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Client: Zebra Technologies
Model: ZLAN11G Radio Module
Standards: FCC Part 15.247/IC RSS-210
FCC ID: I28MD-ZLAN11G/3798A-ZLAN11G
Report#: 2006127

Appendix F: User Manual

Please refer to manual page 36 for information related specifically to this radio module.
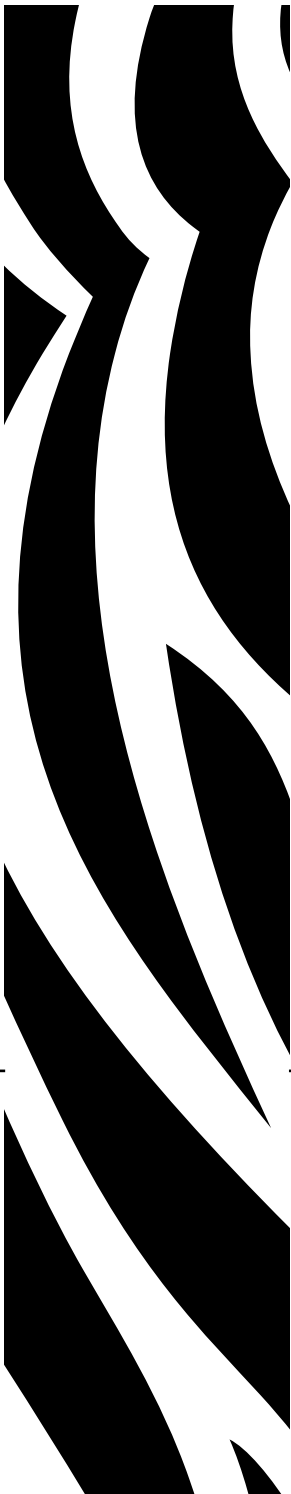
Zebra® RW Series
Mobile Printers

User Guide

PRELIMINARY

Contents

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Class B digital device. Tested to comply with FCC standards for home or office use. WARNING: Exposure to Radio Frequency radiation. To conform to FCC RF exposure requirements this device shall be used in accordance with the operating conditions and instructions listed in this manual. Note that there are several radio options available with this printer. Additional regulatory information is contained in later sections devoted to each radio individually.

NOTE: This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to insure compliance.

Changes or modifications to this unit not expressly approved by Zebra Technologies Corporation could void the user's authority to operate this equipment.

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Cet appareil numérique de la classe B est conforme á la norme NMB-003 du Canada.

"IC:" before the equipment certification number signifies that the Industry Canada technical specifications were met. It does not guarantee that the certified product will operate to the user's satisfaction.

Agency Approvals and Regulatory Information

- FCC part 15
- NOM/NYCE (Mexico)
- EN55022:1998 Class B European Electromagnetic Radiation Standard
- Canadian STD RSS-210
- EN60950: 2000 Safety Standard
- C-Tick (Australia)

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Document Conventions

The following conventions are used throughout this document to convey certain information:

If you are viewing this guide online, click the _underlined text_ to jump to a related Web site. Click on _italic text_ (not underlined) to jump to that location in this manual..

Cautions, Important, and Note

Caution • Warns you of the potential for electrostatic discharge.

Caution • Warns you of a potential electric shock situation.

Caution • Warns you of a situation where excessive heat could cause a burn

Caution • Advises you that failure to take or avoid a specific action could result in physical harm to you.

Caution • Advises you that failure to take or avoid a specific action could result in physical harm to the hardware.

Important • Advises you of information that is essential to complete a task.

Note • Indicates neutral or positive information that emphasizes or supplements important points of the main text.

Figure 1: RW 420 Overview
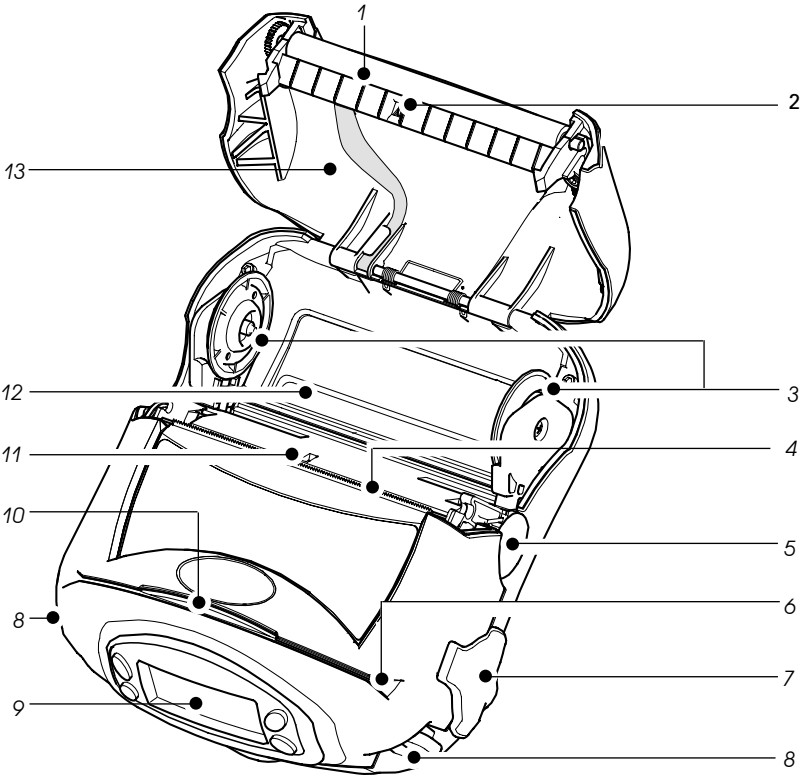
1. Platen Roller
2. Bar Sensor
3. Media Support Disks
4. Printhead
5. Latch Release Button
6. Magnetic Stripe Reader (MSR) Slot
7. Communications Port Door
8. "D" Rings
9. Control Panel
10. Smart Card Slot
11. Gap Sensor
12. Bottom Media Feed Slot (external media models only)
13. Media Cover
14. Belt Clip
15. Communications Port
16. Battery
17. Docking Connector Cover
18. Battery Charging Receptacle

Figure 2: RW 220 Overview

1. Platen Roller
2. Bar Sensor
3. Media Support Disks
4. Printhead
5. Latch Release Button
6. Magnetic Stripe Reader (MSR) Slot
7. "D" Rings
8. Control Panel
9. Smart Card Slot
10. Gap Sensor
11. Media Cover
12. Communications Port Door
13. Communications Port
14. Belt Clip
15. Battery
16. Battery Charging Receptacle

Introduction to the RW Series

Thank you for choosing one of our Zebra RW series Mobile Printers. It is one of a series of rugged printers that are sure to become productive and efficient additions to your workplace thanks to their innovative design. Because the RW series is made by Zebra Technologies, you're assured of world-class support for all of your bar code printers, software, and supplies.

- This User's Guide gives you the information you'll need to operate and maintain your RW 220 or RW 420 printer.
- The RW series printers use the CPCL programming language. To create and print receipts and labels using the CPCL language, refer to our Label Vista™ label creation program or the Mobile Printing Systems CPCL Programming Manual which are both available on our Web site at: *http://www.zebra.com* .
- RW series printers software includes interpreters for the ZPL II® programming language (up to Version 30.8.4) and the EPL programming language. Manuals for the ZPL and EPL label design programming languages are also available on our Web site. Refer to Appendix "E" of this manual for more information on accessing and downloading manuals and other user information.

Unpacking and Inspection

Inspect the printer for possible shipping damage:
- Check all exterior surfaces for damage.
- Open the media cover (refer to "Loading the Media" in the Getting Ready to Print section) and inspect the media compartment for damage.

In case return shipping is required, save the carton and all packing material.

Reporting Damage

If you discover shipping damage:
- Immediately notify and file a damage report with the shipping company. Zebra Technologies Corporation is not responsible for any damage incurred during shipment of the printer and will not cover the repair of this damage under its warranty policy.
- Keep the carton and all packing material for inspection.
- Notify your authorized Zebra re-seller.

Getting Ready to Print

Battery Safety

The Battery Packs used on Zebra Mobile Printers contain a great deal of energy and can cause personal injury or start a fire if used improperly or carelessly. Please observe the following safety practices:

Caution • Avoid accidental short circuiting of any battery. Allowing battery terminals to contact conductive material will create a short circuit which could cause burns and other injuries or could start a fire.

Caution • Batteries can explode or catch fire if improperly charged or exposed to high temperatures or fire. Do not disassemble, crush or expose batteries to water.

Caution • Use of any charger not approved specifically by Zebra for use with its batteries could cause damage to the battery pack or the printer and will void the warranty.

Charger Safety

Do not place the Quad Charger in locations where liquids or metallic objects may be dropped into the charging bays.

Use care in locating either the LI 72 Single Charger or the LI 72-4 Quad Charger. Do not block the ventilating slots on the top and bottom covers. Ensure that the Charger is plugged into a power source which won't accidently be turned off if you will be charging batteries overnight.

Required Regulatory Text for Argentina

Only certified adaptors with the following electrical characteristics shall be used. The use of different adaptors could damage the device, present hazards to the user and declare the correspondent guaranty void.

LI 72:   Input ratings: 100-240 VAC 50/60Hz 200mA., Class 2

Output ratings: 8.4 VDC, 800 mA

Figure 3: Installing the RW 420 Battery

1 Rotate Belt Clip out of the way.

2 Insert this end of the Battery Pack into the printer

3 Rock the Battery Pack into the Printer until the latch clicks into place.
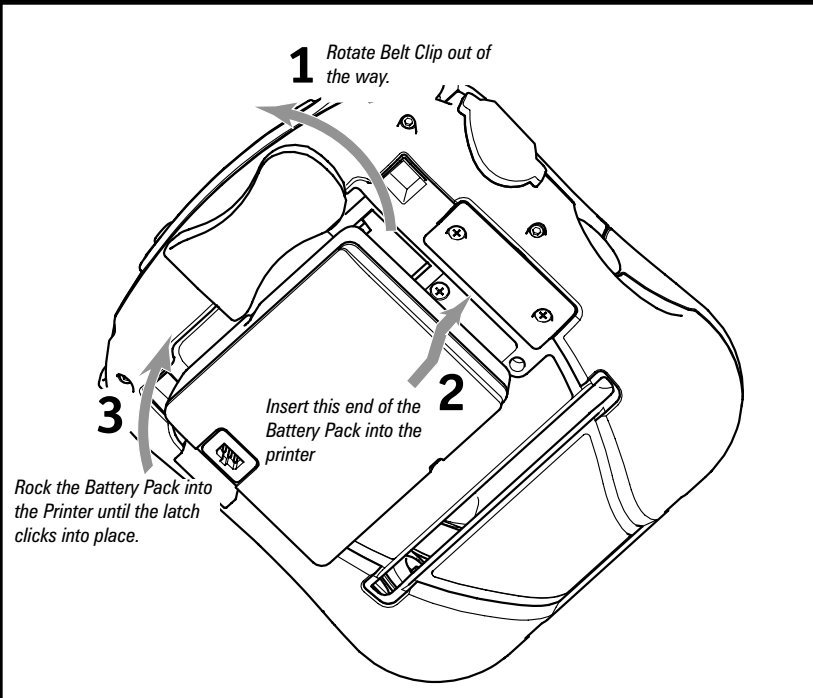
Figure 4: Installing the RW 220 Battery

1 Rotate Belt Clip out of the way.

2 Insert this end of the Battery Pack into the printer

3 Rock the Battery Pack into the Printer until the latch clicks into place.
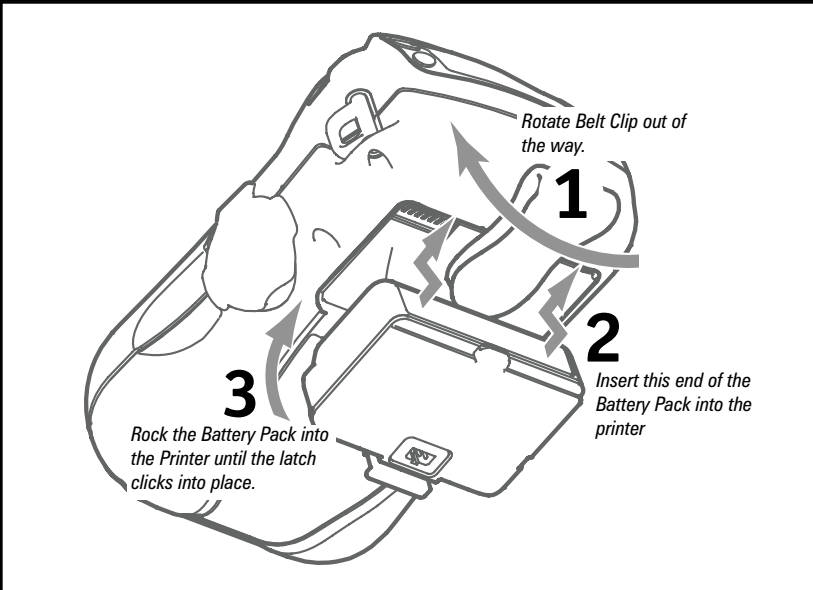
Installing RW Series Batteries

1. Rotate the Belt Clip to allow access to the Battery compartment. This is an optional step on the RW 220.
2. Insert the battery into the printer as shown in Figure 3 or 4,
3. Rock the Battery into the printer as shown until it locks in place.

When the battery is first installed, the Control Panel indicators may briefly turn on and then go off, indicating the battery is not fully charged (see "Charging the Battery" below and "Operator Controls.")

Charging the Battery

Model LI 72 Single Battery Charger

Refer to Figure 5. Your charger may look slightly different from the one illustrated.

1. Plug the Charger into the appropriate A.C. wall receptacle. Then insert the charge cable into the battery charger jack.
2. The charger LED will indicate the status of the charger as

Figure 5: LI 72 Single Charger

LI72 Charger

For best results, remove the Battery Pack while charging.

Charger Jack
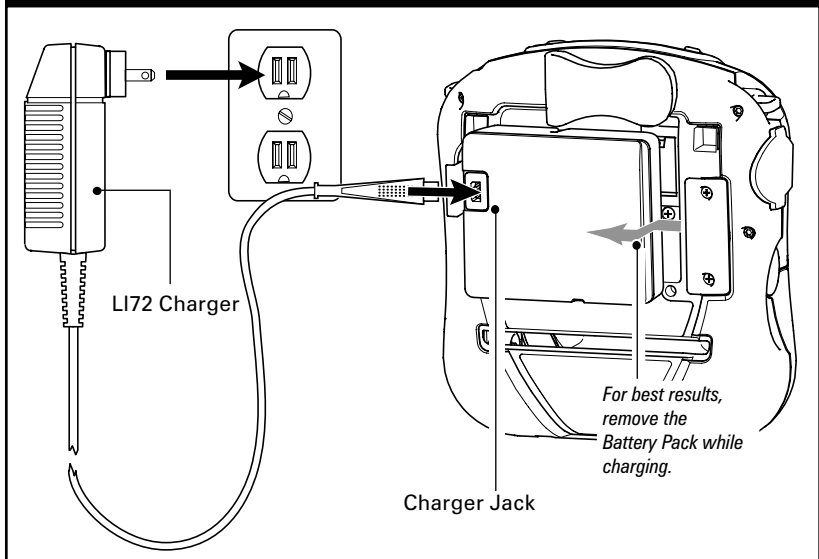
follows:

- A steady light indicates the battery is undergoing a fast charge.
- A slow blinking light indicates the charger is in trickle mode. The battery is ready for use.
- A rapidly blinking light indicates a problem with the battery. The battery may have an internal short, or its charge monitoring circuitry may be malfunctioning. The battery should not be used any further.

Note • While the LI 72 Charger allows Battery Packs to be charged when installed in the printer, best results are obtained with the battery removed.

Caution • Do not attempt to print while charging batteries with the LI 72 charger.

Figure 6: UCLI72-4 Quad Charger

Power

1. Slide Battery Pack into Charger Bay

2. Rock Battery Pack into place

Amber LED

Green LED

Charger Bay

Power Indicator
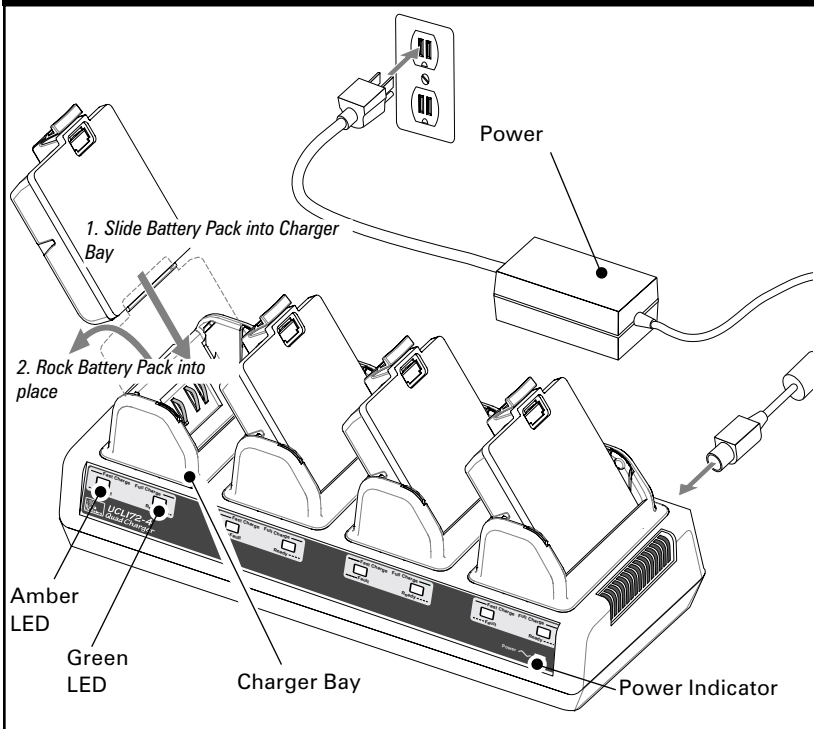
Model UCLI72-4 Quad Charger

The UCLI72-4 Quad Charger is designed to charge up to four RW Series battery packs simultaneously. Batteries must be removed from the printer to be charged in the Quad Charger.

1. Ensure that the charger has been installed properly per the Quad Charger instruction manual. Ensure that the power indicator on the front panel is on.
2. Remove any protective shrink-wrap and labels from all battery packs prior to use. Plug a battery pack into any one of the four charging bays as shown in Figure 6, noting the orientation of the battery pack. Slide the battery pack into the charging bay until it stops. Then rock the battery pack back until it snaps into place. The amber indicator directly under the battery being charged will turn on if the battery is properly inserted.

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

Battery Status Indicators		
Amber LED	**Green LED**	**Battery Status**
On	Off	Charging
On	Flashing	80% charged (O.K. to use)
Off	On	Completely Charged
Flashing	Off	Fault

> [!] ***Important • A fault condition is caused by a problem with the battery. The charger may indicate a fault because the battery is too hot or cold to charge reliably. Try to charge the battery again when it returns to the room's ambient temperature. If the Amber indicator starts flashing on the second attempt, the battery should be discarded. Always dispose of batteries in a proper manner. Refer to Appendix D***

LI 72-4 Charger Cycle Times :

	RW 420	RW 220
Battery 80% Charged	2.5 Hrs	1.25 Hrs.
Battery Fully Charged	5 Hrs.	2.5 Hrs.

> *Note • Charge times are for completely discharged batteries.*

Partially discharged Battery Packs will take less time than

listed in the chart to reach a fully charged state. Once Battery Packs have reached 80% of their charge capacity they may be used It is recommended, however, that you allow the batteries to reach a full charge to maintain maximum battery life.

   The UCLI72-4 Quad Charger's safety features will stop charging a battery after six hours regardless of its charge state.

Loading the Media

The RW series printers are designed to print either continuous (journal) media or label stock.

Loading Media Procedure

1. Open the printer: Refer to Figure 7.
   - Press the latch release button on the side of the printer as shown at "1" below. The media cover will open automatically
   - Rotate the Media Cover back completely as shown at "2", exposing the media compartment and the adjustable media supports.

Figure 7: Opening the Printer

RW 420 printer shown.

Media Compartment

Media Support Disks

2

1
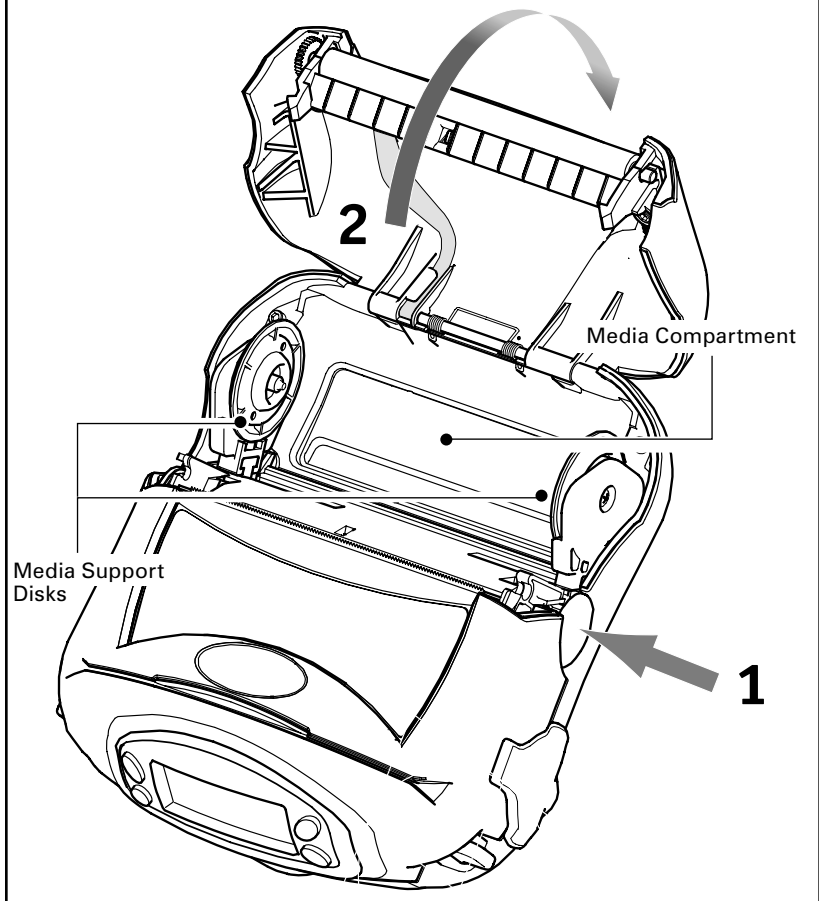
Loading Media From An Internal Supply

- Refer to Figure 8. Pull the media supports apart as shown. Insert the roll of media between them, and let the media supports close. Ensure that the media pulls off the core in the direction shown in Figure 8. The supports will adjust themselves to the width of the media, and the roll of media should be able to spin freely on the supports.

Figure 8: Loading Media from an Internal Supply
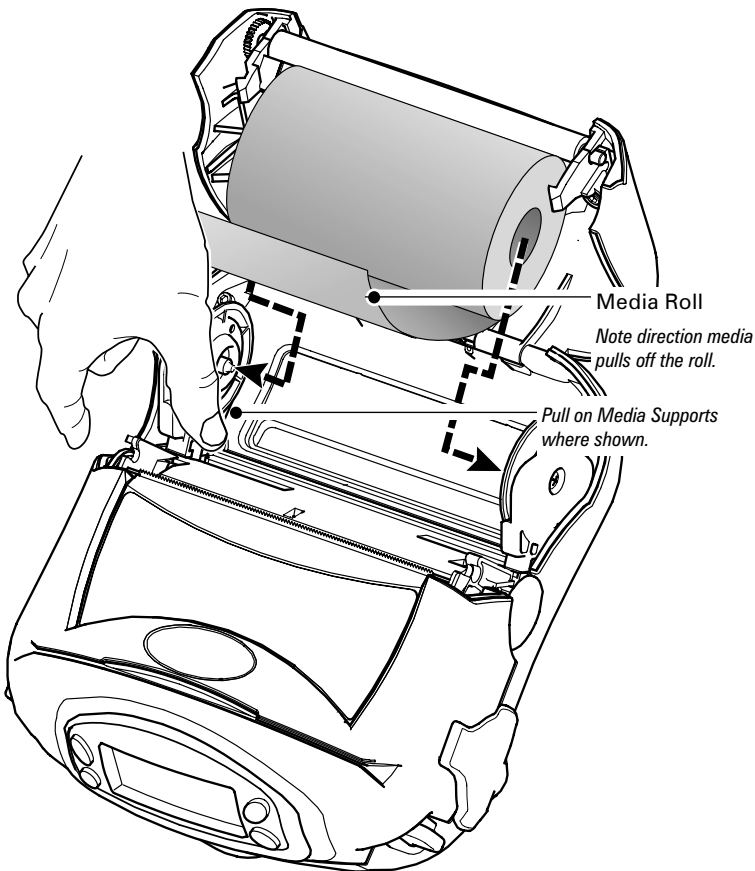
Media Roll

Note direction media pulls off the roll.

Pull on Media Supports where shown.

Loading Media From An External Supply

Refer to Figure 9. The RW 420 configured with the External Media option has a loading slot in the rear of the media compartment allowing you to use standard 4 in. (101.6 mm) wide fanfold media from an external supply. The external supply must be designed such that it does not exert excessive drag as media is fed through the printer, which could result in distorted printing. Zebra offers a series of vehicle cradles for the RW 420 (P/Ns AK17463-003 and AK17463-004) which incorporate provisions for installation of an external media supply bin.

• Pull the media supports apart, insert a Media Spacer (Zebra part number BA16625-1) between them, and let the media supports close. Insert the media from the external supply through the rear feed slot, between the me-

Figure 9: Loading Media from an External Supply

Media Spacer
p/n BA16625-1

Feed media through bottom feed slot
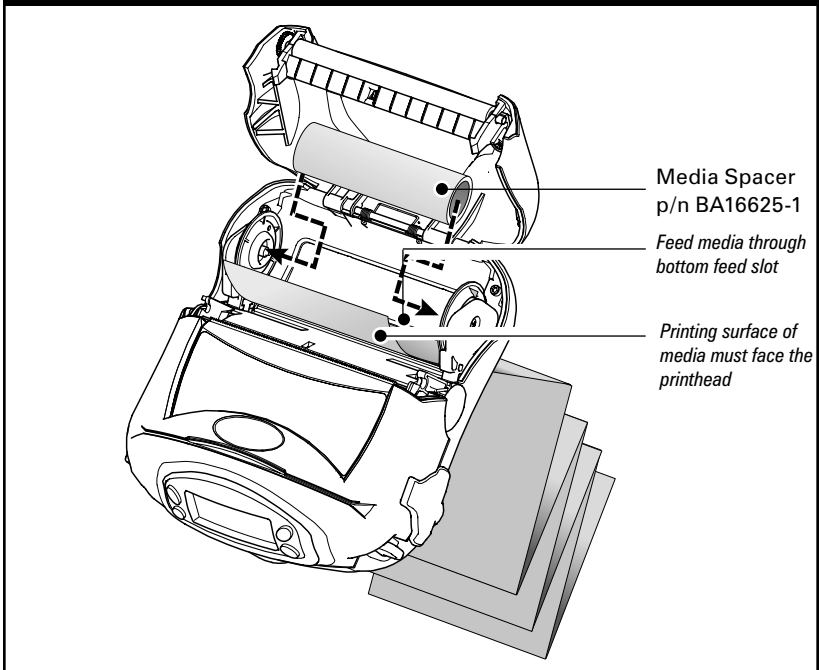
Printing surface of media must face the printhead

dia guides and up through the media compartment as shown. Make sure the side of the media you will be printing on faces the printhead.

4. Close the Media Cover: Refer to Figure 10.

- Pull the media out of the printer as shown at "1."
- Close the media cover as shown at "2", ensuring that it latches securely into place.
- Turn the printer on or press the Feed button if the printer is already on.

The printer will advance a short strip of media and will then be ready for printing.

Figure 10: Closing the Media Cover

Press Media Cover firmly when closing to ensure it latches in place.

Pull Media out of the Printer
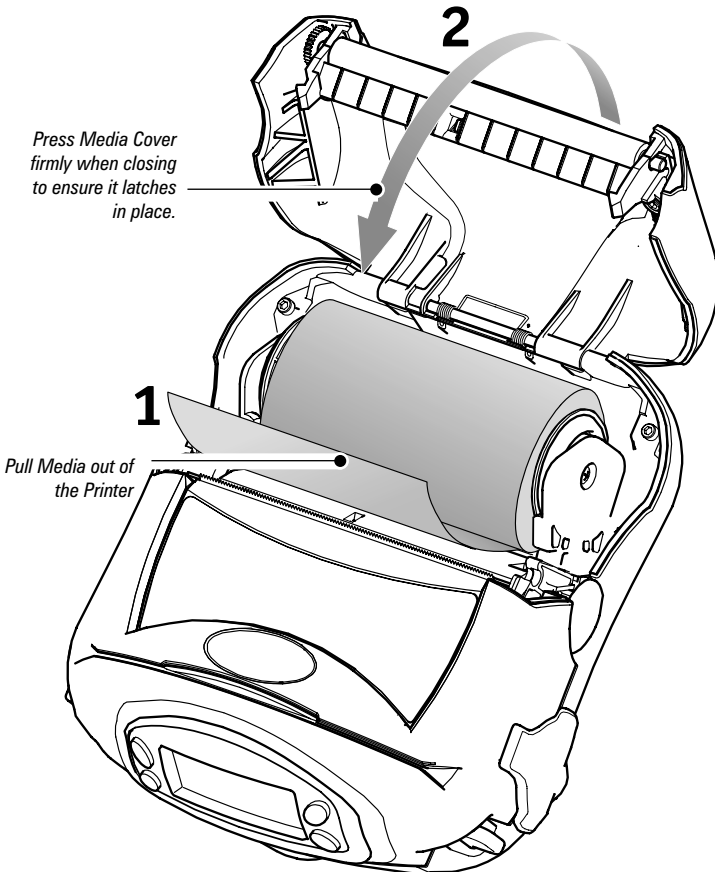
Operator Controls

Control Panel

The control panel has buttons for the power on/off and media feed functions and a display for providing information regarding printer functions. Two keys provide easy navigation and selection of menu options affecting many printer functions.

The "Scroll" button allows scrolling through the various options and settings. The "Select" button allows selection of the option or function displayed on the screen.

Figure 11: LCD Control Panel

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

Scroll Button
Press to scroll through the menu choices on the LCD.

Printer Status Icons
Indicates the status of several printer functions

```
Zebra RW 420
Signal:0%
Battery ▬▬▬▬▬     (ok)
Latch: ok   Rdr  MENU
```

Power Button
Press to turn unit on. Press again to turn unit off

Select Button
Press to select a menu choice on the LCD.

LCD
See LCD Functions Table for an overview of menu options

NOTE: LCD menu options are under specific application control. Not all options may be available In your printer's application.

The top of the screen has a row of status icons which indicate the state of various printer functions:

☼ Indicates a Bluetooth connection is established. A flashing icon indicates data transmission. This icon is functional only with RW series printers with a Bluetooth wireless option installed.

▼ Indicates that the printer is associated with a wireless Local Area Network (LAN) using an 802.11*x* compliant radio. This icon is functional only with RW series printers with a WLAN wireless option installed.

🔋 A flashing icon indicates low battery status. You should suspend any printing operations and recharge or replace the Battery Pack as soon as is convenient.

🔓 A flashing icon indicates that the media cover is open or not properly latched.

⏰ A flashing icon indicates normal printing activity.

✉ A flashing icon indicates that a file is being downloaded to the printer.

📄 A flashing icon indicates that the printer does not detect any media. This could indicate an out of media condition, or improperly loaded media.

Programmable LCD Settings

In addition to the status icons, the LCD on the control panel can display many of the printer's settings and functions as text as determined by the printer's application. Applications can be written to allow the user to view and /or modify these settings using the scroll and select keys on the display. Refer to the tables on the following pages for a partial set of printer features that can be programmed to display on the LCD.

The LCD has a backlighting option which allows viewing of the screen in a dark environment, or provides better contrast in a very bright environment. Use of the display backlight will decrease the time the printer will run between charges. Refer to the section "Extending Battery Life" for more information.

Extended LCD Functions[1]		
Function	**Default setting**	**Scroll & Select Options**
Sensor Type	Bar	• Bar • Gap
Baud Rate	19200	• 9600 • 19200 • 32400 • 57600 • 115200
Data Bits	8	• 7 • 8
Parity	N (none)	• E (Even) • N (None) • O (Odd)
LCD Contrast	8	• Increase (15max.) • Decrease (15 max.)
No-activity Timeout	120 sec.	• Decrease (0 min.)[2] • Increase (120 max.)
Flip Screen	Off	• Off • On (The 4 text lines of display will be flipped 180 ° when the printer is in the Cradle Location of icons will remain unchanged.
Audio Volume	3	• 1 – Low • 2 – Medium • 3 - High
Media Type	Journal	• Label • Journal
LCD Backlight[3]	Momentary On	• Momentary On w/ time delay • Off
Factory Reset (Resets all to factory set values)	No	• No • Yes

NOTE:

1 LCD menu options are under specific application control. Not all options may be available In your printer's application.

2. A No-activity timeout value of "0" means the printer will remain on until powered off by the operator.

3. LCD Backlight turns on when any key other than FEED is pressed

Display Functions Not Accessible from the Keypad[1]		
Function	**Default setting**	**Scroll & Select Options**
WLAN ID[2]	Factory Set Value	N/A
Tear-off Position (Top of Form)	00	• Increase (max. = +10) • Decrease (min. = -120
Network & RF Settings		• All protocols On • Protocols On or Off individually
Bridge Mode	Off	• Off • On
DTR/VBUS-Power Off	Off	• On • Off
Present-at	000	• Increase (max.= +120) • Decrease (min. = 000
Bluetooth parameters	n/a	Displays current Bluetooth operating parameters
802.11b WLAN parameters	n/a	Displays current 802.11b operating parameters
Media Type	Journal	• Journal • Label
Smart Card or MSR Card Reader Status[3]	Off	• Off • Display "RDR"

NOTES:

1   The parameters in this table will appear on the display but can be set only by using a PC running Zebra's Label Vista label creation program and a data cable link to the printer.

2.   Can be adjusted from the factory default using a PC running Zebra's Label Vista label creation program and a data cable link to the printer.

3.   Card reader status is under application control, and is not user selectable.

.

Verify the Printer Is Working

Before you connect the printer to your computer or portable data terminal, make sure that the printer is in proper working order. You can do this by printing a configuration label using the "two key reset" method. If you can't get this label to print, refer to "Troubleshooting."

Printing a Configuration Label

1. Turn the printer off. Load the media compartment with journal media (media with no black bars printed on the back)
2. Press and hold the Feed Button.
3. Press and release the Power button and keep the Feed button pressed. When printing starts, release the Feed button.

The unit will print a line of interlocking "x" characters to ensure all elements of the printhead are working, print out the version of software loaded in the printer and then print two reports.

The first report indicates model, ROM version, serial number, baud rate, etc.   The second report prints out more detailed information on the printer's configuration and parameter settings. If no second report appears, there is no application loaded. (See the Troubleshooting Section for a sample printout and a further discussion on how to use the configuration label as a diagnostic tool.)

Connecting the Printer

The printer must establish communications with a host terminal which sends the data to be printed. Communications occur in three basic ways:
- By a cable between the printer and its host terminal using either RS232C or USB protocols
- By means of a Bluetooth short-range radio frequency link
- By means of a wireless LAN (Local Area Network) per 802.11b specifications

Cable Communications

Caution • The printer should be turned off before connecting or disconnecting the communications cable.

Figure 12: Communications Port

USB Port

Align Locking Plug features with these cutouts.

Rotate clockwise to lock the cable in place; counterclockwise to unlock the cable.

RS232 Port
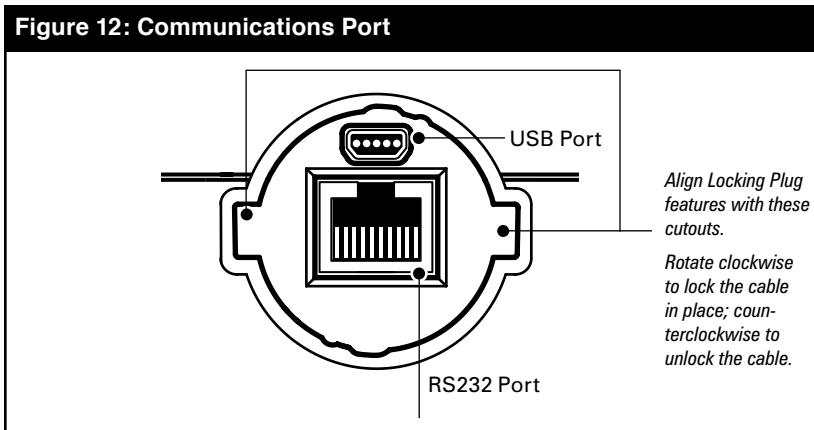
Serial (RS232C)

Note • All RW series printers can communicate by cable; the specific cable supplied with your printer will vary with the host terminal.

The 10- pin modular connector on your communications cable plugs into the serial (RS232C) communications port on the side of the printer. Plug the connector into the RS232C port and ensure the locking device has clicked into position. Then press the Locking Plug into the opening around the connector, aligning its locking features with the cutouts on the printer case. Turn the Locking Plug clockwise one-quarter turn to secure it in place.

The other end of the cable must be plugged into the host terminal as shown in Figure 13, or to a serial port on a computer as shown in Figure 14. Communications between the terminal and the printer are controlled by the applications running on the terminal and the printer.

USB

RW series Printers also can communicate by cable via the USB protocol. The USB port is a USB Mini-AB type connector located directly above the 10- pin modular connector used for RS232C communications. (Refer to Figure 12)

Figure 13: Communications to a Terminal

Printer Communications Port

Communications Cable

Part number varies. Refer to Appendix A

Figure 14: Communications to a PC

USB Communications Cable

Refer to Appendix A for part number

RS232 Communications Cable

Refer to Appendix A for part number
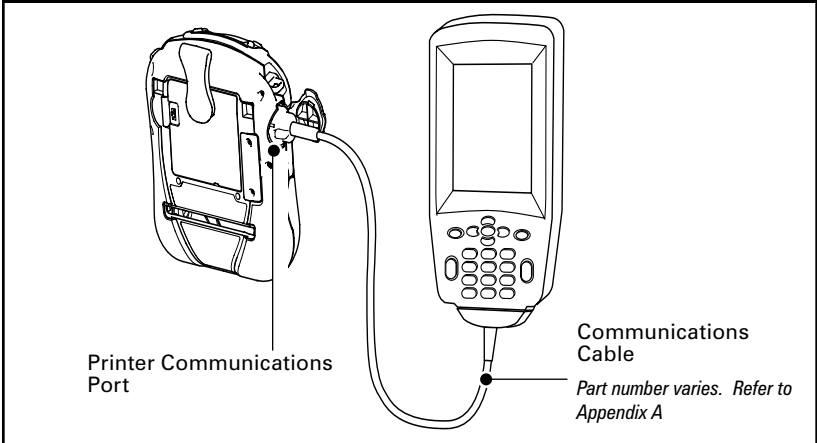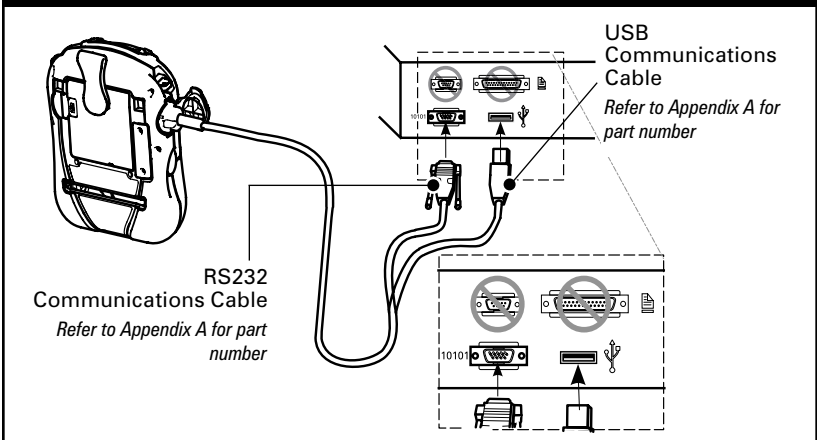
continued

The RW series is configured with the USB Open HCI interface driver allowing it to communicate with Windows® based devices. USB drivers are included in the Zebra Universal Driver which can be downloaded from *www.zebra.com*. Other terminals or communications devices may require the installation of special drivers to use the USB connection. Consult your Zebra reseller or the factory for further details.

Wireless Communications

Wireless Communications with Bluetooth®

"Bluetooth" is a worldwide standard for the exchange of data between two devices via radio frequencies. Bluetooth radios are relatively low powered to help prevent interference with other devices running at similar radio frequencies. This limits the range of a Bluetooth device to about 10 meters (about 32 feet).

Both the printer and the device it communicates with must follow the Bluetooth standard.

Bluetooth Networking Overview

Each Bluetooth enabled RW series printer has a unique Bluetooth Device Address (BDA) loaded into its radio module when manufactured.

Bluetooth software is always running in the background, ready to respond to connection requests. One device (known as the *master* or the *client*) must request a connection with another. The second device (the *slave* or the *server*) then accepts or rejects the connection.   A Bluetooth enabled RW series printer will normally act as a slave creating a miniature network with the terminal sometimes referred to as a "piconet."

For the most part, communications using Bluetooth are initiated and processed without any operator intervention.

RW 420 printers can be equipped with both a Bluetooth and an 802.11b radio, allowing communications with both Bluetooth enabled devices and a Wireless Local Area Network (WLAN) (see discussion below).

Wireless Local Area Network Overview

RW series printers can be equipped with several radio options which use the industry standard 802.11 WLAN protocol.
- RW series printers with a Compact Flash (CF) radio module can be identified by the FCC ID number

"I28MD-RW4137" and other regulatory information on the serial number label on the back of the unit.

- RW series printers with a Zebra Value Radio, 802.11b can be identified by the FCC ID number "I28MD-ZLAN11B" and other regulatory information on the serial number label on the back of the unit.
- RW series Wireless Network Printers with the Zebra 802.11g WLAN radio module can be identified by the text "Wireless Network Printer" and FCC ID: *I28MD-ZLAN11G* on the serial number label on the back of the printer.

- RW 420 printers with both an 802.11b WLAN radio and a Bluetooth radio running in the same unit are considered to be dual radio devices. At present only one dual radio configuration is offered, for RW 420 only, with Bluetooth radio FCC ID "I28MD-BTC2TY3" and 802.11b Compact flash radio FCC ID "I28MD-RW4137". The FCC ID numbers and other regulatory information for both radios are located on the serial number label on the back of the RW 420.

Printers so equipped allow wireless communication as a node within a WLAN and its wireless capabilities allow communications from any point within the WLAN's perimeter. Printers equipped with the dual Bluetooth/802.11b WLAN radio configuration can be linked to both a WLAN and a Bluetooth network simultaneously.

Methods of establishing communications to RW series printers will vary with each LAN application. General information on establishing WLAN communications can be found in either the "CPCL Programmers Manual" or the "Quick Start Guide for Mobile Wireless Printers" both available at *www.zebra.com*. More information and LAN configuration utilities may also be found in Zebra's Label Vista™ program (version 2.8 and later). Label Vista may be downloaded from Zebra's Web site at *www.zebra.com*.

Setting Up the Software

RW series printers use Zebra's CPCL Programming language which was designed for mobile printing applications. CPCL is fully described in the "CPCL Programmers Manual", available on-line at *www.zebra.com*.

You can also use Label Vista™, Zebra's Windows® based label creation program which uses a graphical interface to create and edit labels in the CPCL language. Label Vista is available on-line from *www,zebra.com*.

RW series printers support an interpreter for ZPL II®, or EPL programming languages. If you plan to use ZPL II or EPL, refer to the appropriate Programming Guides available on-line from *Zebra's Web site*. If you choose to use a third party label preparation system, follow the installation instructions included in the package.

Radio Regulatory Information

Bluetooth RW -ZBR3 Radio (RW 220 and RW 420)

⚠️ **Caution • Exposure to Radio Frequency Radiation.**

The radiated output power of this internal Bluetooth radio is far below the FCC radio frequency exposure limits. The internal Bluetooth radio operates within guidelines found in radio frequency safety standards and recommendations. Do not use the printer in an unauthorized manner.

Note • The following section only applies when the RW-ZBR3 Bluetooth Radio (FCC ID: I28MD-BTC2TY3) is installed in an RW series printer. Unless specified elsewhere in this manual, the antenna used for this transmitter must not be co-located or must not operate in conjunction with any other antenna.

European Regulatory Information for the RW-ZBR3 Bluetooth Radio

This device is intended for use in all EU and EFTA member states.

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of compliance with the R&TTE Directive 1999/5/EC:

- EN 60950: 2000
  Safety of Information Technology Equipment
- EN 300 328-2 V1.4.1 (2003-04)
  Technical requirements for spread-spectrum radio equipment
- EN 301 489-1/-17 V1.4.1/1.2.1 (2002-08)
  EMC requirements for spread-spectrum radio equipment.

This device is a 2.4 GHz wireless LAN transceiver, intended for indoor home and office use in all EU and EFTA member states.

$C \in$	**Important Notice:** This device is a portable RF printer intended for commercial and industrial use in all EU and EFTA member states.

Compact Flash (802.11b) Radio Module

The following section only applies when the CF (Compact Flash) WLAN module (With FCC ID: I28MD-RW4137) is installed in a RW series printer. The FCC ID number is on the serial number label on the back of the printer and can be read with the module installed. Other than conditions specified elsewhere in this manual, only one of the radio options can be installed in the printer at one time and the antenna used for this transmitter must not be co-located or must not operate in conjunction with any other antenna.

⚠️ *Caution • Use of a RW series printer with the radio module marked with "FCC ID: I28MD-RW4137" meets the FCC requirements for radio frequency (RF) radiation exposure in the standard body worn configuration with no minimum separation. In this configuration, which applies whether the belt clip or shoulder strap is used, the face of the printer from which paper is transported is facing away from the user's body. The standard configuration must always be used when the printer is body worn.*

RW 220 printers with this radio option have been SAR tested. The maximum SAR value measured for each model was 0.011527 W/g averaged over 1 gram.

RW 420 printers with this radio option have been SAR tested. The maximum SAR value measured for each model was 0.062 W/kg averaged over 1 gram.

European Regulatory Information for this Radio

AT	BE	CY	CZ	DK
EE	FI	~~FR~~	DE	GR
HU	IE	IT	LV	LT
LU	MT	NL	PL	PT
SK	SI	ES	SE	GB

Note: -Member states in the EU with restrictive use for this device are crossed out!
This device is also authorized for use in all EFTA member states (**CH, IS, LI, NO**)

CE 0336 🛈

Important Notice:
This device is a portable RF printer intended for commercial and industrial use in all EU and EFTA member states except in France where restrictive use applies.

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of compliance with the R&TTE Directive 1999/5/EC:

• EN 60950: 2000
Safety of Information Technology Equipment
• EN 300 328-2 V1.2.1 (2001-12)
Technical requirements for spread-spectrum radio equipment
• EN 301 489-17 V1.2.1 (2002-08)
EMC requirements for spread-spectrum radio equipment.

This device is a 2.4 GHz wireless LAN transceiver, intended for indoor home and office use in all EU and EFTA member states, except in France where restrictive use applies.

The use of this frequency band in France is subject to restrictions. You may only use channels 10 and 11 (2457 and 2462 MHz) on French territory, except in those French departments as listed in the table below where channels 1-13 (2412-2472 MHz) may be used. For more information see http://www.anfr.fr/ and/or http://www.art-telecom.fr

01	Ain	36	Indre	69	Rhone
02	Aisne	37	Indre et Loire	70	Haute Saone
03	Allier	39	Jura	71	Saone et Loire
05	Hautes Alpes	41	Loir et Cher	72	Sarthe
08	Ardennes	42	Loire	75	Paris
09	Ariege	45	Loiret	77	Seine et Marne
10	Aube	50	Manche	78	Yvelines
11	Aude	54	Meurthe et Moselle	79	Deux Sievres
12	Aveyron	55	Meuse	82	Tarn et Garonne
16	Charente	57	Moselle	84	Vaucluse
19	Correze	58	Nievre	86	Vienne
2A	Corse Sud	59	Nord	88	Vosges
2B	Haute Corse	60	Oise	89	Yonne
21	Cote d'Or	61	Orne	90	Territoire de Belfort
24	Dordogne	63	Puy de Dome	91	Essonne
25	Doubs	64	Pyrenees Atlantique	92	Hauts de Seine
26	Drome	65	Hautes Pyrenees	93	Seine St Denis
27	Eure	66	Pyrenees Orientales	94	Val de Marne
32	Gers	67	Bas Rhin		
35	Ille et Vilaine	68	Haute Rhin		

Zebra Value Radio, 802.11b

The following section only applies when the Zebra Value Radio, 802.11b (with FCC ID: I28MD-ZLAN11B) is installed in a RW series printer. The FCC ID number is on the serial number label on the back of the printer and can be read with the module installed. Other than conditions specified elsewhere in this manual, only one of the radio options can be installed in the printer at one time and the antenna used for these transmitters must not be co-located or must not operate in conjunction with any other antenna.

⚠ ***Caution • The radiated output power of this internal 802.11b radio is far below the FCC radio frequency exposure limits. Nevertheless, this radio must be used in such a manner that the antenna is 2.5 cm. or further from the human body. The radio and antenna are mounted internally in this printer such that when the printer is worn with the back of the printer against the body and the front of the printer (where paper exits) away from the body, then the 2.5 cm distance between the antenna and the users body will be met. Do not use the printer in an unauthorized manner.***

European Regulatory Information for this Radio

AT	BE	CY	CZ	DK
EE	FI	~~FR~~	DE	GR
HU	IE	IT	LV	LT
LU	MT	NL	PL	PT
SK	SI	ES	SE	GB

Note: -Member states in the EU with restrictive use for this device are crossed out!
This device is also authorized for use in all EFTA member states (**CH, IS, LI, NO**)

C€ 0336 ⓘ

Important Notice:
This device is a portable RF printer intended for commercial and industrial use in all EU and EFTA member states except in France where restrictive use applies.

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of compliance with the R&TTE Directive 1999/5/EC:

  • EN 60950: 2000
Safety of Information Technology Equipment
  • EN 300 328-2 V1.2.1 (2001-12)
Technical requirements for spread-spectrum radio equipment
  • EN 301 489-17 V1.2.1 (2002-08)
EMC requirements for spread-spectrum radio equipment.

This device is a 2.4 GHz wireless LAN transceiver, intended for indoor home and office use in all EU and EFTA member states, except in France where restrictive use applies.

The use of this frequency band in France is subject to restrictions. You may only use channels 10 and 11 (2457 and 2462 MHz) on French territory, except in those French departments as listed in the table below where channels 1-13 (2412-2472 MHz) may be used. For more information see http://www.anfr.fr/ and/or http://www.art-telecom.fr

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08	Ardennes	42	Loire	75	Paris
09	Ariege	45	Loiret	77	Seine et Marne
10	Aube	50	Manche	78	Yvelines
11	Aude	54	Meurthe et Moselle	79	Deux Sievres
12	Aveyron	55	Meuse	82	Tarn et Garonne
16	Charente	57	Moselle	84	Vaucluse
19	Correze	58	Nievre	86	Vienne
2A	Corse Sud	59	Nord	88	Vosges
2B	Haute Corse	60	Oise	89	Yonne
21	Cote d'Or	61	Orne	90	Territoire de Belfort
24	Dordogne	63	Puy de Dome	91	Essonne
25	Doubs	64	Pyrenees Atlantique	92	Hauts de Seine
26	Drome	65	Hautes Pyrenees	93	Seine St Denis
27	Eure	66	Pyrenees Orientales	94	Val de Marne
32	Gers	67	Bas Rhin		
35	Ille et Vilaine	68	Haute Rhin		

WLAN Module Using 802.11g Radio

The following section only applies when the 802.11g WLAN module (With FCC ID: I28MD-ZLAN11G) is installed in a RW series printer (note that only one of the radio options can be installed in the printer at one time). Other than conditions specified elsewhere in this manual, only one of the radio options can be installed in the printer at one time and the antenna used for these transmitters must not be co-located or must not operate in conjunction with any other antenna.

RW Series models have the FCC ID number on a label on the back of the unit.

⚠️ **Caution • Use of a RW series printer with the radio module marked with FCC ID: I28MD-ZLAN11G meets the FCC requirements for radio frequency (RF) radiation exposure in the standard body worn configuration with no minimum separation. In this configuration, which applies whether the belt clip or shoulder strap is used, the face of the printer from which paper is transported is facing away from the user's body. The standard configuration must always be used when the printer is body worn.**

The RW 220 and RW 420 printers with this radio option have been SAR tested. The maximum SAR value measured for each model is listed below:

Model	SAR value W/Kg (1g average)
RW220	0.004
RW 420	0.004

European Regulatory Information for this Radio

AT	BE	CY	CZ	DK
EE	FI	~~FR~~	DE	GR
HU	IE	IT	LV	LT
LU	MT	NL	PL	PT
SK	SI	ES	SE	GB

Note: -Member states in the EU with restrictive use for this device are crossed out!
This device is also authorized for use in all EFTA member states (**CH, IS, LI, NO**)

CE ①

Important Notice:
This device is a portable RF printer intended for commercial and industrial use in all EU and EFTA member states except in France where restrictive use applies.

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of compliance with the R&TTE Directive 1999/5/EC:

• EN55022:1998
European Emmissions Standard
• EN 60950: 2000
Safety of Information Technology Equipment
• EN 300 328-2 V1.2.1 (2001-12)
Technical requirements for spread-spectrum radio equipment
• EN 301 489-17 V1.2.1 (2002-08)
EMC requirements for spread-spectrum radio equipment.

This device is a 2.4 GHz wireless LAN transceiver, intended for indoor home and office use in all EU and EFTA member states, except in France where restrictive use applies.

The use of this frequency band in France is subject to restrictions. You may only use channels 10 and 11 (2457 and 2462 MHz) on French territory, except in those French departments as listed in the table below where channels 1-13 (2412-2472 MHz) may be used. For more information see http://www.anfr.fr/ and/or http://www.art-telecom.fr

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10	Aube	50	Manche	78	Yvelines
11	Aude	54	Meurthe et Moselle	79	Deux Sievres
12	Aveyron	55	Meuse	82	Tarn et Garonne
16	Charente	57	Moselle	84	Vaucluse
19	Correze	58	Nievre	86	Vienne
2A	Corse Sud	59	Nord	88	Vosges
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25	Doubs	64	Pyrenees Atlantique	92	Hauts de Seine
26	Drome	65	Hautes Pyrenees	93	Seine St Denis
27	Eure	66	Pyrenees Orientales	94	Val de Marne
32	Gers	67	Bas Rhin		
35	Ille et Vilaine	68	Haute Rhin		

Compact Flash (802.11b) and Bluetooth Co-located Radio Modules

The following section only applies when the CF (Compact Flash) WLAN module (With FCC ID: I28MD-RW4137) and Bluetooth module (FCC ID: I28MD-BTC2TY3) are installed in a RW 420 printer. This co-located radio configuration has demonstrated compliance to FCC regulations. The FCC ID numbers are on the serial number label on the back of the printer and can be read with the module installed.

⚠ **Caution • Use of a RW 420 printer with the radio module marked with both "FCC ID: I28MD-RW4137" and "I28MD-BTC2TY3" meets the FCC requirements for radio frequency (RF) radiation exposure in the standard body worn configuration with no minimum separation. In this configuration, which applies whether the belt clip or shoulder strap is used, the face of the printer from which paper is transported is facing away from the user's body. The standard configuration must always be used when the printer is body worn. RW 420 printers with this radio option have been SAR tested. The maximum SAR value measured for each model was 0.28 W/kg averaged over 1 gram.**

European Regulatory Information for the Compact Flash 802.11b Radio and Bluetooth Co-located Radio Modules

AT	BE	CY	CZ	DK
EE	FI	~~FR~~	DE	GR
HU	IE	IT	LV	LT
LU	MT	NL	PL	PT
SK	SI	ES	SE	GB

Note: -Member states in the EU with restrictive use for this device are crossed out!

This device is also authorized for use in all EFTA member states (**CH, IS, LI, NO**)

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of compliance with the R&TTE Directive 1999/5/EC:

• EN 60950: 2000

Safety of Information Technology Equipment

• EN 300 328-2 V1.2.1 (2001-12)

Technical requirements for spread-spectrum radio equipment

• EN 301 489-17 V1.2.1 (2002-08)

EMC requirements for spread-spectrum radio equipment.

This device is a 2.4 GHz wireless LAN transceiver, intended for indoor home and office use in all EU and EFTA member states, except in France where restrictive use applies.

CE ⓘ

Important Notice:
This device is a portable RF printer intended for commercial and industrial use in all EU and EFTA member states except in France where restrictive use applies.

The use of this frequency band in France is subject to restrictions. You may only use channels 10 and 11 (2457 and 2462 MHz) on French territory, except in those French departments as listed in the table below where channels 1-13 (2412-2472 MHz) may be used. For more information see http://www.anfr.fr/ and/or http://www.art-telecom.fr

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05	Hautes Alpes	41	Loir et Cher	72	Sarthe
08	Ardennes	42	Loire	75	Paris
09	Ariege	45	Loiret	77	Seine et Marne
10	Aube	50	Manche	78	Yvelines
11	Aude	54	Meurthe et Moselle	79	Deux Sievres
12	Aveyron	55	Meuse	82	Tarn et Garonne
16	Charente	57	Moselle	84	Vaucluse
19	Correze	58	Nievre	86	Vienne
2A	Corse Sud	59	Nord	88	Vosges
2B	Haute Corse	60	Oise	89	Yonne
21	Cote d'Or	61	Orne	90	Territoire de Belfort
24	Dordogne	63	Puy de Dome	91	Essonne
25	Doubs	64	Pyrenees Atlantique	92	Hauts de Seine
26	Drome	65	Hautes Pyrenees	93	Seine St Denis
27	Eure	66	Pyrenees Orientales	94	Val de Marne
32	Gers	67	Bas Rhin		
35	Ille et Vilaine	68	Haute Rhin		

Card Reader Options

The RW series can be equipped with optional Magnetic Stripe and Smart Card readers.   The magnetic stripe card reader allows the user to swipe magnetic stripe cards such as credit cards through a slot in the printer and then read and process the data contained in the card.

In a similar manner the Smart Card reader can read the information written in the microchip embedded in Smart Cards, and process the information in the chip in a variety of ways depending on the printer's application.

Figure 15: Magnetic Stripe Reader Status Indicator

"Rdr" indicates MSR is enabled.
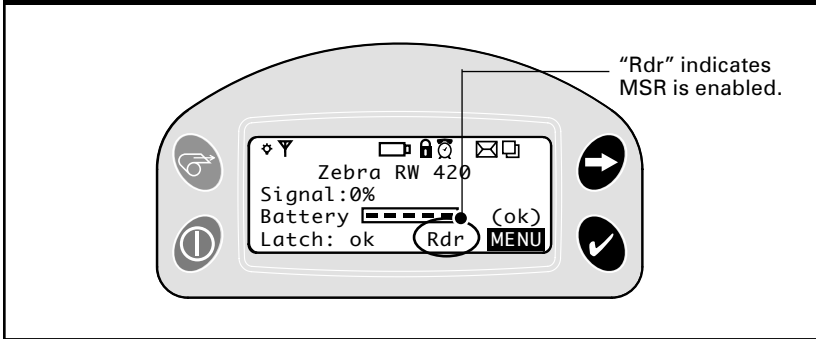
Magnetic Stripe Reader

The status of the Magnetic Stripe Reader (MSR) is indicated in three possible ways:
- Reader status is displayed on the Main Menu LCD as shown in Figure 15.
- The LCD backlight flashes to indicate status (3 flashes = enabled, 2 flashes = disabled).
- Chimes indicates the reader status (3 chimes = enabled, 2 chimes = disabled).

The MSR is used as follows:

1. When the reader is enabled, place the card into the reader slot as shown. The magnetic stripe (typically on the back of the card) must face the bottom of the printer, and be inserted into the bottom of the card reader slot as shown in Figure 16.
2. Slide the card through the slot. The card will be read if slid in either direction. Depending on the application software, the printer will sound one chime when a scan is successful .
3. If the card did not read, slide it back through the slot in the opposite direction.

Figure 16: Using the Magnetic Stripe Reader

Magnetic Stripe Card

Place the Card in the reader slot with the magnetic stripe facing down as shown.

Magnetic Stripe Reader Slot

Card can be read in both directions.
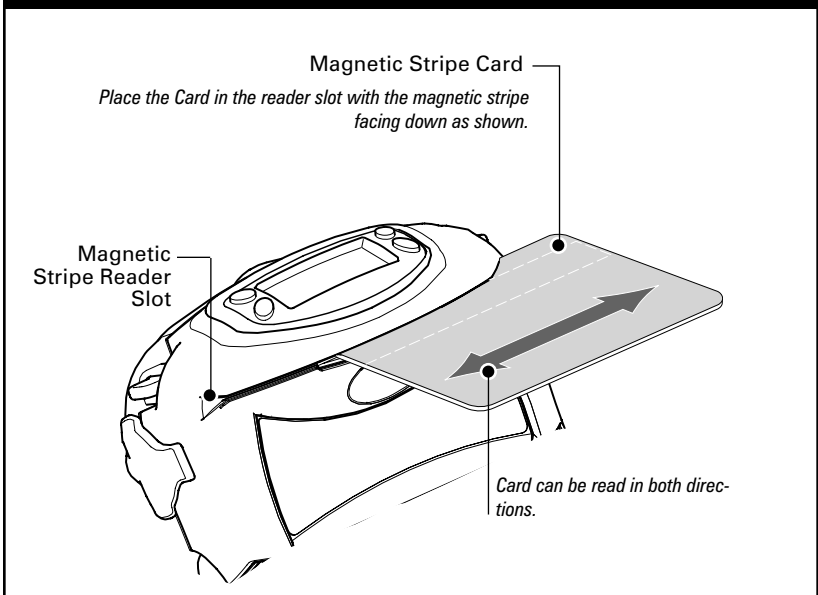
Smart Card Reader

The optional Smart Card reader is used as follows:

1. The LCD will display "RDR" to indicate the Smart Card reader is active. (Some reader applications may flash the display backlight and/or chime three times to indicate the reader status is "ready.") At this time, the Printer is acting only as a Smart Card reader connected to the host terminal; all other printer functions are suspended.
2. Insert the card into the reader slot as shown in Figure 17. The microchip imbedded in the card must be oriented facing the bottom of the printer and must be completely inserted into the Reader Slot to scan successfully .
3. Depending on the application software, the printer will sound a chime after a successful transaction.
4. After the card has been successfully read the Printer can resume normal printing operations and the Smart Card can be removed.

Figure 17: Using the Smart Card Reader

Smart Card Reader Slot

Insert Smart Card with microchip facing down.

Insert Smart Card completely into Printer.
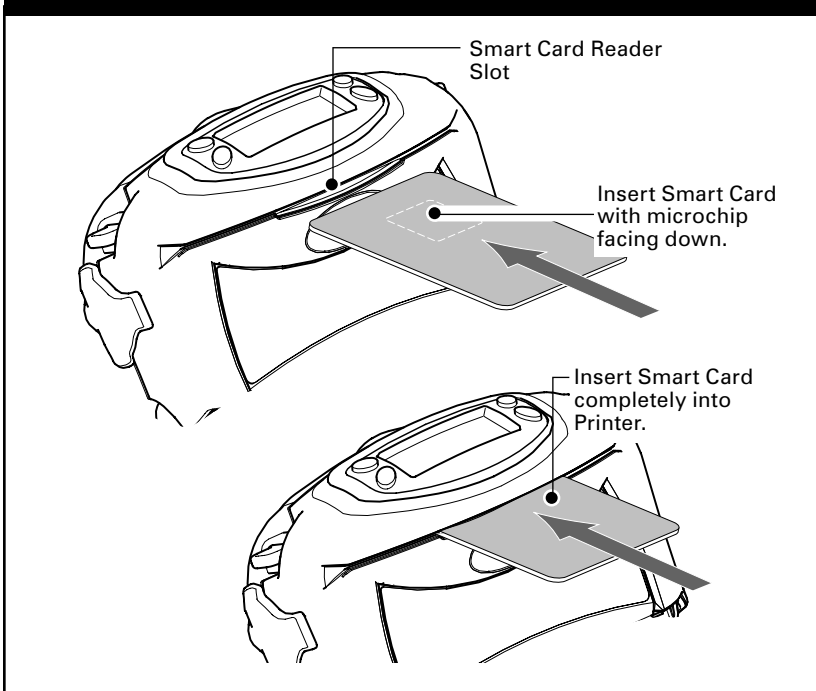
Using the Accessories

Belt Clip

Refer to Figure 18. All RW series printers are equipped with a belt clip as standard. To use: hook the clip over your belt, and ensure that the clip is securely attached to the belt. The belt clip will pivot to allow you to move freely while wearing the printer.

Figure 18: Using the Belt Clip

Clip printer to belt

Printer can pivot freely
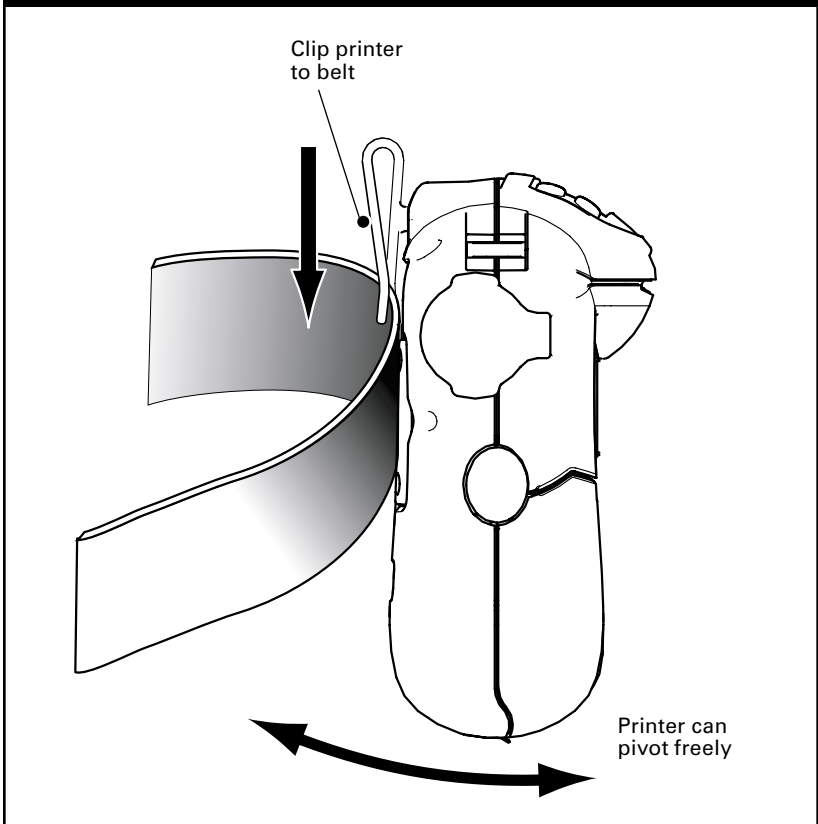
Adjustable Shoulder Strap

Refer to Figure 19. If your printer is equipped for the shoulder strap option: snap each end of the shoulder strap into the "D" rings in the top of the printer. Slide the buckle away from or towards the printer until you achieve the desired length.

Figure 19: Using the Shoulder Strap

Hold Buckle

Pull Strap here to lengthen

Pull Strap here to shorten

Snap in to "D" rings on printer
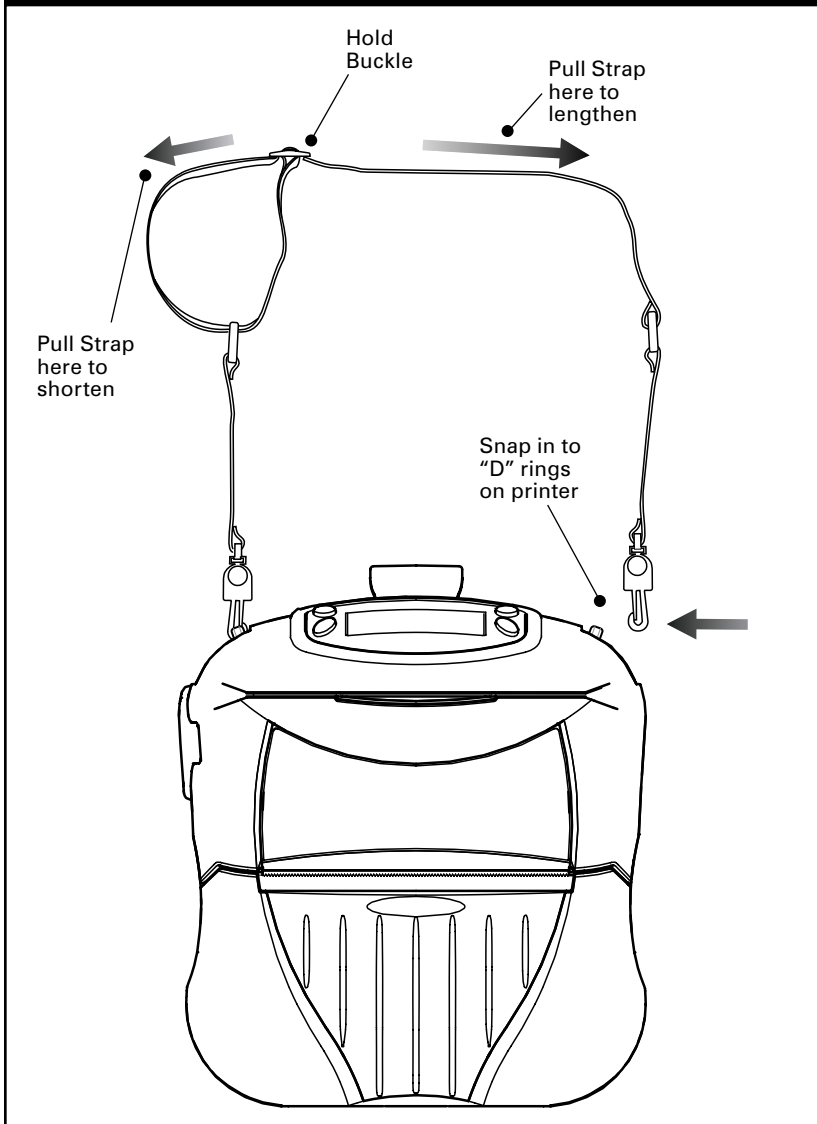
Cradles

RW 420 Vehicle Cradle

The RW 420 can be used in conjunction with a docking Cradle. When the printer is "docked" the Cradle will charge the printer's battery and allow the printer to print, receive and transmit data as usual. The Cradle can provide power from a 12 VDC power supply either from a power take-off point in a vehicle or from an external power supply running off A.C. power. Refer to the documentation supplied with the Cradle for more information.

The RW 420 has software features which can automatically rotate the four display lines on the control panel 180º when the printer is docked. This allows for easier reading of the display when the Cradle is mounted vertically. Refer to Figure 20.

This feature is also available on the RW 220, but the command to rotate the display lines must be sent to the RW 220 when it is docked; it will not rotate the display text automatically.

Figure 20: Display Rotated for Cradle Installation

Normal Display in Cradle

Display rotated in Cradle
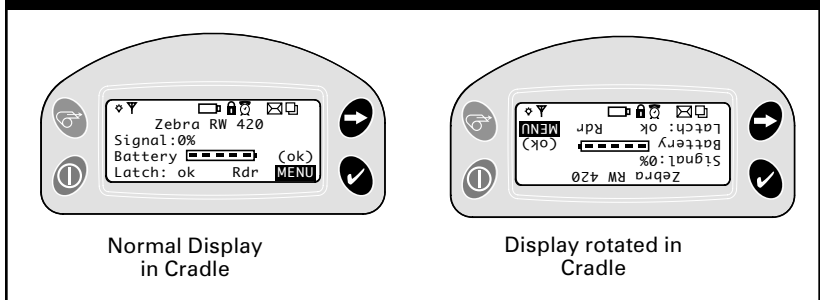
Installing the Printer in the Cradle

> ⚠️ *Important • It is recommended as a safety precaution that the adjustable shoulder strap be removed prior to docking the Printer. This precaution ensures the strap will not interfere with proper operation of the vehicle.*

Figure 21: Installing the RW 420 into the Cradle

Remove and retain the Docking Connector Cover

Charge Indicator

Power Indicator
Always Green when power is on

Rock the Printer into the Cradle to latch it in position.

Place the Printer over the retaining pins in the Cradle.
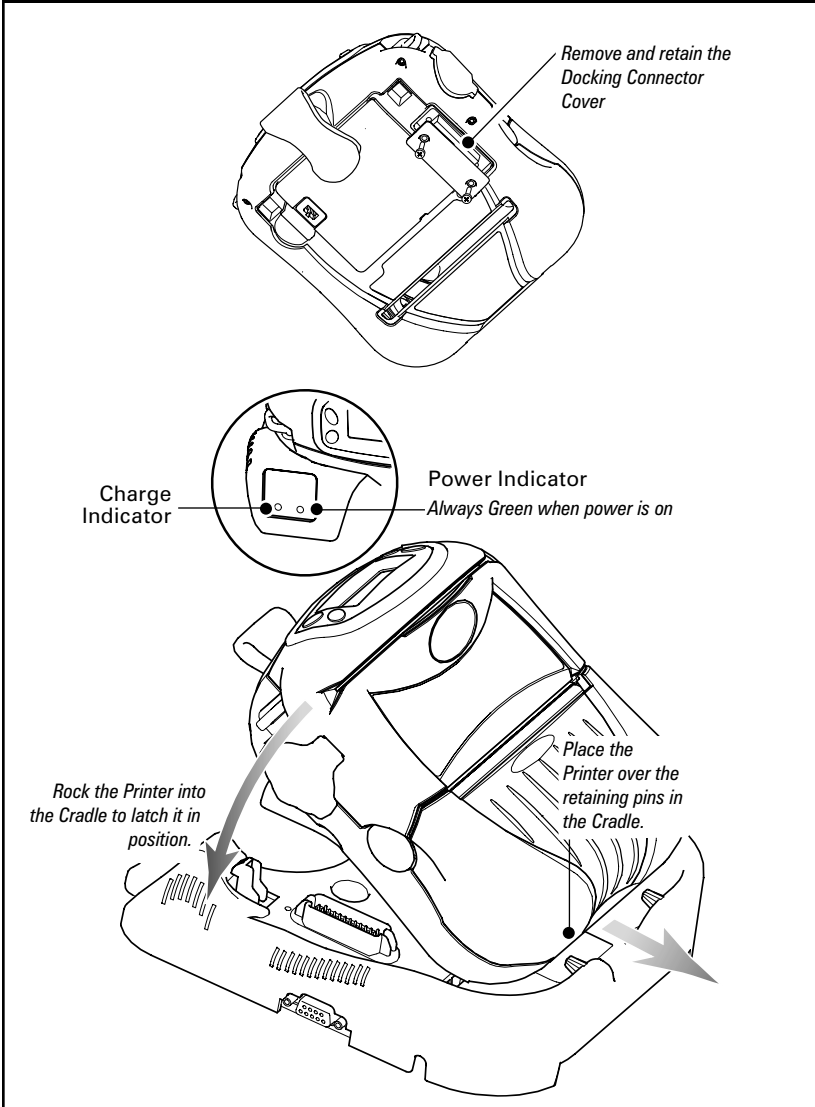
- Remove the Docking Connector Cover from the bottom of the printer, and retain it for future use. (Refer to Figure 21.)
- Place the bottom of the printer over the two pins in the Cradle.
- Rock the top of the Printer into the Cradle and press firmly until it latches in place.
- Ensure the Cradle power and charge indicators are lit and turn the printer on.

If the charge indicator does not light up, unlatch the printer from the Vehicle Cradle, lift it clear from the Cradle and re-seat it.
Refer to the Vehicle Cradle Installation Guide for more complete information on the power and charge indicators

You can load media (including media from an external supply) and perform cleaning operations normally when the RW 420 Printer is installed in the Cradle .

Removing the Printer from the Cradle

Refer to Figure 22.

- Turn the Printer off.
- Push on the latch on the Cradle and rock the top of the printer away from the Cradle.
- Lift the Printer out from the Cradle.

Replace the Docking Connector Cover if you will be using the Printer for an extended period of time away from the Cradle.

Figure 22: Removing the RW 420 from the Cradle

Press the Latch button to release the Printer.

Rotate the Printer out of the Cradle.

Lift the printer free of the retaining pins.

RW 220 Vehicle Cradle

The RW 220 can be used in conjunction with a docking Cradle. When the printer is "docked" it can be powered by either its own battery or one of the RCLI series of external chargers. Refer to the documentation supplied with the Cradle for more information.

Installing the Printer in the Cradle

Refer to Figure 23.

> [!] ***Important • It is recommended as a safety precaution that the adjustable shoulder strap be removed prior to docking the Printer. This precaution ensures the strap will not interfere with proper operation of the vehicle.***

- Place the bottom of the printer over the two pins in the Cradle.
- Rock the top of the Printer into the Cradle and press firmly until it latches in place.

Figure 23: Installing the RW 220 in the Cradle

Rock the Printer into the Cradle to latch it in position.
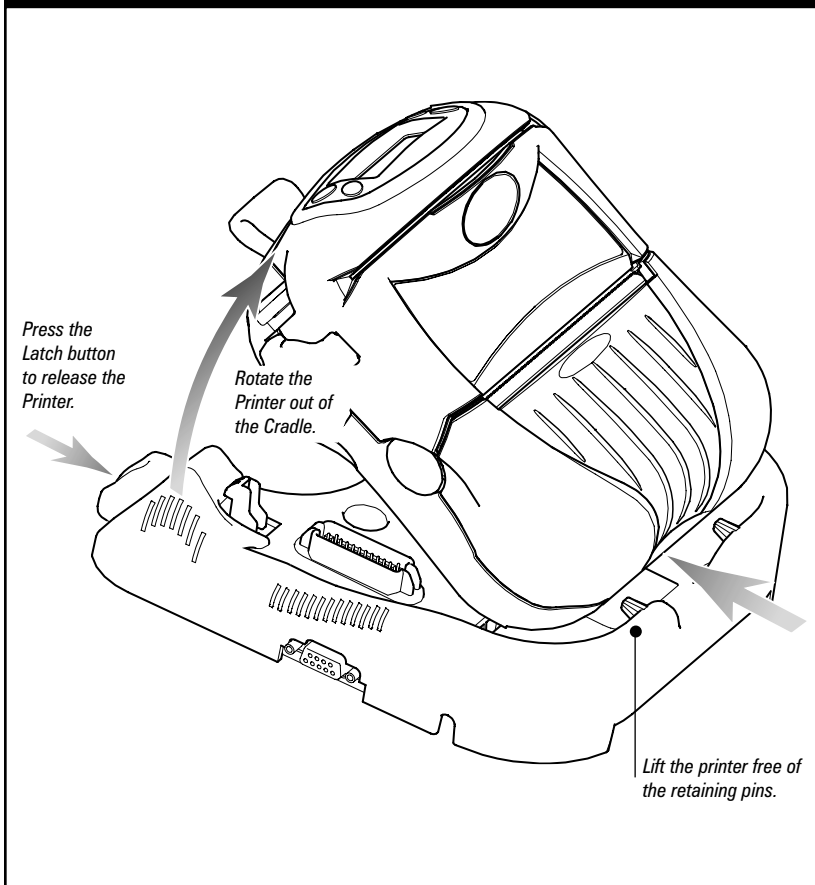
Place the Printer over the retaining pins in the Cradle.
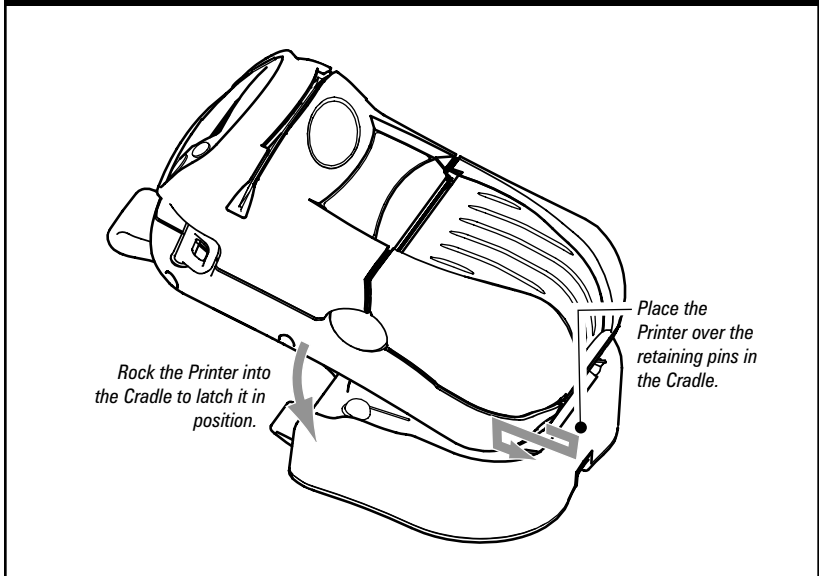
Removing the Printer from the Cradle

Refer to Figure 24.

- Turn the Printer off.
- Pull the latch on the Cradle and rotate the printer away from the Cradle.
- Lift the Printer free of the cradle locating pins and out from the Cradle.

Figure 24: Removing the RW 220 from the Cradle

Pull the Latch button to release the Printer.

Rotate the Printer out of the Cradle.

Lift the printer free of the locating pins.

Preventive Maintenance

Extending Battery Life

- Avoid exposing the battery to direct sunlight or temperatures over 104° F (40° C).
- Always use a Zebra charger designed specifically for Lithium-Ion batteries. Use of any other kind of charger may damage the battery.
- Use the correct media for your printing requirements. An authorized Zebra re-seller can help you determine the optimum media for your application.
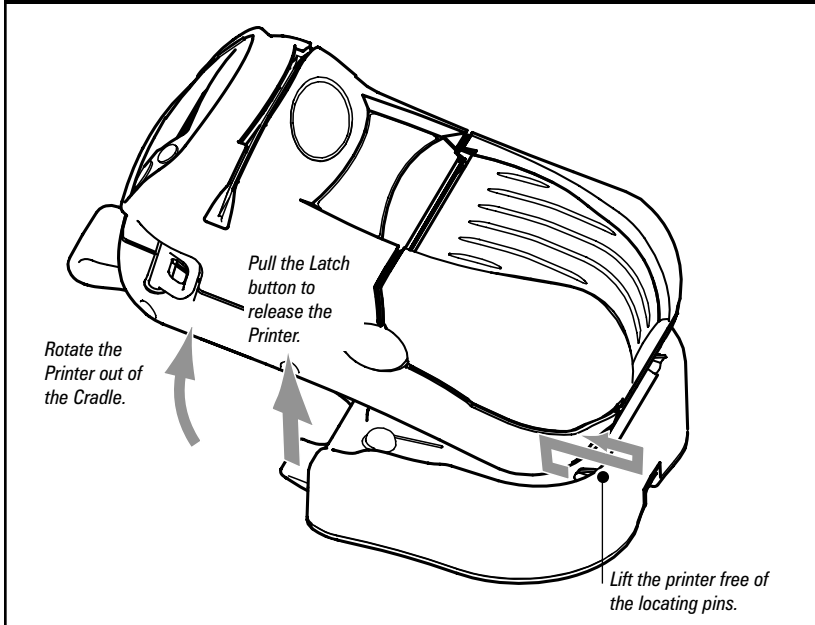- If you print the same text or graphic on every label, consider using a preprinted label.
- Choose the correct print darkness, and print speed for your media.
- Use software handshaking (XON/XOFF) whenever possible.
- Use the LCD display backlight only when necessary. Turn it off whenever it is not needed.
- Remove the battery from the printer if it won't be used for a day or more and you're not performing a maintenance charge.
- Consider purchasing an extra battery.
- Remember that any rechargeable battery will lose its ability to maintain a charge over time and can be recharged a finite number of times before it must be replaced. Always dispose of used batteries properly. Refer to Appendix D for more information on proper battery disposal.

Caution • Do not print while the LI 72 Wall Charger is plugged into the unit. Unreliable battery charging can result.

General Cleaning Instructions

⚠️ *Caution • Always turn the printer off before cleaning.*

To avoid possible personal injury or damage to the printer, never insert any pointed or sharp objects into the printer.

Use care when working near the Tear Bar. The edges are very sharp.

⚠️ *Caution • The printhead can become very hot after prolonged printing. Allow it to cool off before attempting any cleaning procedures.*

Caution • Use only cleaning agents specified in the following table. Zebra Technologies Corporation will not be responsible for damage caused by any other cleaning materials used on this printer.

❗ *Clean the printer with either the cleaning pen supplied with the printer or a cotton swab saturated with alcohol.*

RW Series Cleaning		
Area	**Method**	**Interval**
Printhead (Figure 25)	Use the supplied cleaning pen or 70% isopropyl alcohol on a cotton swab to clean the print elements from end to end (the print elements are located in the thin gray line on the printhead).	After every five rolls of media (or more often, if needed)
Platen Roller (Figure 25)	Rotate the platen roller and clean it thoroughly with the cleaning pen or 70% isopropyl alcohol and a cotton swab.	
Tear bar (Figure 25)	Clean thoroughly with the cleaning pen or 70% isopropyl alcohol and a cotton swab.	
Exterior	Water-dampened cloth	As needed
Interior (Figure 25)	Brush/air blow. Ensure the Bar Sensor and Gap Sensor windows are free of dust.	After every five rolls of media (or more often, if needed)

Figure 25: Cleaning RW Series Printers

RW 420 illustrated

Bar Sensor   Platen Surface

Printhead Elements

Tear Bar   Gap Sensor
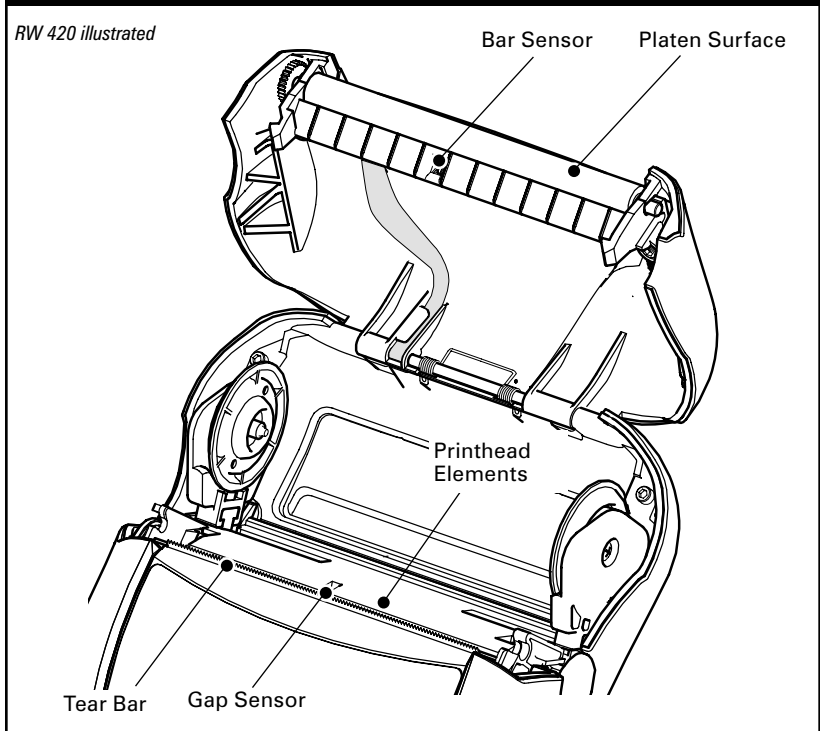
Troubleshooting

LCD Control Panel Indicators

The top of the display shows several icons which indicate various printer functions. Check the indicator status, then refer to the Troubleshooting topic referenced in the chart to resolve the problem.

Status Icon	Condition	Indication	Ref. to Topic #
☼	Steady	Bluetooth Link established	n/a
	Flashing	Transmitting/Receiving via Bluetooth	n/a
	Off	No Bluetooth Link	6
⅄	Steady	802.11b RF Link established	n/a
	Off	No 802.11b RF Link	6
▭	Flashing	Low Battery	3, 6, 7
🔒	Flashing	Head latch not closed	9, 11
⏰	Flashing	Indicates Printing activity	n/a
✉	Steady	data processing in process	8
▯	Flashing	Out of Media	9,11
Blank Screen	n/a	No application	1,13

Troubleshooting Topics

1. No power
- Check that battery is installed properly.
- Recharge or replace battery as necessary. (Always dispose of used batteries properly. Refer to Appendix D for more information on proper battery disposal.)

2. Media does not feed:
- Ensure Media Cover is properly closed and latched.
- Check media supports for any binding.

3. Poor or faded print or flashing ▭ icon:
- Clean print head.
- Check battery and recharge or replace as necessary.
- Check quality of media.

4. Partial/missing print:
- Check media alignment.
- Clean print head.
- Ensure Media Cover is properly closed and latched.

5. Garbled print:
- Check baud rate.

6. No print:
- Check baud rate.
- Replace battery. Always dispose of used batteries properly. Refer to Appendix D for more information on proper battery disposal.
- Check cable to terminal.
- Wireless units (Bluetooth or 802.11b) only: Establish RF Link. Restore LAN associativity on 802.11b wireless units.
- Invalid label format or command structure — put printer in Communications Diagnostic (Hex Dump) Mode to diagnose problem (refer to Troubleshooting Tests section).

7. Reduced battery life
- Check battery date code — if battery is one to two years old, short life may be due to normal aging.
- Replace battery. (Always dispose of used batteries properly. Refer to Appendix D for more information on proper battery disposal.)

8. Flashing ✉ icon:
- No application or application corrupted: reload program.
- Flashing indicator is normal while data is being received.

8. Flashing ✉ icon:
- No application or application corrupted: reload program.
- Flashing indicator is normal while data is being received.

9. Flashing ▭ or 🔒 icon :
- Check that media is loaded.
- Ensure Media Cover is properly closed and latched.

10. Skips labels (only when using label stock):
- Check media for top of form sense mark or label gap.
- Check that the maximum print field has not been exceeded on label.
- Ensure bar or gap sensor is not blocked or malfunctioning.

11. Communication Error:
- Check media is loaded.

- Ensure Media Cover is properly closed and latched and error indicators are off.
- Check baud rate.
- Replace cable to terminal.

12. Label Jam:

- Open media cover.
- Apply generous amount of alcohol to printer in area of jammed label.

13. Blank LCD Screen

- No application loaded or application corrupted: reload program.

14. Magnetic Strip Card or Smart Card Won't Read

- Ensure the "RDR" text is displayed, indicating card reader is enabled. (Refer to the Operator Controls section.)
- Ensure card is inserted with the magnetic stripe or microchip facing in the correct direction.
- Check card for excessive wear or damage to either the magnetic strip or the microchip.

15. Battery Pack Is Hard to Insert

- The battery packs for the RW and QL series printers are similar in size and shape, but not interchangeable. Verify you are using the correct battery pack. The battery pack part number for the RW 420 is AK17463-005.
  The battery pack part number for the RW 220 is AK18026-002.
- Verify that the shrink wrapping and the warning card protecting the battery contacts have been removed.

Troubleshooting Techniques
Printing a Configuration Label

To print out a listing of the printer's current configuration follow these steps:

1. Turn the printer off. Load the media compartment with journal media (media with no black bars printed on the back)
2. Press and hold the Feed Button.
3. Press and release the Power button and keep the Feed button pressed. When printing starts, release the Feed button.
   Refer to Figures 26 through 26b for a sample configuration printout.

Performing a Forced Shutdown

It the printer has locked up and is not responding to any operator inputs or external commands, from either a connected terminal or a linked LAN, you can perform a forced shutdown.

   • If the printer software locks up during normal operation, force the printer to shut down by pressing and holding the Power Button for 3 seconds.
   • If you try to turn the printer off normally and the software locks up, the printer will automatically shut itself off after a 10 second delay.
   • If you try to turn the printer off and it does not respond, you can force an immediate shut down by pressing and holding the Power Button again within 10 seconds.

A forced shutdown will preserve the printer's data and settings.

Communications Diagnostics

If there's a problem transferring data between the computer and the printer, try putting the printer in the Communications Diagnostics Mode (also referred to as the "DUMP" mode). The printer will print the ASCII characters and their and their text representation (or the period '.', if not a printable character) for any data received from the host computer

To enter Communications Diagnostics Mode:

1. Print a configuration label as described above.
2. At the end of 2nd diagnostics report, the printer will print: "Press FEED key to enter DUMP mode."

3. Press the FEED key. The printer will print: "Entering DUMP mode."

> **Note • If the FEED key is not pressed within 3 seconds, the printer will print "DUMP mode not entered" and will resume normal operation.**

4. At this point, the printer is in DUMP mode and will print the ASCII hex codes of any data sent to it, and their text representation (or "." if not a printable character).

Additionally, a file with a ".dmp" extension containing the ASCII information will be created and stored in the printer's memory. It can be viewed, "cloned" or deleted using the Label Vista application. (Refer the Label Vista documentation for more information.)

To terminate the Communications Diagnostics Mode and return the printer to normal operations:

1. Turn the printer OFF.
2. Wait 5 seconds.
3. Turn the printer ON.

Calling Technical Support

If the printer fails to print the configuration label, or you encounter problems not covered in the Troubleshooting Guide, contact Zebra Technical Support ad the locations below. You will need to supply the following information:

- Model number/type (e.g. RW 420)
- Unit serial number (14 digit number, including dashes) (Refer to Figures 26 through 26b.)
- Product Configuration Code (PCC) (15 digit number, including dashes). Refer to Appendix D for more information.

Zebra Technologies International, LLC
333 Corporate Woods Parkway
Vernon Hills, Illinois 60061-3109 USA
Phone: +1.847.793.2600 or
+1.800.423. 0422
Fax: +1.847.913.8766

Zebra Technologies Europe Limited
Zebra House
The Valley Centre, Gordon Road
High Wycombe
Buckinghamshire HP13 6EQ, UK
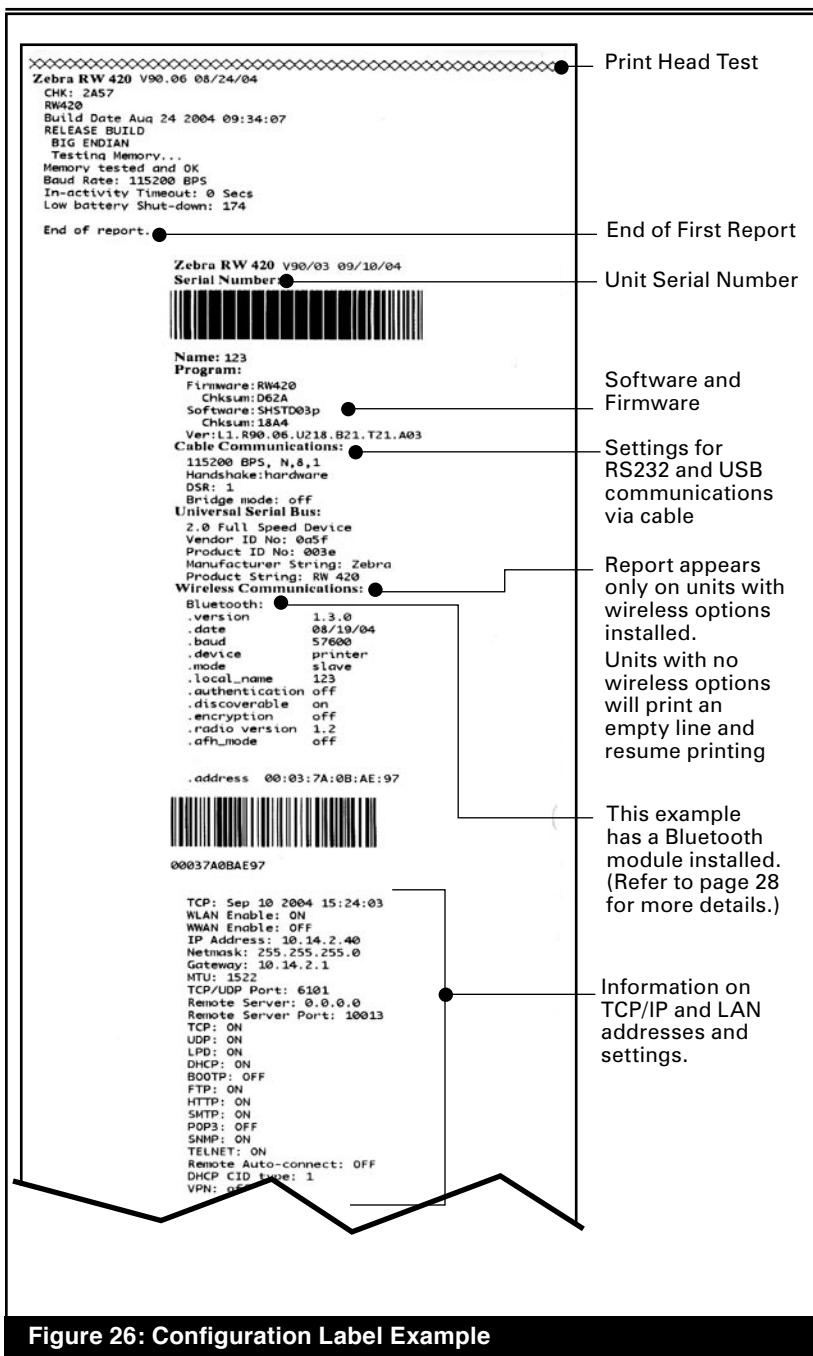Phone: +44.1494.472872
Fax: +44.1494.450103

Zebra Technologies Asia Pacific, LLC
16 New Industrial Road
#05-03 Hudson TechnoCentre
Singapore 536204
Phone: +65-6858 0722
Fax: +65-6885 0838

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX — Print Head Test

```
Zebra RW 420 V90.06 08/24/04
 CHK: 2A57
 RW420
 Build Date Aug 24 2004 09:34:07
 RELEASE BUILD
  BIG ENDIAN
  Testing Memory...
 Memory tested and OK
 Baud Rate: 115200 BPS
 In-activity Timeout: 0 Secs
 Low battery Shut-down: 174

 End of report.
```
— End of First Report

```
       Zebra RW 420 V90/03 09/10/04
       Serial Number:
```
— Unit Serial Number

```
       Name: 123
       Program:
        Firmware:RW420
          Chksum:D62A
        Software:SHSTD03p
          Chksum:18A4
        Ver:L1.R90.06.U218.B21.T21.A03
       Cable Communications:
        115200 BPS, N,8,1
        Handshake:hardware
        DSR: 1
        Bridge mode: off
       Universal Serial Bus:
        2.0 Full Speed Device
        Vendor ID No: 0a5f
        Product ID No: 003e
        Manufacturer String: Zebra
        Product String: RW 420
       Wireless Communications:
        Bluetooth:
        .version      1.3.0
        .date         08/19/04
        .baud         57600
        .device       printer
        .mode         slave
        .local_name   123
        .authentication off
        .discoverable  on
        .encryption    off
        .radio version 1.2
        .afh_mode      off

        .address   00:03:7A:0B:AE:97
```

```
       00037A0BAE97
```

```
       TCP: Sep 10 2004 15:24:03
       WLAN Enable: ON
       WWAN Enable: OFF
       IP Address: 10.14.2.40
       Netmask: 255.255.255.0
       Gateway: 10.14.2.1
       MTU: 1522
       TCP/UDP Port: 6101
       Remote Server: 0.0.0.0
       Remote Server Port: 10013
       TCP: ON
       UDP: ON
       LPD: ON
       DHCP: ON
       BOOTP: OFF
       FTP: ON
       HTTP: ON
       SMTP: ON
       POP3: OFF
       SNMP: ON
       TELNET: ON
       Remote Auto-connect: OFF
       DHCP CID type: 1
       VPN: off
```

Labels (right side):

- Software and Firmware
- Settings for RS232 and USB communications via cable
- Report appears only on units with wireless options installed. Units with no wireless options will print an empty line and resume printing
- This example has a Bluetooth module installed. (Refer to page 28 for more details.)
- Information on TCP/IP and LAN addresses and settings.

Figure 26: Configuration Label Example

```
PCMCIA/CF Adapter
  Build Date: Aug 24 2004
  Build Time: 10:29:25

  Drivers Installed for
  Symbol 802.11b PC LAN Radio
  Symbol 802.11b CF LAN Radio
  Cisco 802.11b PC LAN Radio
  Symbol 802.11 FH PC LAN Radio
  Zebra 802.11b Embedded Radio

  Card Detected.

Spectrum24 802.11b
  MAC Address: 00:a0:f8:5e:2e:b1
  Operating Mode: infrastructure
  International Mode: off
  Preamble Length: long
  Power Save: best
  Encryption: off
  Authentication: open system
  LEAP: off
  Kerberos: off
  Stored ESSID: TJX_2100
  Associated ESSID: TJX_2100

 GPRS Device
  Status: GPRS Wakeup
  ID:
  IMEI:
  Signal: 00
  IP:
  Data Comp: off
  Header Comp: off
  Req QoS:
  Min QoS:
Network Management:
Peripherals:
  MCR 3.00
  SCARD 3.02
  LCD: Installed
  Expansion module: 0xF5
  802.11/B Compact Flash and Bl
uetooth
Power Management:
  In-activity Timeout:0 Secs
  Low-battery Timeout:60 Secs
  Remote(DTR) pwr-off:Enabled
  Voltage        :8.23(211)
  Low-bat Warning  :7.10(182)
  Low-bat Shut-down:6.79(174)
  Power On Cycles  :269
Memory:
  Flash :4194303 Bytes
  RAM   :8388607 Bytes
Label:
  Width :832 dots, 104 mm
  Height:57927 dots, 7240 mm
Sensors: (Adj)
  Pres[DAC:  0,Thr:120,Cur:255]
    Label Removed
  Media [255 (384 dots)]
  Gap [DAC:113,Thr: 30,Cur: 81]
  Bar [DAC:109,Thr: 70,Cur: 11]
  Temperature :171
  Voltage      :8.23(211)
Resident Fonts:
    Font        Chars
```

Information on any installed 802.11b wireless devices
In this example, an 802.11b WLAN card has been detected.

List of peripherals installed. In this example the printer has the Mag Card and SmartCard reader option, and the wireless expansion module has an 802.11b and Bluetooth wireless module[1].

List of power management settings. Also includes a count of the number of times the unit has been powered on.

1. Dual radio units as illustrated above are not yet offered for sale. This option will be offered after initial product release.

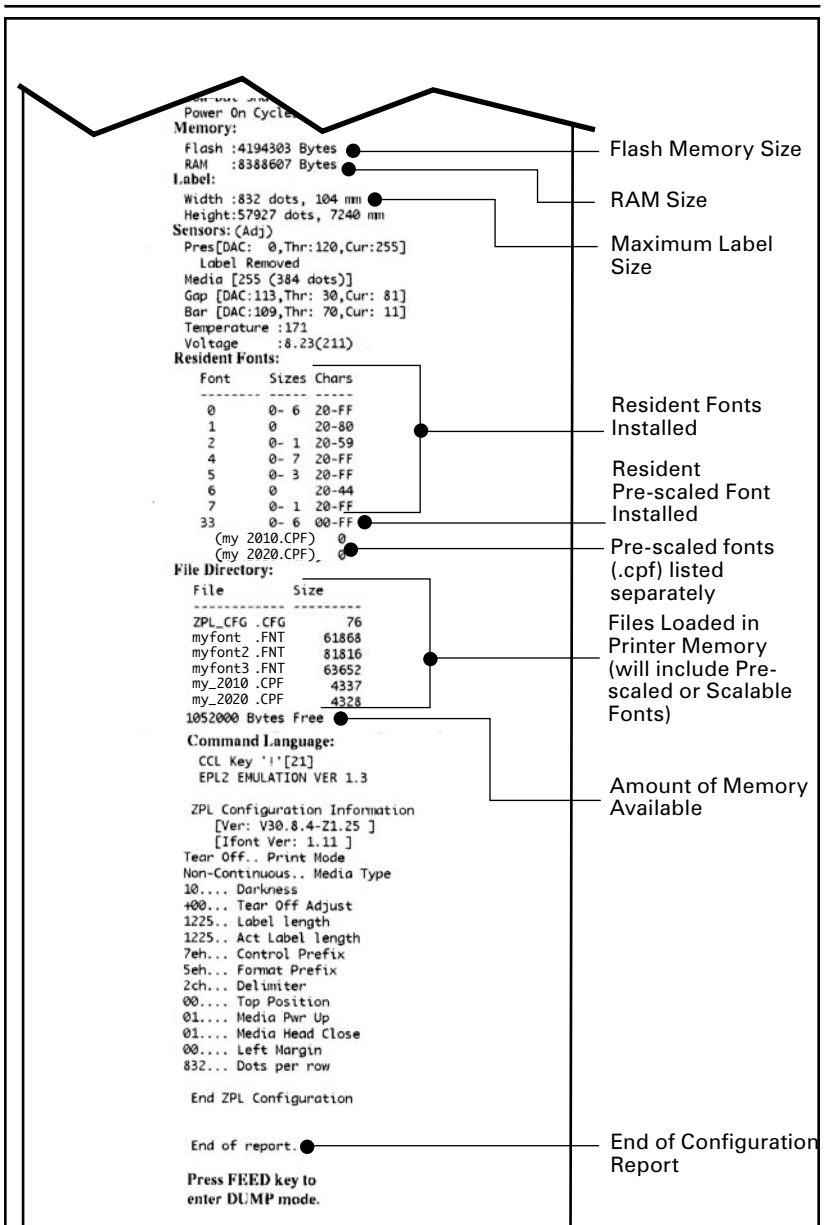**Figure 26a: Configuration Label Example (continued)**

```
            Power On Cycle
Memory:
  Flash :4194303 Bytes ●————————————————— Flash Memory Size
  RAM   :8388607 Bytes ●
Label:                                      RAM Size
  Width :832 dots, 104 mm ●
  Height:57927 dots, 7240 mm               Maximum Label
Sensors:(Adj)                              Size
  Pres[DAC:  0,Thr:120,Cur:255]
    Label Removed
  Media [255 (384 dots)]
  Gap [DAC:113,Thr: 30,Cur: 81]
  Bar [DAC:109,Thr: 70,Cur: 11]
  Temperature :171
  Voltage     :8.23(211)
Resident Fonts:

    Font   Sizes Chars
    ------- ----- -----
     0     0- 6  20-FF
     1     0     20-80          Resident Fonts
     2     0- 1  20-59          Installed
     4     0- 7  20-FF
     5     0- 3  20-FF
     6     0     20-44          Resident
     7     0- 1  20-FF          Pre-scaled Font
    33     0- 6  00-FF ●        Installed
     (my 2010.CPF)  0 ●———————— Pre-scaled fonts
     (my 2020.CPF)  0           (.cpf) listed
File Directory:                            separately

    File       Size                Files Loaded in
    ---------- ---------           Printer Memory
  ZPL_CFG .CFG      76             (will include Pre-
  myfont  .FNT   61868            scaled or Scalable
  myfont2 .FNT   81816            Fonts)
  myfont3 .FNT   63652
  my_2010 .CPF    4337
  my_2020 .CPF    4328
  1052000 Bytes Free ●

  Command Language:                  Amount of Memory
    CCL Key '!'[21]                  Available
    EPL2 EMULATION VER 1.3

    ZPL Configuration Information
      [Ver: V30.8.4-Z1.25 ]
      [Ifont Ver: 1.11 ]
  Tear Off.. Print Mode
  Non-Continuous.. Media Type
  10.... Darkness
  +00... Tear Off Adjust
  1225.. Label length
  1225.. Act Label length
  7eh... Control Prefix
  5eh... Format Prefix
  2ch... Delimiter
  00.... Top Position
  01.... Media Pwr Up
  01.... Media Head Close
  00.... Left Margin
  832... Dots per row

  End ZPL Configuration

  End of report. ●——————————————— End of Configuration
                                     Report
  Press FEED key to
  enter DUMP mode.
```

Figure 26b: Configuration Label Example (continued)

Specifications

Printing Specifications

	RW 420	RW 220
Print Width	4.09 in. [103.8 mm] max.	2.20 in [56 mm] max.
Print Speed @ 30% density	3 in. /second [76.2 mm/second]	
Distance from Print Element to Tear Edge	.20 in. [5 mm] 41 dots	
Print Head Life, calculated	1,964,160 in. (50 Km) nominal	
Print Density	203 dots/inch (8 dots/mm)	

Memory/Communications Specifications

Flash Memory	4 MB flash (standard)
RAM Memory	8 MB RAM (standard)
Standard Communications	RS-232C serial port (RJ-45 connector) Configurable Baud rate (from 9600 to 115.2 Kbps), parity and data bits. Software (X-ON/X-OFF) or hardware (DTR/STR) communication handshake protocols. USB 2.0 Full Speed Interface (12 Mb/s))
Optional Wireless Communications	Bluetooth compatible 2.4 GHz SRRF link Wireless LAN capabilities comply with 802.11b protocols Dual Bluetooth + 802.11b radios (RW 420 only)

Communications Ports
USB

Pin#	Signal Name	Type	Description
1	VBUS	-	USB Bus Power
2	USB -	bi-directional	I/O signals
3	USB +	bi-directional	I/O signals
4	USB_ID	-	Identifies A/B connector
5	Return	-	Ground

RS232

Pin#	Signal Name	Type	Description
1	NC	no connect	
2	NC	no connect	
3	RXD	input	Receive Data
4	TXD	output	Transmit Data
5	DTR	output	Data Terminal Ready set high when printer is on.
6	GND		Ground
7	DSR	input	Data Set Ready low to high transition turns printer on, high to low transition turns printer off (if enabled)
8	RTS	output	Request To Send set high when printer is ready to accept a command or data
9	CTS	input	Clear To Send from host
10	NC	no connect	

USB

1   5

10   1

RS232
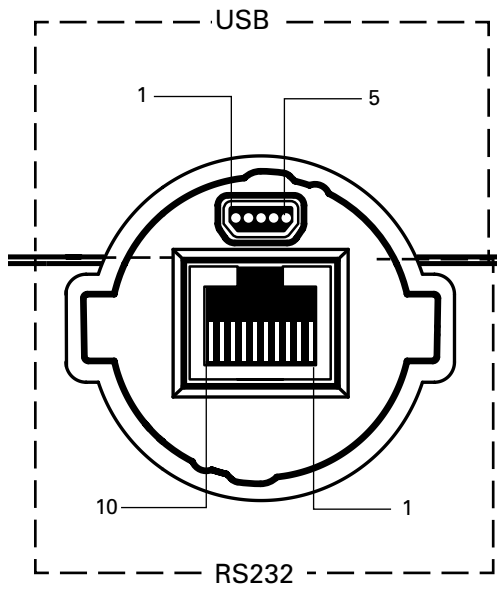
Figure 27: Communication Ports

RW 420 Media Specifications

Media Width	2.0 in. to 4.12 in. (50.8 to 104.6 mm)
Max. continuous receipt (w/std. memory)	Continuous, dependent on installed memory
Inter-label Gap.	0.08 in. to 0.16 in. (0.12 in. preferred) (2 mm to 4 mm [3 mm preferred])
Label Thickness	.0025" to .0065" (.064 mm to .165 mm)
Max. Label Roll dia.	2.25 in. (57 mm) O.D.
Label Inner Core	.75 in. (19 mm) minimum dia; 1.38 in. (35 mm) optional setting
Black Mark Dimensions	The reflective media black marks should extend past the centerline of the roll.
Media Requirements	Minimum mark width: 1.0" (25.4 mm) perpendicular to edge of media, centered within the width of the roll. Mark length: 0.094" (2.4 mm) parallel to edge of media

RW 220 Media Specifications

Media Width	1.0" in. to 2.37 in. [25.4 to 60.1 mm]
Max. continuous receipt (w/std. memory)	Continuous, dependent on installed memory
Inter-label Gap.	0.08 in. to 0.16 in. (0.12 in. preferred) (2 mm to 4 mm [3 mm preferred])
Label Thickness	.0025" to .0065" (.064 mm to .165 mm)
Max. Label Roll dia.	2.25 in. [57 mm] O.D.
Label Inner Core	.75 in. [19 mm) minimum dia; 1.38 in. (35 mm) optional setting
Black Mark Dimensions	The reflective media black marks should extend past the centerline of the roll.
Media Requirements	Minimum mark width: .5" (12.7 mm) perpendicular to edge of media, centered within the width of the roll. Mark length: 0.094" (2.4 mm) parallel to edge of media

Use Zebra brand direct thermal media that is outside wound. Media may be reflective (black mark) sensing, or transmissive (gap) sensing, die-cut, or continuous. RW 420 units configured with the External Media option will accept fanfold media used with an external media supply.
For die-cut labels, use only full auto dies.

Font/Bar Code Specifications

Fonts Available	Standard Fonts: 25 bit-mapped fonts; 1 scalable font (CG Trimvirate Bold Condensed*) Downloadable optional bit-mapped & scalable fonts via Label Vista software. Optional International character sets: Chinese 16 x 16 (trad), 16 x 16 (simplified), 24 x 24 (simplified); Japanese 16 x 16, 24 x 24; Hebrew/Arabic *contains UFST from Agfa Monotype Corporation
Linear Bar Codes Available	Codabar UCC/EAN 128 UCC-128 Composite A/B/C Code 39 Code 93 EAN 8/JAN 8, 2 and 5 digit extensions EAN-8 Composite EAN 13/JAN 13, 2 and 5 digit extensions EAN-13 Composite Interleaved 2 of 5 MSI/Plessey FIM/POSTNET UPC-A, 2 and 5 digit extensions UPCA Composite UPC E, 2 and 5 digit extensions UPCE Composite

2-D Bar Codes Available	MaxiCode
	PDF 417
	Datamatrix (using ZPL emulation)
	RSS: RSS-14 Truncated
	        RSS-14 Stacked
	        RSS-14 Stacked Omnidirectional
	        RSS Limited
	        RSS Expanded

Rotation Angles	0°, 90°, 180°, and 270°

Physical/Environmental/Electrical Specifications

	RW 420	RW 220
Weight w/ battery, excluding media	2.0 lbs. (907 g.)[1]	1.45 lb.(658 g.)[1]
	2.15 lbs. (975 g)[2]	1.55 lb. (703 g)[2]
Operating Temperature	-4° to 131° F (-20° to 55° C)	
Charging Temperature	32° to 104°F (0° to 40° C)	
Storage Temperature	-22° to 149° F (-30° to 65° C) w/o battery	
	-4° to 113° F (-20° to 45°C) with battery	
Relative Humidity	Operating: 10% to 90% (non-condensing)	
	Storage: 10% to 90% (non-condensing)	
Battery	7.4V Lithium-Ion 4 AHr.	7.4V Lithium-Ion 2 AHr
Intrusion Protection (IP) Rating	54	

1. Weight is for base unit (without MCR /SmartCard option)
2. Weight is for unit with MCR/SmartCard option installed

3.7″ [94 mm] max. [1]

3.2″ [81 mm] max. [1]

6.9″ [175 mm]

6.3″ [160 mm]

7.4″ [188 mm]

.25″ [6 mm]

1.8″ [46 mm]

NOTE:

1. Dimensions shown are for units with the MSR/Smart Card option installed. Subtract .08″ [2 mm] from these dimensions for units without this option.
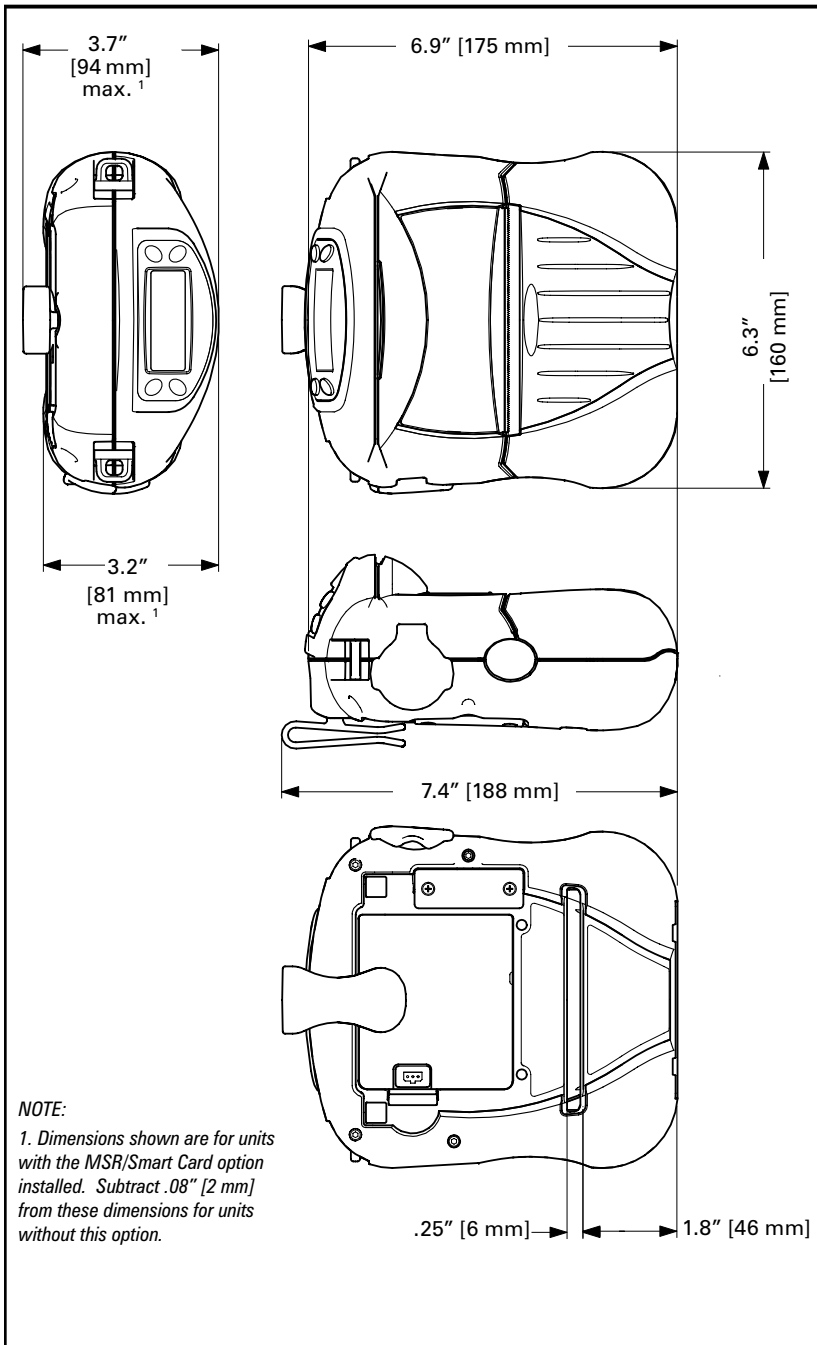
Figure 28: RW 420 Overall Dimensions

7.2″ [185.3 mm]

3.7″ [94.1 mm][1]

4.4″ [111.8 mm]

6.8″ [173.6 mm]

3.2″ [81 mm][1]

1.8″ [45.6 mm]

3.9″ [99.1 mm]

6-32 x .25″ [6.4 mm] deep (2) places

NOTE:

1. Dimensions shown are for units with the MSR/Smart Card option installed. Subtract 0.27″ [5 mm] from these dimensions for units without this option.
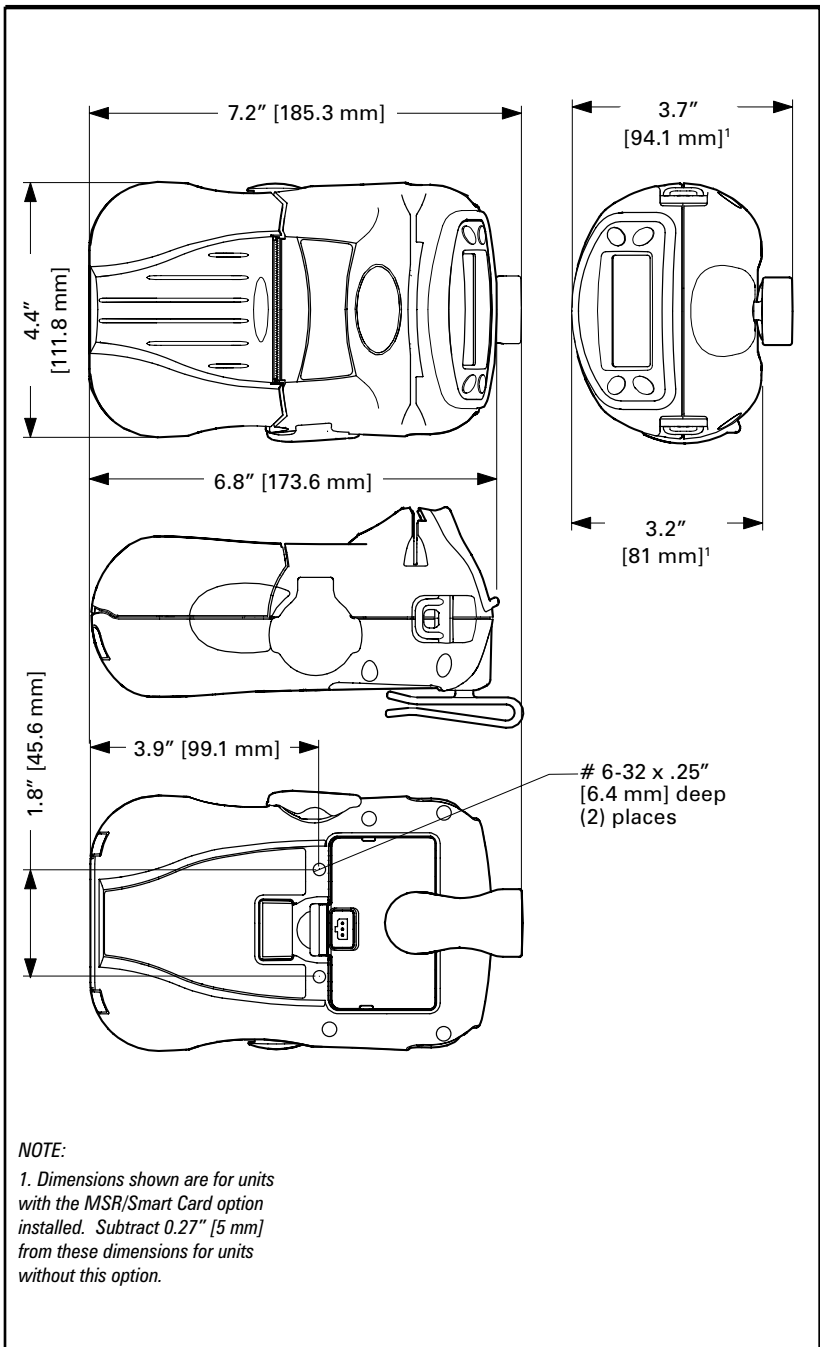
Figure 29: RW 220 Overall Dimensions

RW Series Accessories

Description	Input Voltage
Adjustable shoulder strap	n/a
Carrying Strap	n/a
RW 420 Protective Soft Case	n/a
RW 220 Protective Soft Case	n/a
RW 420 Extra Battery Pack	n/a
RW 220 Extra Battery Pack	n/a
RW 420 Vehicle Cradle/Charger	9-30 VDC
RW 420 Vehicle Cradle/Charger w/ cigarette lighter adapter	9-30 VDC
RW 220 Vehicle Cradle w/ mounting arm	n/a
RW 220 Vehicle Cradle w/o mounting arm	n/a
Model RCLI-DC Mobile Chargers DC-DC run/charge units	12 VDC
	9-30 VDC
	30-60 VDC
	12 VDC
Model RCLI-AC Mobile Charge AC/DC run/charge unitr	100-240 VAC 50/60 Hz
Model LI 72- Single Battery Charger	100-240 VAC 50/60 Hz
Model UCLI72-4 Four Battery Charger (U.S./ Japan)	100-240 VAC 50/60 Hz
Model UCLI72-4 Four Battery Charger (U.K.)	100-240 VAC 50/60 Hz
Model UCLI72-4 Four Battery Charger (Euro)	100-240 VAC 50/60 Hz
Model UCLI72-4 Four Battery Charger (Australia)	100-240 VAC 50/60 Hz

NOTES

1. Part number of LI72 Single Battery Chargers will vary depending upon the intended country of use. Contact the factory or your Zebra re-seller for complete part number information.

2. CC16614-9 is the cigarette lighter adapter version of **CC16614-1.**

3. Refer to Appendix A for information on Data I/O Cables.

Appendix A

Interface Cables

RS232 Download Cable

Part Number BL17205-1; RW Mod Plug to 9-Pin DB PC Cable

10 PIN MOD Plug
(Printer Signals)

PIN 9

PIN 1

(TXD)	3	→	3 (RXD)
(RXD)	2	←	4 (TXD)
(DSR)	6	←	5 (DTR)
(GND)	5	←	6 (GND)
(DTR)	4	→	7 (DSR)
(CTS)	8	←	8 (RTS)
(RTS)	7	→	9 (CTS)
SHIELD		↔	SHIELD

PIN 1   PIN 10
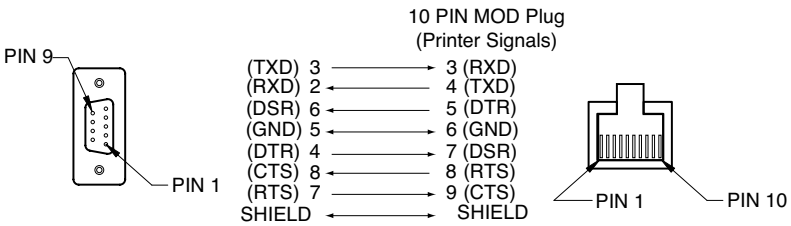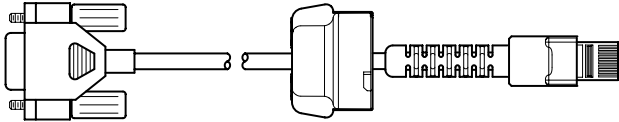
USB Cable

Part Number AT17010-1; USB A to USB Mini B Cable

USB A

USB MINI-B

Circuit #4
Circuit #3
Circuit #2
Circuit #1

USB A			USB MINI-B
4		5	
3		4	
2		3	
1		2	
		1	

Circuit #1
Circuit #2
Circuit #3
Circuit #4
Circuit #5

USB A   USB MINI-B
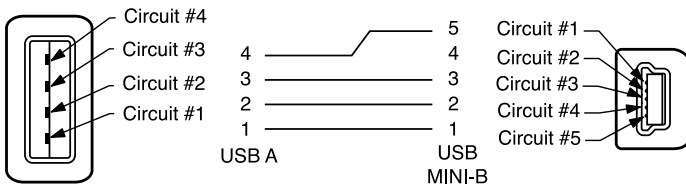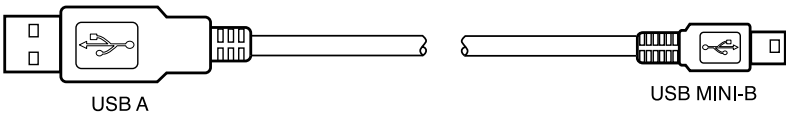
Appendix A

More Interface Cables

Contact the Factory or your Zebra Sales Representative for more information on interface cables to most major manufactur's data terminals.

You may also vist the Zebra Web site at http://www.zebra.com for a listing of interface cables for all series of Zebra mobile printers

Appendix B

Media Supplies

   To insure maximum printer life and consistent print quality and performance for your individual application, it is recommended that only media produced by Zebra be used. Advantages include:
  * Consistent quality and reliability of media products.
  * Large range of stocked and standard formats.
  * In-house custom format design service.
  * Large production capacity which services the needs of many large and small media consumers including major retail chains world wide.
  * Media products that meet or exceed industry standards.

   For more information about standard or custom media contact your re-seller or Zebra Technologies Corporation at +1.866.230.9495 (U.S., Canada and Mexico) and ask to speak to a Media Sales Representative.

Appendix C

Maintenance Supplies

In addition to using quality media provided by Zebra, it is recommended that the printer be cleaned as prescribed in the maintenance section. The following items are available for this purpose:

- Cleaning Pen (10 pack), Reorder No. AN11209-1

- Cleaning Kit with Cleaning Pen, and Cotton Swabs, Reorder No. AT702-1

Appendix D

Product Support

When calling with a specific problem regarding your printer, please have the following information on hand:
- Model number/type (e.g. QL 420)
- Unit serial number (refer to figure on opposite page)
- Product Configuration Code (PCC) (refer to figure on opposite page))

For on-line product support, contact Zebra Technologies at:
www.zebra.com

In the Americas contact

Corprate Headquarters	Technical Support	Customer Service Dept.
Zebra Technologies International,LLC 333 Corporate Woods Parkway Vernon Hills, Illinois 60061.3109 U.S.A T: +1 847 793 2600 Toll-free +1 800 423 0422	T: +1 847 913 2259 F: +1 847 913 2578 Hardware: hwtsamerica@zebra.com Software: swtsamerica@zebra.com	For printers, parts, media, and ribbon, please call your distributor, or contact us. T: +1 866 230 9494 F: +1 847 913 8766 E: VHCustServ@zebra.com

In Europe, Africa, the Middle East, and India contact

Regional Headquarters	Technical Support	Internal Sales Dept.
Zebra Technologies Europe Limited Zebra House The Valley Centre, Gordon Road High Wycombe Buckinghamshire HP13 6EQ, UK T: +44 (0)1494 472872 F: +44 (0) 1494 450103	T: +44 (0) 1494 768298 F: +44 (0) 1494 768210 Germany: Tsgermany@zebra.com F: +44 (0) 1494 768244 E: mseurope@zebra.com France: Tsfrance@zebra.com Spain/Portugal: Tsspain@zebra.com All other areas: Tseurope@zebra.com	For printers, parts, media, and ribbon, please call your distributor, or contact us. T: +44 (0) 1494 768316 F: +44 (0) 1494 768244 E: mseurope@zebra.com

In the Asia Pacific region contact

Regional Headquarters	Technical Support	Customer Service
Zebra Technologies Asia Pacific, LLC 16 New Industrial Road #05-03 Hudson TechnoCentre Singapore 536204 T: +65 6858 0722 F: +65 6885 0838	T: +65 6858 0722 F: +65 6885 0838 E: tsasiapacific@zebra.com	For printers, parts, media, and ribbon, please call your distributor, or contact us. T: +65 6858 0722 F: +65 6885 0837
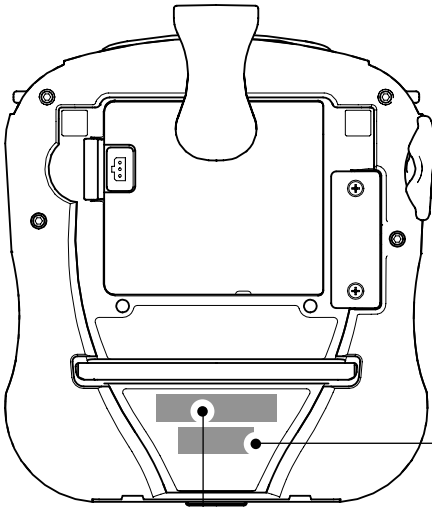
Product
Configuration
Code

Serial Number

RW 420
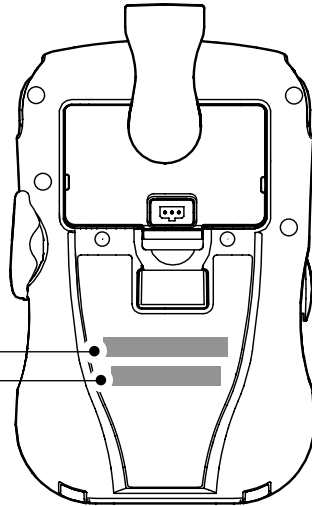
Product Configuration
Code

Serial Number

RW 220

Serial and PCC Number Locations for RW Series Printers

Appendix D

Battery Disposal

The EPA certified RBRC® Battery Recycling Seal on the Lithium-Ion (Li-Ion) battery supplied with your printer indicates Zebra Technologies Corporation is voluntarily participating in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States or Canada. The RBRC® program provides a convenient alternative to placing used Li-Ion batteries into the trash or the municipal waste stream, which may be illegal in your area.

When the battery is worn out, insulate the terminals with tape before disposal

Please call 1-800-8-BATTERY for information on Li-Ion battery recycling and disposal bans or restrictions in your area. Zebra Technologies Corporation's involvement in this program is part of our commitment to preserving our environment and conserving our natural resources.

Outside North America, please follow local battery recycling guidelines.

Product Disposal

Do not dispose of this product in unsorted municipal waste. This product is recyclable. Please recycle according to your local standards. For more information, please see our web site at: *http://www.zebra.com/recycle*

Appendix E

Using www.zebra.com

The following details using the search functions on Zebra's Web site *www.zebra.com* for finding specific documents .

Finding Manuals:
http://www.zebra.com/id/zebra/na/en/index/resource_library/manuals.html

Select printer model (e.g. RW 420)

Select language

Select manual type

Click on "SUBMIT"

Example: FInd the Mobile Printer WIreless Configuration Guide.
Perform the above step and select as a manual type "Networking Manual"

Sort by "Manual Type" (optional step)

Select the Wireless Configuration Guide

Click on "Download" to save a .pdf file to your local drive

Finding the Label Vista Download page:

http://www.zebra.com/id/zebra/na/en/index/drivers_downloads.html

At the resulting window select your printer model from the pull-down menu in the "Utilities" section.

Enter your printer model number and click on "SUBMIT"

Click on "Download" to save a demo application to your local drive

Index

Patent Numbers

This product and/or its use may be covered by one or more of the following US patents and corresponding international patents worldwide

D275,286	5,047,617	5,372,439	5,570,123	6,068,415
D347,021	5,103,461	5,373,148	5,578,810	6,095,704
D389,178	5,113,445	5,378,882	5,589,680	6,109,801
D430,199	5,140,144	5,396,053	5,612,531	6,123,471
D433,702	5,132,709	5,396,055	5,642,666	6,147,767
3,964,673	5,142,550	5,399,846	5,657,066	6,151,037
4,019,676	5,149,950	5,408,081	5,768,991	6,201,255 B1
4,044,946	5,157,687	5,410,139	5,790,162	6,231,253 B1
4,360,798	5,168,148	5,410,140	5,791,796	6,261,009
4,369,361	5,168,149	5,412,198	5,806,993	6,261,013
4,387,297	5,180,904	5,415,482	5,813,343	6,267,521
4,460,120	5,229,591	5,418,812	5,816,718	6,270,072 B1
4,496,831	5,230,088	5,420,411	5,820,279	6,285,845 B1
4,593,186	5,235,167	5,436,440	5,848,848	6,292,595
4,607,156	5,243,655	5,444,231	5,860,753	6,296,032
4,673,805	5,247,162	5,449,891	5,872,585	6,364,550
4,736,095	5,250,791	5,449,893	5,874,980	6,379,058 B1
4,758,717	5,250,792	5,468,949	5,909,233	6,409,401 B1
4,816,660	5,262,627	5,479,000	5,976,720	6,411,397 B1
4,845,350	5,267,800	5,479,002	5,978,004	6,428,227 B2
4,896,026	5,280,163	5,479,441	5,995,128	6,530,705
4,897,532	5,280,164	5,486,057	5,997,193	6,540,122
4,923,281	5,280,498	5,503,483	6,004,053	6,607,316
4,933,538	5,304,786	5,504,322	6,010,257	6,609,844
4,992,717	5,304,788	5,528,621	6,020,906	6,874,958
5,015,833	5,321,246	5,532,469	6,034,708	6,899,477
5,017,765	5,335,170	5,543,610	6,036,383	
5,021,641	5,364,133	5,545,889	6,057,870	
5,029,183	5,367,151	5,552,592	6,068,415	

Printed on
chlorine-free
recycled paper.