
</tr>
<tr>
<td><img src="image17.png" alt="Data Processing" /></td>
<td>Steady</td>
<td>No data being processed</td>
</tr>
<tr>
<td><img src="image18.png" alt="Out of Media" /></td>
<td>Blinking</td>
<td>Out of Media</td>
</tr>
<tr>
<td><img src="image19.png" alt="Out of Media" /></td>
<td>Steady</td>
<td>Media present</td>
</tr>
<tr>
<td><img src="image20.png" alt="Error" /></td>
<td>Blinking</td>
<td>Error exists (excluding Media Out and Head Latch Open)</td>
</tr>
<tr>
<td><img src="image21.png" alt="Error" /></td>
<td>Not Present</td>
<td>No error exists</td>
</tr>
<tr>
<td><img src="image22.png" alt="Signal Strength" /></td>
<td>4 Bars</td>
<td>802.11 signal strength &gt; 75%</td>
</tr>
<tr>
<td><img src="image23.png" alt="Signal Strength" /></td>
<td>3 Bars</td>
<td>802.11 signal strength ≤ 75%</td>
</tr>
<tr>
<td><img src="image24.png" alt="Signal Strength" /></td>
<td>2 Bars</td>
<td>802.11 signal strength ≤ 50% but &gt;25%</td>
</tr>
<tr>
<td><img src="image25.png" alt="Signal Strength" /></td>
<td>1 Bar</td>
<td>802.11 signal strength ≤ 25%</td>
</tr>
<tr>
<td><img src="image26.png" alt="Signal Strength" /></td>
<td>0 Bars</td>
<td>No signal strength</td>
</tr>
</tbody>
</table>
Accessories

Adjustable Shoulder Strap

Belt Clip (standard on most printers)

To use: Hook the clip over your belt, and ensure that the clip is securely attached to the belt. The plastic belt clip will pivot in all directions to allow you to move freely while wearing the printer.

Note: QLn220 & 320 printers with the extended capacity battery do not come equipped with a belt clip.
Accessories (cont.)

Soft Case

All QLn Series printers have soft case options that also allow you to carry the printer from your belt. (The QLn420 soft case is shown in the accompanying graphic.)

Note: The QLn220 & 320 soft case is not compatible with printers equipped with the extended capacity battery option.

Hard Case

The QLn420 printer has a hard case option that also allows you to carry the printer from your belt with a metal belt clip. The belt clip is mounted to the hard case and printer with two screws. If no belt clip is used, two shorter screws are used to hold the printer to the hard case.

Insert the QLn420 printer into the lower half of the Exo-skeleton. Close the top half and snap shut to secure.
Product Support

For product support, and the latest versions of all customer documentation, contact Zebra Technologies at: [www.zebra.com](http://www.zebra.com)

Refer to Appendix D in the QLn320 User Guide for more detailed contact information

**In the Americas contact:**

Zebra Technologies Corporation  
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Go to [www.zebra.com/contact](http://www.zebra.com/contact) for complete contact information.

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