ZebraNet®
Wireless Quick Start Guide
for

Xi™ Series, RXi™ Series,
***PAX*4™ Series, Z Series®, RZ™ Series,**
HC100™, S4M™, 105*SL*™, 105*SL*Plus™,
ZT200™ Series, ZE500™Series, and
ZT400™ Series Printers

ZEBRA TECHNOLOGIES

P1050133-005

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Radio Approvals Zebra Wireless WLAN printers are only approved for use in certain countries. ***In no event shall Zebra be liable for uses of Zebra Wireless WLAN printers that are contrary to local law.*** To determine whether you are allowed to use your Zebra Wireless WLAN printer in a specific country, check to see if the radio type number that is printed on the identification label of your device is listed on the radio approval list posted on the Zebra support site at http://support.zebra.com/.

In countries other than the United States and Japan, verify that the Location setting from the Regional Options tab in Regional and Language Options (from Zebra Toolset) has been set to the country in which you are using your Zebra Wireless WLAN printer. This ensures compliance with local regulatory restrictions on transmit power and optimizes network performance. Any deviation from the permissible power and frequency settings for the country of use could be an infringement of local law and may be punished as such.

Contents

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About This Document

This section provides you with contact information, document structure and organization, and additional reference documents.

Contents

Who Should Use This Document

This guide is intended for use by someone who needs to configure and use a ZebraNet wireless print server for use with a supported printer.

This guide supports the ZebraNet Wireless Print Server, the ZebraNet Wireless Plus Print Server, the ZebraNet Internal Wireless Plus Print Server, and the ZebraNet b/g Print Server. The firmware version required to operate your print server varies based on your printer. For more information, refer to the *ZebraNet Wired and Wireless Print Servers User Guide*.

How This Document Is Organized

This guide is set up as follows:

Section	Description
Printer Setup on page 13	This section provides the tasks that you must complete and the issues that you must consider before you load and configure your printer.
Wireless Configuration on page 19	Use this section to configure your ZebraNet wireless print server for operation. For more detailed information, refer to the ZebraNet Wired and Wireless Print Servers User Guide.
Xi Series and RXi Series on page 59 *PAX4 Series* on page 43 *Z Series and RZ Series* on page 65 *HC100* on page 37 *S4M* on page 53 *105SL and 105SLPlus* on page 31 *ZT200 Series* on page 79 *ZE500 Series* on page 71	These sections contain information for specific printer and print engine models.

Document Conventions

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

Printer/Print Engine The term “printer” will be used throughout this document to refer to Zebra printers and print engines.

Alternate Color (online only) Cross-references contain hot links to other sections in this guide. If you are viewing this guide online in .pdf format, you can click the cross-reference (blue text) to jump directly to its location.

Icons Used

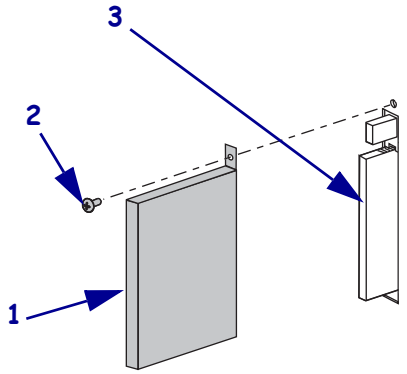
Caution • Warns you of a potential electric shock situation.

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.

Illustration Callouts Callouts are used when an illustration contains information that needs to be labeled and described. A table that contains the labels and descriptions follows the graphic. Figure 1 provides an example.

Figure 1 • Sample Figure with Callouts



Contacts

Technical Support via the Internet is available 24 hours per day, 365 days per year.

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E-mail Back Technical Library:
E-mail address: emb@zebra.com
Subject line: Emaillist
Self Service Knowledge Base: www.zebra.com/knowledgebase
Online Case Registration: www.zebra.com/techrequest

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Key: T: Telephone
F: Facsimile
E: E-mail

2

Printer Setup

This section provides the tasks that you must complete and the issues that you must consider before you load and configure your printer.

Contents

Before You Begin

Review this checklist, and resolve any issues before you set up or use your wireless printer.

❑ **Unpack and Inspect the Printer** Have you unpacked the printer and inspected it for damage?

When you receive the printer, immediately unpack it and inspect for shipping damage.

- Save all packing materials.
- Check all exterior surfaces for damage.
- Raise the media door, and inspect the media compartment for damage to components.

If you discover shipping damage upon inspection:

- Immediately notify the shipping company and file a damage report.
- Keep all packaging material for shipping company inspection.
- Notify your authorized Zebra reseller.

Important • Zebra Technologies Corporation is not responsible for any damage incurred during the shipment of the equipment and will not repair this damage under warranty.

❑ **Install the Printer**

- *For all printers except PAX print engines:* Have you selected an appropriate location for the printer? If you have not, see *Select a Site for the Printer* on page 60.
- *For PAX series print engines:* Have you considered what factors will affect how the print engines is installed into an applicator? Is the print engine mounted in an applicator? For information, see *Print Engine Installation* on page 44.

❑ **Attach a Power Cord** Do you have the correct power cord for your printer? If you are unsure, see *Connect the Printer to a Power Source* on page 16. To attach the power cord and connect the printer to a power source, see *Connect the Printer to a Power Source* on page 16.

❑ **Select a Wired Data Communication Interface** Have you connected your printer to your computer or network using a wired data communication interface? You must use a wired connection first to configure your printer for wireless operation. If you have not, see *Select a Wired Data Communication Interface* on page 17.

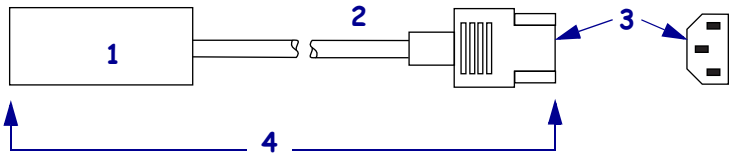
Power Cord Specifications

Caution • For personnel and equipment safety, always use an approved three-conductor power cord specific to the region or country intended for installation. This cord must use an IEC 320 female connector and the appropriate region-specific, three-conductor grounded plug configuration.

Depending on how your printer was ordered, a power cord may or may not be included. If one is not included or if the one included is not suitable for your requirements, see Figure 2 and refer to the following guidelines:

- The overall cord length must be less than 9.8 ft. (3 m).
- The cord must be rated for at least 10 A, 250 V.
- The chassis ground (earth) **must** be connected to ensure safety and reduce electromagnetic interference.

Figure 2 • Power Cord Specifications



1	AC power plug for your country—This should bear the certification mark of at least one of the known international safety organizations (Figure 3).
2	3-conductor HAR cable or other cable approved for your country.
3	IEC 320 connector—This should bear the certification mark of at least one of the known international safety organizations (Figure 3).
4	Length ≤ 9.8 ft. (3 m). Rating 10 Amp, 250 VAC.

Figure 3 • International Safety Organization Certifications

Connect the Printer to a Power Source

The power supply in the printer automatically detects the applied line voltage and works in the 100 to 240 VAC, 47 to 63 Hz range.

The AC power cord must have a three-prong female connector on one end that plugs into the mating AC power connector at the rear of the printer. If a power cable was not included with your printer, refer to *Power Cord Specifications* on page 15.

Caution • For personnel and equipment safety, always use an approved three-conductor power cord specific to the region or country intended for installation. This cord must use an IEC 320 female connector and the appropriate region-specific three-conductor grounded plug configuration.

To connect the printer to a power source, complete these steps:

1. Toggle the printer power switch to the off (**O**) position.
2. Plug the power cord into the AC power connector on the rear of the printer.
3. Plug the other end of the power cord into a power outlet near the printer.
4. Turn on (**I**) the printer.

   The control panel LCD and lights activate, indicating that the printer is booting up.

Select a Wired Data Communication Interface

To configure your printer for wireless operation, you must first connect your printer using a wired data communication interface. Table 1 provides basic information about wired data communication interfaces. Not all interfaces may be available on your printer. Select an interface that is supported by both your printer and your computer or your Local Area Network (LAN).

Caution • Ensure that the printer power is off (**O**) before connecting data communications cables. Connecting a data communications cable while the power is on (**I**) may damage the printer.

Table 1 • Wired Data Communication Interfaces

Interface	Characteristics
RS-232 Serial	• The baud rate, number of data and stop bits, the parity, and the XON/XOFF or DTR control must match those of the host computer. • Maximum cable length of 50 ft (15.24 m). • You may need to change printer parameters to match the host computer. • You need to use a null-modem adaptor to connect to the printer if using a standard modem cable.
IEEE 1284 Bidirectional Parallel	• Maximum cable length of 10 ft (3 m). • Recommended cable length of 6 ft (1.83 m). • No printer parameter changes required to match the host computer.
USB	• Maximum cable length of 16.4 ft (5 m). • No printer parameter changes required to match the host computer.
Internal wired Ethernet print server	• Can print to the printer from any computer on your LAN. • Can communicate with the printer through the printer's web pages. • Computer must be equipped with an Ethernet board. • The printer must be configured to use your LAN. **Note** • Refer to the *ZebraNet Wired and Wireless Print Servers User Guide* for configuration instructions. A copy of this manual is available at http://www.zebra.com/manuals or on the user CD that came with your printer.

Data Cables and Wireless Cards

You must supply all data cables or removeable radio cards for your application. (Some wireless print servers come with an integrated radio card.)

Data Cables Ethernet cables do not require shielding, but all other data cables must be fully shielded and fitted with metal or metallized connector shells. Unshielded data cables may increase radiated emissions above the regulated limits.

To minimize electrical noise pickup in the cable:

- Keep data cables as short as possible.
- Do not bundle the data cables tightly with the power cords.
- Do not tie the data cables to power wire conduits.

Wireless Cards For supported wireless cards, refer to the *ZebraNet Wired and Wireless Print Servers User Guide*. A copy of the manual is available at http://www.zebra.com/manuals or on the user CD that came with your printer.

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Wireless Configuration

Use this section to configure your ZebraNet wireless print server for operation. For more detailed information, refer to the *ZebraNet Wired and Wireless Print Servers User Guide*.

Important • A wireless option board must be installed on your printer before you can configure the printer to communicate using a wireless radio card.

You may configure your printer for wireless operation in the following ways. This Quick Start Guide covers only the first option, the Connectivity Wizard.

- **Through the Connectivity Wizard**, which writes a ZPL script for you. On the last screen of the utility, you may choose to send the command directly to your printer, or you may choose to save the ZPL script to a file. The saved ZPL file has several purposes:
  - The file can be sent to the printer through any available connection (serial, parallel, USB, or wired print server).
  - The file can be resent to the printer after the network settings have been restored to factory defaults.
  - The file can be sent to multiple printers that will use the same network settings.
- **Through ZPL script** that you write yourself. Use the `^WX` command to set the basic parameters for security type. You can send the command through any available connection (serial, parallel, USB, or wired print server). Refer to the *Zebra Programming Guide for ZPL II, ZBI 2, Set-Get-Do, Mirror, and WML* for more information on this option.
- **Through Set/Get/Do (SGD) commands** that you send to the printer. Begin with `wlan.security` to set the wireless security type. Depending on which security type that you select, other SGD commands will be necessary to specify other parameters. You can send the commands through any available connection (serial, parallel, USB, or wired print server). Refer to the *Zebra Programming Guide for ZPL II, ZBI 2, Set-Get-Do, Mirror, and WML* for more information on this option.

Configure Using the Connectivity Wizard

The ZebraNet Bridge Enterprise utility resides on the User CD for your printer and is available through http://www.zebra.com/software. ZebraNet Bridge Enterprise version 1.2.5 or later is required to configure the printer correctly for use.

The Connectivity Wizard, which is part of this software, allows you to configure your printer easily for wireless operation by writing the appropriate ZPL script for you. Use this utility when you are first installing the wireless print server or after you set the network options back to factory defaults.

Note • You can only set up one print server at a time with the Connectivity Wizard. To configure multiple print servers (wired and wireless), run the program once for each print server.

To use the Connectivity Wizard, complete these steps:

1. If it is not already installed, install ZebraNet Bridge Enterprise on your computer.

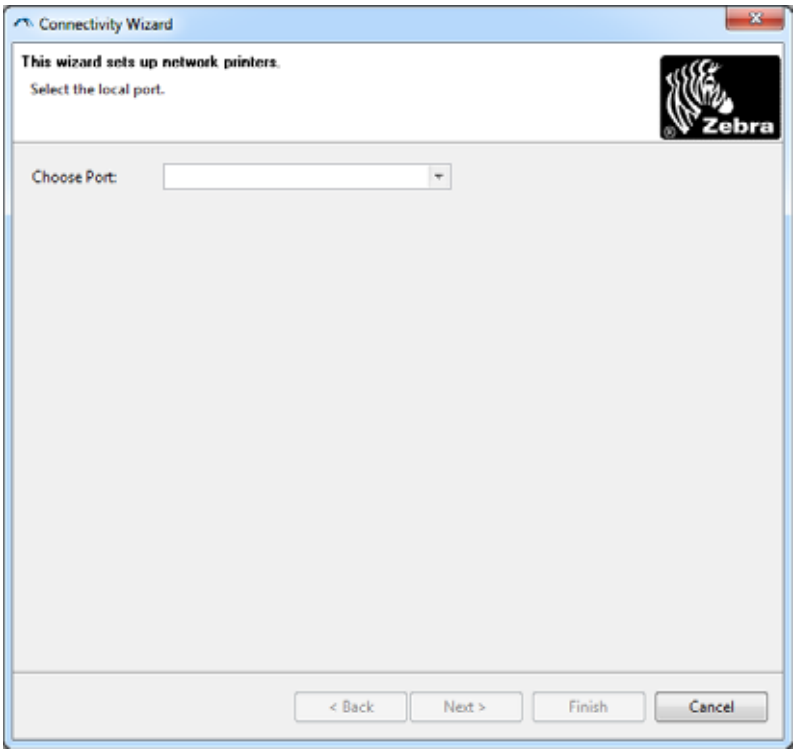
   You can get the program from the user CD that came with your printer, or you can download it at http://www.zebra.com/software.

2. Launch the ZebraNet Bridge Enterprise program.

   If you are prompted for a serial number, you may click Cancel. You will still be able to use the Connectivity Wizard.

3. From the Menu bar, select Tools > Connectivity Wizard.

   The Connectivity Wizard opens.



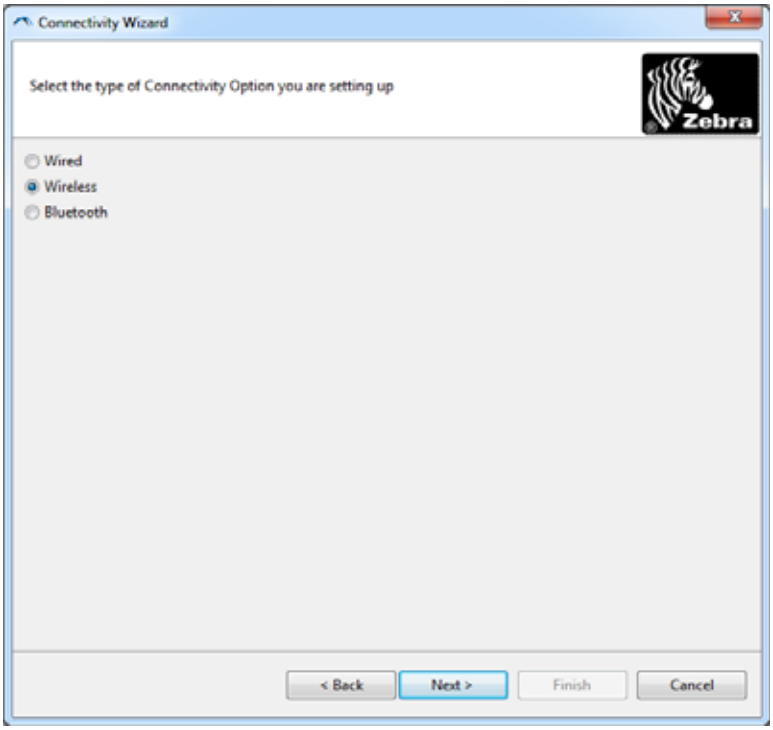
4. From the Choose Port list, select the port to which your printer is connected.

- If you will save the file without sending it to the printer, you may select any available port.
- If you select File:, you will be asked to browse to the location of the file you want to save.
- If you select a serial port, the serial configuration information appears below the Choose Port list. If necessary, change the serial communication settings to match your printer's settings.

Note • If a port is in use by another device, it will not be included in the drop-down list.

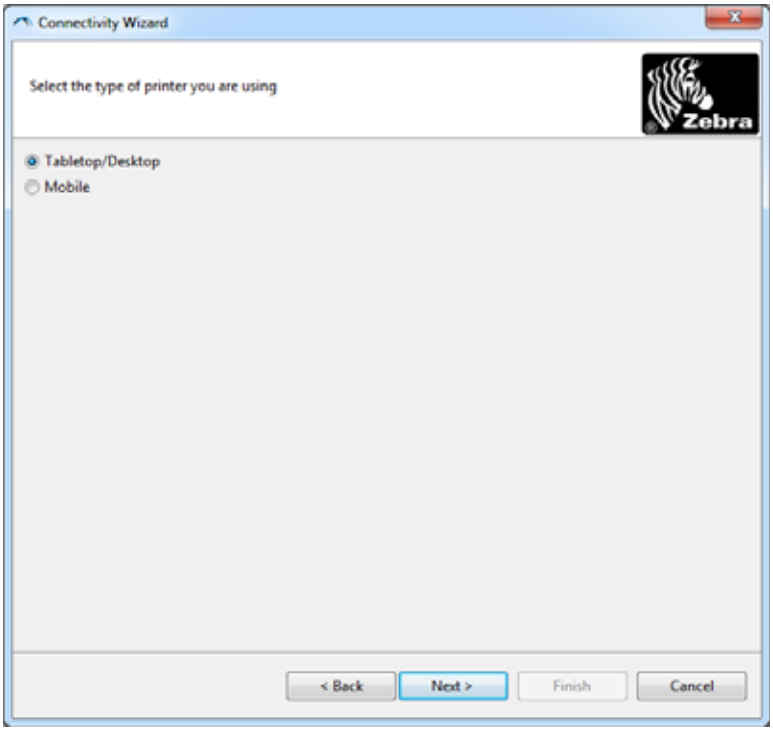
5. Click Next.

   The wizard prompts for the print server device to configure.

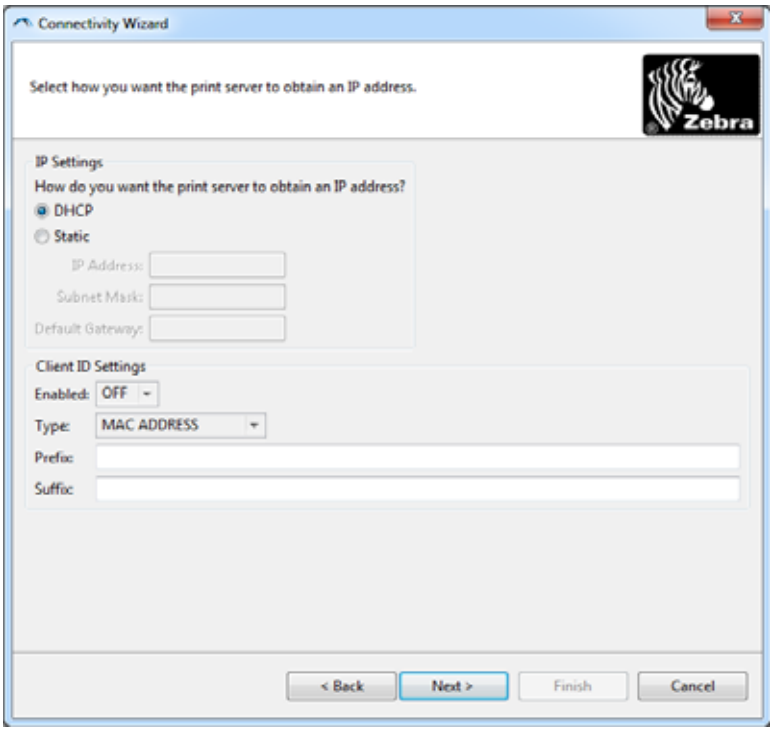


6. Select Wireless and then click Next.

   The wizard prompts you for the type of printer you are using.



7. Select the type of printer you are using and then click Next.
   The wizard prompts for the wireless IP information.

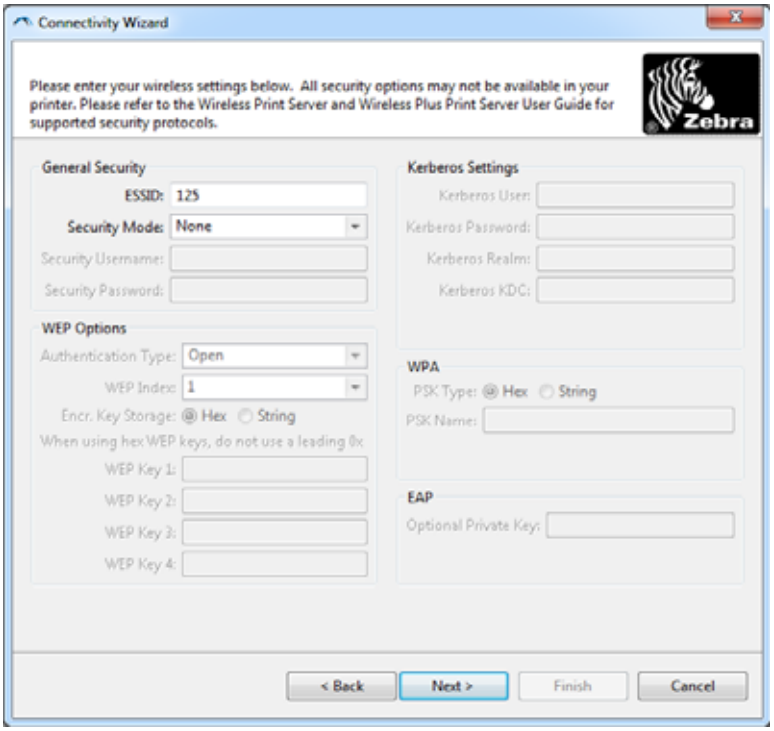


8. Enable the DHCP (dynamic) or static IP option.

If you will be using...	Complete the following steps...
DHCP	**a.** Select DHCP and click Next. **b.** Continue with step 9.
Static	**a.** Select Static. The IP settings fields are activated. **a.** Enter the IP Address, Default Gateway, and Subnet Mask for the wireless print server. **b.** Continue with step 9.

9. Click Next.

   The Wireless Settings window opens.



10. Enter the ESSID.

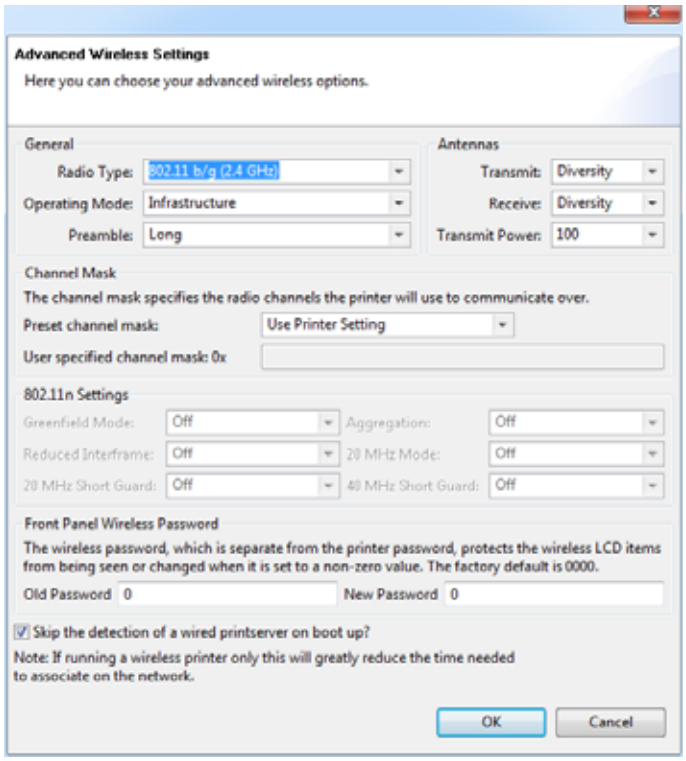
Important • The ESSID and pass phrase, if used, must be set at your access point before completing these steps.

11. From the drop-down, select your Security Mode.

If you select…	Then…
None	Continue with step 12.
WEP 40-Bit WEP 128-Bit	**a.** In the WEP Options section of the window, enter the following values: • Authentication type • WEP Index • Encryption Key Storage • WEP Keys **b.** Click Next and continue with step 12.
EAP-TLS EAP-TTLS EAP-FAST WPA-EAP-TLS	In the EAP section of the window, if necessary: **a.** Enter the Optional Private Key. **b.** Click Next and continue with step 12.
PEAP LEAP WPA-EAP-TTLS WPA-PEAP WPA-LEAP	In the General Security section of the window: **a.** Enter the Security Username and Password. **b.** Click Next and continue with step 12.
WPA-PSK	In the WPA section of the window: **a.** Select the PSK Type. **b.** Enter the PSK Name. **c.** Click Next and continue with step 12.
WPA-EAP-FAST	**a.** In the General Security section of the window, enter the Security Username and Password. **b.** In the EAP section of the window, if necessary, enter the Optional Private Key. **c.** Click Next and continue with step 12.
KERBEROS	**a.** In the Kerberos Settings section of the window, enter the following values: • Kerberos User • Kerberos Password • Kerberos Realm • Kerberos KDC **b.** Click Next and continue with step 12. **c.**KERBEROS is not supported on Internal Wireless Plus print servers or radio cards.

12. Click Advanced Options in the Wireless Settings window.

The Advanced Wireless Settings window opens.

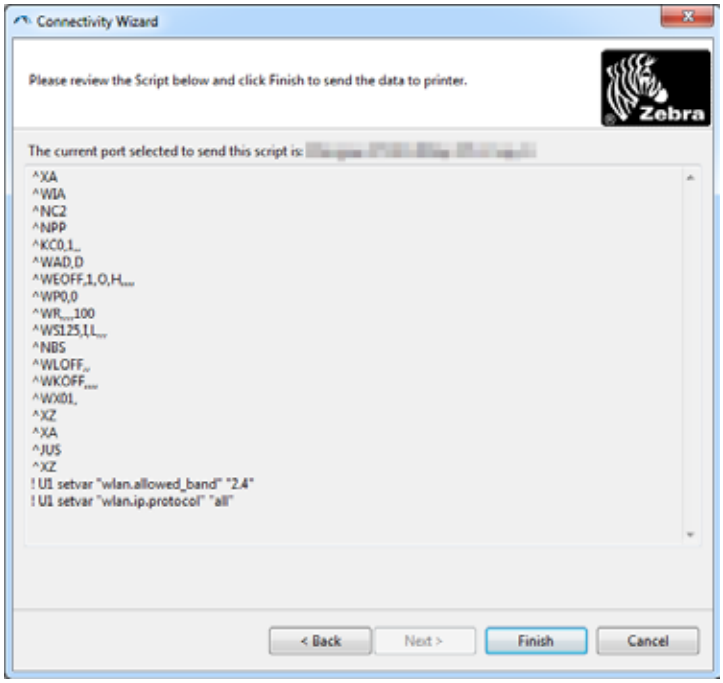
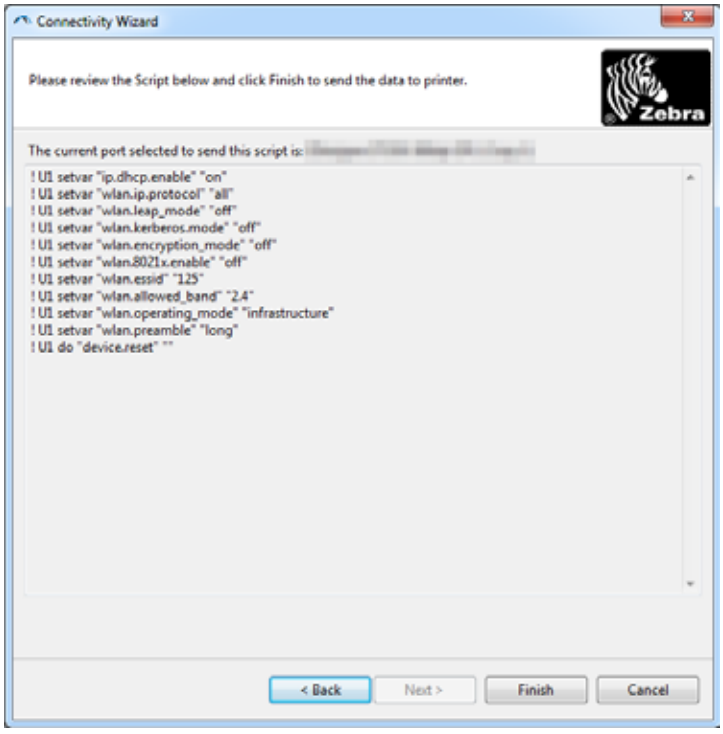


13. Review the settings in the Advanced Wireless Settings window. Change the settings as necessary, and then click OK.

The Wireless Settings window returns.

14. Click Next.

Based on your selections in the Wireless Setup Wizard, the program writes the appropriate ZPL commands and displays them for your review.

If you selected…	Then a dialog box similar to this displays.
Tabletop/Desktop	
Mobile	

15. Determine if you will send the script immediately, or save it for use at a later time.

To...	Then...
Complete setup by sending the ZPL script to the printer through the port selected at the beginning of this procedure	**a.** Verify that the printer is connected to the computer through the port you selected. **Note** • For serial connections, use a serial null modem cable. **b.** If you have not already done so, turn on (**I**) the printer. **c.** On the Review and Send ZPL for Wireless window, click Finish. The printer sends the ZPL script to the printer through the selected port. The Wireless Setup Wizard screen closes. **d.** Turn the printer off (**O**) and then back on (**I**).
Save the ZPL script to a file for later use or for use on other printers	**Note** • You can send the ZPL script file to multiple printers that use the same configuration, or you can send the file to a printer that had the network settings restored to the factory defaults. This saves you from having to go through the Wireless Setup Wizard more than once. **a.** On the Review and Send ZPL for Wireless window, highlight the script, right-click, and select Copy. **b.** Open a text editor, such as Notepad, and paste the script into the application. **c.** Save the script. **d.** In the Connectivity Wizard, click Cancel to exit without sending the script at this time. **e.** If you have not already done so, turn on (**I**) the printer. **f.** Send the ZPL file to the printer through the connection of your choice.

16. Observe the wireless status on the printer's control panel, and confirm that you have set up your printer for wireless connectivity. Printers that have an LCD display text or symbols (see Table 2 and Table 3). The HC100 printer does not have an LCD, so the wireless status is indicated by the control panel lights (see Table 4).

LCD Link Status and Wireless Signal Indicators

This section applies to printers and print engines other than the HC100 printer.

- Link Status Indicator (Table 2)
  The wireless link status indicator appears at the bottom left of the LCD, providing a real-time display of the printer's network status.

Table 2 • Link Status Indicators

Status Indicator	Meaning
cycling through characters . o O	The wireless radio card is associated with the WLAN.
underscore _	• The wireless radio card is not associated with the WLAN. Verify that your printer's wireless settings match those of the WLAN. • The firmware on the wireless radio card may need to be updated.
blank	• The printer is checking for a wired print server. • The printer is running a wired print server. • The wireless print server board is not installed or not installed correctly.

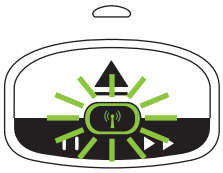
- Wireless Signal Indicators (Table 3)
  Depending on the printer model, press the right oval, Plus (+), or the up arrow to access and scroll through the wireless signal indicators on the LCD. For more information on the control panel buttons on your printer, refer to your printer's User Guide.

Table 3 • Wireless Signal Indicators

Wireless Signal Indicator	Description
SIGNAL STRENGTH and SIGNAL QUALITY	When these indicators display percentages, the wireless radio card is communicating with the network. The higher the number is, the better the connection is between the printer and the network. If your printer indicates a signal strength but you cannot communicate with the printer from your computer, move the printer to a different location to try to get a better signal strength or signal quality. This situation could also indicate that the printer is associated with, but not authenticated with, your access point.
NOISE LEVEL	This number indicates any electrical interference with the wireless signal. If your printer cannot communicate with the network and the noise level is high, move the printer to a location that is free of interference.

HC100 Wireless Status Indicator Lights

Table 4 • HC100 Wireless Status Indicator Lights

Wireless Status Indicator	Meaning
Steady Green 	The printer is associated with a wireless network. The signal strength is strong.
Flashing Green 	The printer is NOT associated with a wireless network. The signal strength is strong.
Steady Orange 	The printer is associated with a wireless network. The signal strength is weak.
Flashing Orange 	The printer is NOT associated with a wireless network. The signal strength is weak.

Notes •

4

105*SL and* 105SL*Plus*

This section provides the features of and specifications for this printer.

Note • Printer specifications are subject to change without notice.

Contents

Select a Site for the Printer

Consider the following when selecting an appropriate location for your printer.

Select a Surface

Select a solid, level surface of sufficient size and strength to accommodate the printer and other equipment (such as a computer), if necessary. The choices include a table, countertop, desk, or cart. For the printer's weight and dimensions, see *105SL and 105SLPlus General Specifications* on page 33.

Provide Proper Operating Conditions

This printer is designed to function in a wide range of environmental and electrical conditions, including a warehouse or factory floor. For more information on the required conditions, see *105SL and 105SLPlus General Specifications* on page 33.

Table 2 shows the temperature and relative humidity requirements for the printer when it is operating.

Table 2 •

Mode	Temperature	Relative Humidity
Thermal Transfer	41° to 104° F 5° to 40° C	20 to 85% non-condensing.
Direct Thermal	32° to 104° F 0° to 40° C	20 to 85% non-condensing

Allow Proper Space

The printer should have enough space around it for you to be able to open the media door. To allow for proper ventilation and cooling, leave open space on all sides of the printer.

Caution • Do not place any padding or cushioning material behind or under the printer because this restricts air flow and could cause the printer to overheat.

Provide a Data Source

If the printer will be located away from the data source (such as a computer), the selected site must provide the appropriate connections to that data source. For more information on the types of communication interfaces and their limitations, refer to your printer's user guide.

Provide a Power Source

Place the printer within a short distance of a power outlet that is easily accessible.

105*SL* and 105SL*Plus* General Specifications

Physical Specifications

Dimensions	105SL		105SL*Plus*	
	U.S. Standard	Metric	U.S. Standard	Metric
Height	15.5 in	394 mm	15.5 in	394 mm
Width	10.2 in.	259 mm	10.31 in.	262 mm
Depth	18.9 in.	480 mm	20.38 in.	517.5 mm
Weight without options	55 lb	25 kg	50 lb	22.7 kg

Electrical Specifications

Power	105SL	105SL*Plus*
General	100 to 240 VAC; 47 to 63 Hz	100 to 240 VAC; 47 to 63 Hz
Power Consumption Printing PAUSE test at slowest speed	180 W	121 W
Power Consumption Printer idle	19 W	20 W
Fuses	None	None

Environmental Conditions for Operation and Storage

Environment		Temperature	Relative Humidity
Operation	Thermal Transfer	41° to 104° F 5° to 40° C	20 to 85% non-condensing
	Direct Thermal	32° to 104° F 0° to 40° C	
Storage	Thermal Transfer or Direct Thermal	–40° to 140° F –40° to 60° C	5 to 85% non-condensing

105*SL* and 105*SL*Plus Compliance Information

Important • The user is cautioned that any changes or modifications not expressly approved by Zebra Technologies Corporation could void the user's authority to operate the equipment. To ensure compliance, this printer must be used with Shielded Communication Cables.

FCC Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Canadian DOC Compliance Statement

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

This Class B digital apparatus complies with Canadian ICES-003.

Brasil — Aviso da Anatel

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

Este produto está homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolução 242/2000, e atende aos requisitos técnicos aplicados. Para maiores informações, consulte o site da ANATEL http://www.anatel.gov.br

This equipment's operation is of a secondary character; that is, it doesn't have the right to protection against damaging interference, even from stations of the same type, nor can it cause interference to systems with a primary operating character.

This product is approved by ANATEL, in accordance with the procedures regulated by Resolution 242/2000, and meets the technical requirements specified. For more information, see the ANATEL website at http://www.anatel.gov.br

Korean Compliance Statement

이 기기는 가정용 (B 급) 전자파 적합기기 로서 주로 가정에서 사용하는 것을 목적으로 하며 , 모든 지역에서 사용할 수 있습니다 .

해당 무선설비기기는 운용 중 전파혼신 가능성이 있으므로 인명 안전과 관련된 서비스는 할 수 없습니다 .

The equipment is for home use (Class B) and has acquired electromagnetic conformity registration, so it can be used not only in residential area but other areas as well.

This radio device is not allowed to be used for human safety since it has possibility of radio interference during operation.

NCC

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

According to "Administrative Regulations on Low Power Radio Waves Radiated Devices" Without permission granted by the NCC, any company, enterprise, or user is not allowed to change frequency, enhance transmitting power or alter original characteristic as well as performance to an approved low power radio-frequency devices. The low power radio-frequency devices shall not influence aircraft security and interfere legal communications; If found, the user shall cease operating immediately until no interference is achieved. The said legal communications means radio communications is operated in compliance with the Telecommunications Act.

The low power radio-frequency devices must be susceptible with the interference from legal communications or ISM radio wave radiated devices.

Mexico — NOM-121-SCT1-2009

Este equipo ha sido diseñado para operar con las antenas que enseguida se enlistan y para una ganancia máxima de antena de [x] dB. El uso con este equipo de antenas no incluidas en esta lista o que tengan una ganancia mayor que [x] dB quedan prohibidas. La impedancia requerida de la antena es de [y] ohms.

This equipment has been designed to operate with the antennas that are listed below and for maximum antenna gain of {X} dB. Using this device with antennas not included in this list or that may have a gain higher than {X} dB is prohibited. The required antenna impedance is {Y} ohms.

Laird Technologies — Model WRR2400-RPSMA

- Gain = 1.3dBi @ 2.45GHz
- Impedance = 50 ohms

WLAN Radio Specification

802.11 b

- 2.4GHz
- DSSS (DBPSK, DQPSK and CCK)
- RF power 10 mW (ZebraNet b/g Print Server)

802.11 g

- 2.4GHz
- OFDM (16-QAM and 64-QAM with BPSK and QPSK)
- RF power 10 mW (ZebraNet b/g Print Server)

5

HC100

This section provides the features of and specifications for this printer.

Note • Printer specifications are subject to change without notice.

Contents

Select a Site for the Printer

Consider the following when selecting an appropriate location for your printer.

Select a Surface

Select a solid, level surface of sufficient size and strength to accommodate the printer and other equipment (such as a computer), if necessary. The choices include a table, countertop, desk, or cart. For the printer's weight and dimensions, see *HC100 General Specifications* on page 39.

Provide Proper Operating Conditions

This printer is designed to function in a wide range of environmental and electrical conditions, including a warehouse or factory floor. For more information on the required conditions, see *HC100 General Specifications* on page 39.

Table 3 shows the temperature and relative humidity requirements for the printer when it is operating.

Table 3 •

Mode	Temperature	Relative Humidity
Thermal Transfer	41° to 104° F 5° to 40° C	20 to 85% non-condensing.
Direct Thermal	32° to 104° F 0° to 40° C	20 to 85% non-condensing

Allow Proper Space

The printer should have enough space around it for you to be able to open the media door. To allow for proper ventilation and cooling, leave open space on all sides of the printer.

Caution • Do not place any padding or cushioning material behind or under the printer because this restricts air flow and could cause the printer to overheat.

Provide a Data Source

If the printer will be located away from the data source (such as a computer), the selected site must provide the appropriate connections to that data source. For more information on the types of communication interfaces and their limitations, refer to your printer's user guide.

Provide a Power Source

Place the printer within a short distance of a power outlet that is easily accessible.

HC100 General Specifications

Physical Specifications

Dimensions	U.S. Standard	Metric
Height	7.0 in	178 mm
Width	5.0 in.	127 mm
Depth	9.5 in.	242 mm
Clearance - amount of space needed above the printer to allow for loading a media cartridge	6 in.	153 mm
Weight without options	3.1 lb.	1.4 kg

Electrical Specifications

Power	
General	100-240 VAC, 50-60 Hz external power supply
Printer idle	5W

Environmental Conditions for Operation and Storage

Environment	U.S. Standard	Metric	Relative Humidity
Operation Temperatures	41° to 104° F	5° to 40° C	20 to 85% non-condensing
Storage Temperatures	–40° to 140° F	–40° to 60° C	5 to 85% non-condensing

HC100 Compliance Information

Important • The user is cautioned that any changes or modifications not expressly approved by Zebra Technologies Corporation could void the user's authority to operate the equipment. To ensure compliance, this printer must be used with Shielded Communication Cables.

FCC Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Canadian DOC Compliance Statement

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

This Class B digital apparatus complies with Canadian ICES-003.

Brasil — Aviso da Anatel

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

Este produto está homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolução 242/2000, e atende aos requisitos técnicos aplicados. Para maiores informações, consulte o site da ANATEL http://www.anatel.gov.br

This equipment's operation is of a secondary character; that is, it doesn't have the right to protection against damaging interference, even from stations of the same type, nor can it cause interference to systems with a primary operating character.

This product is approved by ANATEL, in accordance with the procedures regulated by Resolution 242/2000, and meets the technical requirements specified. For more information, see the ANATEL website at http://www.anatel.gov.br

Korean Compliance Statement

이 기기는 가정용 (B 급) 전자파 적합기기 로서 주로 가정에서 사용하는 것을 목적으로 하며 , 모든 지역에서 사용할 수 있습니다 .

해당 무선설비기기는 운용 중 전파혼신 가능성이 있으므로 인명 안전과 관련된 서비스는 할 수 없습니다 .

The equipment is for home use (Class B) and has acquired electromagnetic conformity registration, so it can be used not only in residential area but other areas as well.

This radio device is not allowed to be used for human safety since it has possibility of radio interference during operation.

NCC

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

According to "Administrative Regulations on Low Power Radio Waves Radiated Devices" Without permission granted by the NCC, any company, enterprise, or user is not allowed to change frequency, enhance transmitting power or alter original characteristic as well as performance to an approved low power radio-frequency devices. The low power radio-frequency devices shall not influence aircraft security and interfere legal communications; If found, the user shall cease operating immediately until no interference is achieved. The said legal communications means radio communications is operated in compliance with the Telecommunications Act.

The low power radio-frequency devices must be susceptible with the interference from legal communications or ISM radio wave radiated devices.

Mexico — NOM-121-SCT1-2009

Este equipo ha sido diseñado para operar con las antenas que enseguida se enlistan y para una ganancia máxima de antena de [x] dB. El uso con este equipo de antenas no incluidas en esta lista o que tengan una ganancia mayor que [x] dB quedan prohibidas. La impedancia requerida de la antena es de [y] ohms.

This equipment has been designed to operate with the antennas that are listed below and for maximum antenna gain of {X} dB. Using this device with antennas not included in this list or that may have a gain higher than {X} dB is prohibited. The required antenna impedance is {Y} ohms.

Antenna Factor — Model ANT-2.4-CW-RH-RPS

- Gain = -9.12dBi @ 2.4GHz
- Impedance = 50 ohms

WLAN Radio Specification

802.11 b

- 2.4GHz
- DSSS (DBPSK, DQPSK and CCK)
- RF power 10 mW

802.11 g

- 2.4GHz
- OFDM (16-QAM and 64-QAM with BPSK and QPSK)
- RF power 10 mW

6

*PAX*4 Series

This section provides the features of and specifications for this printer.

Note • Printer specifications are subject to change without notice.

Contents

Print Engine Installation

This section provides basic information for mounting the print engine into an applicator. The illustrations in this section show the print engine from different angles and include dimensions and clearance needs.

Requirements

Stability When the print engine is mounted, the complete assembly must be physically stable. When the print engine is loaded with ribbon and media, the equipment must not become physically unstable.

Ventilation and Temperature Provide ventilation for the print engine mounting enclosure to remove heat and ensure uninterrupted, trouble-free operation of the print engine. Ambient air temperature surrounding the print engine must not exceed the following:

- Temperature: 32° to 104°F (0° to 40°C)
- Relative humidity: 20% to 95% non-condensing

Power Requirements Consider the current rating of the print engine during installation. When power is applied to the print engine and the enclosing equipment, an overload condition must not be created.

Grounding Requirements Maintain reliable grounding of the print engine. Pay particular attention to the AC power supply connections so that earth ground is maintained through the AC power input connector.

Clearance for Cables and Connectors Allow ample space at the rear of the print engine for electronic connectors and dressing of the following cables: IEC power cord, serial and/or parallel host communication cable, optional host communication cable (Ethernet), and the discrete signal (applicator) interface cable.

Power Cord Requirements The IEC power cord does not have a strain relief on the print engine. If the operating characteristics of the applicator include vibration or strain on the power cord, provide an appropriate clamping mechanism to avoid unintentional disconnection of the power cord from the print engine.

Select a Site for the Printer

Consider the following when selecting an appropriate location for your printer.

Stability

When the print engine is mounted, the complete assembly must be physically stable. When the print engine is loaded with ribbon and media, the equipment must not become physically unstable.

Provide Proper Operating Conditions

This printer is designed to function in a wide range of environmental and electrical conditions, including a warehouse or factory floor. For more information on the required conditions, see *110PAX4 and R110PAX4 General Specifications* on page 47 and *170PAX4 General Specifications* on page 48.

Table 4 shows the temperature and relative humidity requirements for the printer when it is operating.

Table 4 • Operating Temperature and Humidity

Mode	Temperature	Relative Humidity
Thermal Transfer	41° to 104° F 5° to 40° C	20 to 95% non-condensing.
Direct Thermal	32° to 104° F 0° to 40° C	20 to 95% non-condensing

Allow Proper Space

The printer should have enough space around it for you to be able to open the media door. To allow for proper ventilation and cooling, leave open space on all sides of the printer.

Caution • Do not place any padding or cushioning material behind or under the printer because this restricts air flow and could cause the printer to overheat.

Provide a Data Source

If the printer will be located away from the data source (such as a computer), the selected site must provide the appropriate connections to that data source. For more information on the types of communication interfaces and their limitations, refer to the User Guide.

Provide a Power Source

Place the printer within a short distance of a power outlet that is easily accessible.

Power Requirements Consider the current rating of the print engine during installation. When power is applied to the print engine and the enclosing equipment, an overload condition must not be created.

Grounding Requirements Maintain reliable grounding of the print engine. Pay particular attention to the AC power supply connections so that earth ground is maintained through the AC power input connector.

Clearance for Cables and Connectors Allow ample space at the rear of the print engine for electronic connectors and dressing of the following cables: IEC power cord, serial and/or parallel host communication cable, optional host communication cable (Ethernet), and the discrete signal (applicator) interface cable.

Power Cord Requirements The IEC power cord does not have a strain relief on the print engine. If the operating characteristics of the applicator include vibration or strain on the power cord, provide an appropriate clamping mechanism to avoid unintentional disconnection of the power cord from the print engine.

110*PAX4* and R110*PAX4* General Specifications

Physical

Dimensions	110*PAX4*/R110*PAX4*	
	U.S. Standard	Metric
Height	11.8 in	300 mm
Width	9.6 in.	245 mm
Depth	16.4 in.	417 mm
Weight	36 lb	16.3 kg

Electrical Specifications

Power	
General	100 to 240 VAC; 47 to 63 Hz
Power Consumption Idle Printing	 19 W 375 W (maximum)
Fuses	5 Amp, 250 VAC, 5 × 20 mm IEC style, as supplied with the printer

Environmental Conditions

Environment		Temperature	Relative Humidity
Operation	Thermal Transfer	41° to 104° F 5° to 40° C	20 to 95% non-condensing
	Direct Thermal	32° to 104° F 0° to 40° C	
Storage		–40° to 160° F –40° to 71° C	5 to 95% non-condensing

170*PAX*4 General Specifications

Physical

Dimensions	170*PAX*4	
	U.S. Standard	Metric
Height	11.8 in	300 mm
Width	9.6 in.	245 mm
Depth	18.3 in.	465 mm
Weight	35.5 lb	16.1 kg

Electrical Specifications

Power	
General	100 to 240 VAC; 47 to 63 Hz
Power Consumption Idle Printing	 19 W 375 W (maximum)
Fuses	5 Amp, 250 VAC, 5 × 20 mm IEC style, as supplied with the printer

Environmental Conditions

Environment	Temperature	Relative Humidity
Operation	32° to 104° F 0° to 40° C	20 to 95% non-condensing
Storage	–40° to 160° F –40° to 71° C	5 to 95% non-condensing

PAX4 Compliance Information

Important • The user is cautioned that any changes or modifications not expressly approved by Zebra Technologies Corporation could void the user's authority to operate the equipment. To ensure compliance, this printer must be used with Shielded Communication Cables.

FCC Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Canadian DOC Compliance Statement

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

This Class A digital apparatus complies with Canadian ICES-003.

Brasil — Aviso da Anatel

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

Este produto está homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolução 242/2000, e atende aos requisitos técnicos aplicados. Para maiores informações, consulte o site da ANATEL http://www.anatel.gov.br

This equipment's operation is of a secondary character; that is, it doesn't have the right to protection against damaging interference, even from stations of the same type, nor can it cause interference to systems with a primary operating character.

This product is approved by ANATEL, in accordance with the procedures regulated by Resolution 242/2000, and meets the technical requirements specified. For more information, see the ANATEL website at http://www.anatel.gov.br

Korean Compliance Statement

이 기기는 업무용(A 급) 전자파 적합기기로서 판매자 또는 사용자는 이
점을 주의하시길 바라며, 가정 외의 지역에서 사용하는 것을 목적으로

해당무선설비기기는 운용 중 전파혼신가능성이 있으므로
인명안전과 관련된 서비스는 할 수 없습니다

The equipment is for business use (Class A), and has acquired electromagnetic conformity registration. Sellers and users are required to take caution in this regard.

This radio device is not allowed to be used for human safety since it has possibility of radio interference during operation.

NCC

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

According to "Administrative Regulations on Low Power Radio Waves Radiated Devices" Without permission granted by the NCC, any company, enterprise, or user is not allowed to change frequency, enhance transmitting power or alter original characteristic as well as performance to an approved low power radio-frequency devices. The low power radio-frequency devices shall not influence aircraft security and interfere legal communications; If found, the user shall cease operating immediately until no interference is achieved. The said legal communications means radio communications is operated in compliance with the Telecommunications Act.

The low power radio-frequency devices must be susceptible with the interference from legal communications or ISM radio wave radiated devices.

Mexico — NOM-121-SCT1-2009

Este equipo ha sido diseñado para operar con las antenas que enseguida se enlistan y para una ganancia máxima de antena de [x] dB. El uso con este equipo de antenas no incluidas en esta lista o que tengan una ganancia mayor que [x] dB quedan prohibidas. La impedancia requerida de la antena es de [y] ohms.

This equipment has been designed to operate with the antennas that are listed below and for maximum antenna gain of {X} dB. Using this device with antennas not included in this list or that may have a gain higher than {X} dB is prohibited. The required antenna impedance is {Y} ohms.

Laird Technologies — Model WRR2400-RPSMA

- Gain = 1.3dBi @ 2.45GHz
- Impedance = 50 ohms

WLAN Radio Specification

802.11 b

- 2.4GHz
- DSSS (DBPSK, DQPSK and CCK)
- RF power 10 mW (ZebraNet b/g Print Server)

802.11 g

- 2.4GHz
- OFDM (16-QAM and 64-QAM with BPSK and QPSK)
- RF power 10 mW (ZebraNet b/g Print Server)

Notes • _____

7

S4M

This section provides the features of and specifications for this printer.

Note • Printer specifications are subject to change without notice.

Contents

Select a Site for the Printer

Consider the following when selecting an appropriate location for your printer.

Select a Surface

Select a solid, level surface of sufficient size and strength to accommodate the printer and other equipment (such as a computer), if necessary. The choices include a table, countertop, desk, or cart. For the printer's weight and dimensions, see *S4M General Specifications* on page 55.

Provide Proper Operating Conditions

This printer is designed to function in a wide range of environmental and electrical conditions, including a warehouse or factory floor. For more information on the required conditions, see *S4M General Specifications* on page 55.

Table 5 shows the temperature and relative humidity requirements for the printer when it is operating.

Table 5 •

Mode	Temperature	Relative Humidity
Thermal Transfer	41° to 104° F 5° to 40° C	20 to 85% non-condensing.
Direct Thermal	32° to 104° F 0° to 40° C	20 to 85% non-condensing

Allow Proper Space

The printer should have enough space around it for you to be able to open the media door. To allow for proper ventilation and cooling, leave open space on all sides of the printer.

Caution • Do not place any padding or cushioning material behind or under the printer because this restricts air flow and could cause the printer to overheat.

Provide a Data Source

If the printer will be located away from the data source (such as a computer), the selected site must provide the appropriate connections to that data source. For more information on the types of communication interfaces and their limitations, refer to your printer's user guide.

Provide a Power Source

Place the printer within a short distance of a power outlet that is easily accessible.

S4M General Specifications

Physical Specifications

Dimensions	U.S. Standard	Metric
Height	11.6 in.	295 mm
Width	10.7 in.	272 mm
Depth	18.8 in.	477 mm
Weight without options	27.2 lb	12.4 kg

Electrical Specifications

Power	
General	100 to 240 VAC; 47 to 63 Hz 5 Amps (fused)
Printer idle	8.5W

Environmental Conditions for Operation and Storage

Environment		Temperature	Relative Humidity
Operation	Thermal Transfer	41° to 104° F 5° to 40° C	20 to 85% non-condensing
	Direct Thermal	32° to 104° F 0° to 40° C	
Storage	Thermal Transfer or Direct Thermal	–40° to 140° F –40° to 60° C	5 to 85% non-condensing

S4M Compliance Information

Important • The user is cautioned that any changes or modifications not expressly approved by Zebra Technologies Corporation could void the user's authority to operate the equipment. To ensure compliance, this printer must be used with Shielded Communication Cables.

FCC Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Canadian DOC Compliance Statement

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

This Class B digital apparatus complies with Canadian ICES-003.

Brasil — Aviso da Anatel

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

Este produto está homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolução 242/2000, e atende aos requisitos técnicos aplicados. Para maiores informações, consulte o site da ANATEL http://www.anatel.gov.br

This equipment's operation is of a secondary character; that is, it doesn't have the right to protection against damaging interference, even from stations of the same type, nor can it cause interference to systems with a primary operating character.

This product is approved by ANATEL, in accordance with the procedures regulated by Resolution 242/2000, and meets the technical requirements specified. For more information, see the ANATEL website at http://www.anatel.gov.br

Korean Compliance Statement

이 기기는 가정용 (B 급) 전자파 적합기기 로서 주로 가정에서 사용하는 것을 목적으로 하며 , 모든 지역에서 사용할 수 있습니다 .

해당 무선설비기기는 운용 중 전파혼신 가능성이 있으므로 인명 안전과 관련된 서비스는 할 수 없습니다 .

The equipment is for home use (Class B) and has acquired electromagnetic conformity registration, so it can be used not only in residential area but other areas as well.

This radio device is not allowed to be used for human safety since it has possibility of radio interference during operation.

NCC

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

According to "Administrative Regulations on Low Power Radio Waves Radiated Devices" Without permission granted by the NCC, any company, enterprise, or user is not allowed to change frequency, enhance transmitting power or alter original characteristic as well as performance to an approved low power radio-frequency devices. The low power radio-frequency devices shall not influence aircraft security and interfere legal communications; If found, the user shall cease operating immediately until no interference is achieved. The said legal communications means radio communications is operated in compliance with the Telecommunications Act.

The low power radio-frequency devices must be susceptible with the interference from legal communications or ISM radio wave radiated devices.

Mexico — NOM-121-SCT1-2009

Este equipo ha sido diseñado para operar con las antenas que enseguida se enlistan y para una ganancia máxima de antena de [x] dB. El uso con este equipo de antenas no incluidas en esta lista o que tengan una ganancia mayor que [x] dB quedan prohibidas. La impedancia requerida de la antena es de [y] ohms.

This equipment has been designed to operate with the antennas that are listed below and for maximum antenna gain of {X} dB. Using this device with antennas not included in this list or that may have a gain higher than {X} dB is prohibited. The required antenna impedance is {Y} ohms.

Laird Technologies — Model WRR2400-RPSMA

- Gain = 1.3dBi @ 2.45GHz
- Impedance = 50 ohms

WLAN Radio Specification

802.11 b

- 2.4GHz
- DSSS (DBPSK, DQPSK and CCK)
- RF power 10 mW (ZebraNet b/g Print Server)

802.11 g

- 2.4GHz
- OFDM (16-QAM and 64-QAM with BPSK and QPSK)
- RF power 10 mW (ZebraNet b/g Print Server)

8

Xi Series and RXi Series

This section provides the features of and specifications for this printer.

Note • Printer specifications are subject to change without notice.

Contents

Select a Site for the Printer

Consider the following when selecting an appropriate location for your printer.

Select a Surface

Select a solid, level surface of sufficient size and strength to accommodate the printer and other equipment (such as a computer), if necessary. The choices include a table, countertop, desk, or cart. For the printer's weight and dimensions, see *Xi4 and R110Xi4 General Specifications* on page 61.

Provide Proper Operating Conditions

This printer is designed to function in a wide range of environmental and electrical conditions, including a warehouse or factory floor. For more information on the required conditions, see *Xi4 and R110Xi4 General Specifications* on page 61 .

Table 6 shows the temperature and relative humidity requirements for the printer when it is operating.

Table 6 •

Mode	Temperature	Relative Humidity
Thermal Transfer	41° to 104° F 5° to 40° C	20 to 85% non-condensing.
Direct Thermal	32° to 104° F 0° to 40° C	20 to 85% non-condensing

Allow Proper Space

The printer should have enough space around it for you to be able to open the media door. To allow for proper ventilation and cooling, leave open space on all sides of the printer.

Caution • Do not place any padding or cushioning material behind or under the printer because this restricts air flow and could cause the printer to overheat.

Provide a Data Source

If the printer will be located away from the data source (such as a computer), the selected site must provide the appropriate connections to that data source. For more information on the types of communication interfaces and their limitations, refer to your printer's user guide.

Provide a Power Source

Place the printer within a short distance of a power outlet that is easily accessible.

Xi4 and R110Xi4 General Specifications

Physical Specifications

Dimensions	110Xi4/R110Xi4		140Xi4		170Xi4		220Xi4	
	U.S. Standard	Metric	U.S. Standard	Metric	U.S. Standard	Metric	U.S. Standard	Metric
Height	15.5 in	393.7 mm	15.5 in	393.7 mm	15.5 in	393.7 mm	15.5 in	393.7 mm
Width	10.31 in.	261.9 mm	11.31 in.	287.3 mm	13.31 in.	338.1 mm	15.81 in.	401.6 mm
Depth	20.38 in.	517.5 mm	20.38 in.	517.5 mm	20.38 in.	517.5 mm	20.38 in.	517.5 mm
Weight without options	50 lb.	22.7 kg	55 lb.	25 kg	67 lb.	30.5 kg	72 lb.	32.7 kg

Electrical Specifications

Power	110Xi4/R110Xi4	140Xi4	170Xi4	220Xi4
General	100 to 240 VAC; 47 to 63 Hz	100 to 240 VAC; 47 to 63 Hz	100 to 240 VAC; 47 to 63 Hz	100 to 240 VAC; 47 to 63 Hz
Power consumption printing PAUSE test at slowest speed	121 W	180 W	220 W	269 W
Printer idle	20 W	20 W	20 W	20 W

Environmental Conditions for Operation and Storage

Environment	Mode	Temperature	Relative Humidity
Operation	Thermal Transfer	41° to 104° F 5° to 40° C	20 to 85% non-condensing
	Direct Thermal	32° to 104° F 0° to 40° C	
Storage	Thermal Transfer or Direct Thermal	–40° to 140° F –40° to 60° C	5 to 85% non-condensing

Xi Series and RXi Series Compliance Information

Important • The user is cautioned that any changes or modifications not expressly approved by Zebra Technologies Corporation could void the user's authority to operate the equipment. To ensure compliance, this printer must be used with Shielded Communication Cables.

FCC Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Canadian DOC Compliance Statement

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

This Class B digital apparatus complies with Canadian ICES-003.

Brasil — Aviso da Anatel

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

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This equipment's operation is of a secondary character; that is, it doesn't have the right to protection against damaging interference, even from stations of the same type, nor can it cause interference to systems with a primary operating character.

This product is approved by ANATEL, in accordance with the procedures regulated by Resolution 242/2000, and meets the technical requirements specified. For more information, see the ANATEL website at http://www.anatel.gov.br

Korean Compliance Statement

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해당 무선설비기기는 운용 중 전파혼신 가능성이 있으므로 인명 안전과 관련된 서비스는 할 수 없습니다 .

The equipment is for home use (Class B) and has acquired electromagnetic conformity registration, so it can be used not only in residential area but other areas as well.

This radio device is not allowed to be used for human safety since it has possibility of radio interference during operation.

NCC

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

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The low power radio-frequency devices must be susceptible with the interference from legal communications or ISM radio wave radiated devices.

Mexico — NOM-121-SCT1-2009

Este equipo ha sido diseñado para operar con las antenas que enseguida se enlistan y para una ganancia máxima de antena de [x] dB. El uso con este equipo de antenas no incluidas en esta lista o que tengan una ganancia mayor que [x] dB quedan prohibidas. La impedancia requerida de la antena es de [y] ohms.

This equipment has been designed to operate with the antennas that are listed below and for maximum antenna gain of {X} dB. Using this device with antennas not included in this list or that may have a gain higher than {X} dB is prohibited. The required antenna impedance is {Y} ohms.

Laird Technologies — Model WRR2400-RPSMA

- Gain = 1.3dBi @ 2.45GHz
- Impedance = 50 ohms

WLAN Radio Specification

802.11 b

- 2.4GHz
- DSSS (DBPSK, DQPSK and CCK)
- RF power 10 mW (ZebraNet b/g Print Server)

802.11 g

- 2.4GHz
- OFDM (16-QAM and 64-QAM with BPSK and QPSK)
- RF power 10 mW (ZebraNet b/g Print Server)

9

Z Series and RZ Series

This section provides the features of and specifications for this printer.

Note • Printer specifications are subject to change without notice.

Contents

Select a Site for the Printer

Consider the following when selecting an appropriate location for your printer.

Select a Surface

Select a solid, level surface of sufficient size and strength to accommodate the printer and other equipment (such as a computer), if necessary. The choices include a table, countertop, desk, or cart. For the printer's weight and dimensions, see *Z Series and RZ Series General Specifications* on page 67.

Provide Proper Operating Conditions

This printer is designed to function in a wide range of environmental and electrical conditions, including a warehouse or factory floor. For more information on the required conditions, see *Z Series and RZ Series General Specifications* on page 67.

Table 7 shows the temperature and relative humidity requirements for the printer when it is operating.

Table 7 •

Mode	Temperature	Relative Humidity
Thermal Transfer	41° to 104° F 5° to 40° C	20 to 85% non-condensing.
Direct Thermal	32° to 104° F 0° to 40°C	20 to 85% non-condensing

Allow Proper Space

The printer should have enough space around it for you to be able to open the media door. To allow for proper ventilation and cooling, leave open space on all sides of the printer.

Caution • Do not place any padding or cushioning material behind or under the printer because this restricts air flow and could cause the printer to overheat.

Provide a Data Source

If the printer will be located away from the data source (such as a computer), the selected site must provide the appropriate connections to that data source. For more information on the types of communication interfaces and their limitations, refer to your printer's user guide.

Provide a Power Source

Place the printer within a short distance of a power outlet that is easily accessible.

Z Series and RZ Series General Specifications

Physical Specifications

Dimensions	ZM400/RZ400		ZM600/RZ600	
	U.S. Standard	Metric	U.S. Standard	Metric
Height	13.3 in.	338 mm	13.3 in.	338 mm
Width	10.9 in.	278 mm	13.4 in.	341 mm
Depth	18.7 in.	475 mm	18.7 in.	475 mm
Weight (without options)	32.4 lbs.	15 kg	34.7 lbs.	16 kg

Electrical Specifications

Power	ZM400/RZ400	ZM600/RZ600
Electrical	100 to 240 VAC; 47 to 63 Hz 5 Amps (fused)	100 to 240 VAC; 47 to 63 Hz 5 Amps (fused)
Printer idle	15W	15W

Environmental Conditions for Operation and Storage

Environment		ZM400/RZ400 and ZM600/RZ600	
		U.S. Standard	Metric
Temperature	Operating	41° to 104° F	5° to 40° C
	Storage	–40° to 140° F	–40° to 60° C
Relative Humidity	Operating	20% to 85%, non-condensing	
	Storage	5% to 85%, non-condensing	

Environment		Temperature	Relative Humidity
Operation	Thermal Transfer	41° to 104° F 5° to 40° C	20 to 85% non-condensing
	Direct Thermal	32° to 104° F 0° to 40° C	
Storage	Thermal Transfer or Direct Thermal	–40° to 140° F –40° to 60° C	5 to 85% non-condensing

Z Series and RZ Series Compliance Information

Important • The user is cautioned that any changes or modifications not expressly approved by Zebra Technologies Corporation could void the user's authority to operate the equipment. To ensure compliance, this printer must be used with Shielded Communication Cables.

FCC Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
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- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
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FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Canadian DOC Compliance Statement

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

This Class B digital apparatus complies with Canadian ICES-003.

Brasil — Aviso da Anatel

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This radio device is not allowed to be used for human safety since it has possibility of radio interference during operation.

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The low power radio-frequency devices must be susceptible with the interference from legal communications or ISM radio wave radiated devices.

Mexico — NOM-121-SCT1-2009

Este equipo ha sido diseñado para operar con las antenas que enseguida se enlistan y para una ganancia máxima de antena de [x] dB. El uso con este equipo de antenas no incluidas en esta lista o que tengan una ganancia mayor que [x] dB quedan prohibidas. La impedancia requerida de la antena es de [y] ohms.

This equipment has been designed to operate with the antennas that are listed below and for maximum antenna gain of {X} dB. Using this device with antennas not included in this list or that may have a gain higher than {X} dB is prohibited. The required antenna impedance is {Y} ohms.

Laird Technologies — Model WRR2400-RPSMA

- Gain = 1.3dBi @ 2.45GHz
- Impedance = 50 ohms

WLAN Radio Specification

802.11 b

- 2.4GHz
- DSSS (DBPSK, DQPSK and CCK)
- RF power 10 mW (ZebraNet b/g Print Server)

802.11 g

- 2.4GHz
- OFDM (16-QAM and 64-QAM with BPSK and QPSK)
- RF power 10 mW (ZebraNet b/g Print Server)

10

ZE500 Series

This section provides the features of and specifications for this printer.

Note • Printer specifications are subject to change without notice.

Contents

Print Engine Installation

This section provides basic information for mounting the print engine into an applicator. The illustrations in this section show the print engine from different angles and include dimensions and clearance needs.

Requirements

Stability When the print engine is mounted, the complete assembly must be physically stable. When the print engine is loaded with ribbon and media, the equipment must not become physically unstable.

Ventilation and Temperature Provide ventilation for the print engine mounting enclosure to remove heat and ensure uninterrupted, trouble-free operation of the print engine. Ambient air temperature surrounding the print engine must not exceed the following:

- Temperature: 32° to 104°F (0° to 40°C)
- Relative humidity: 20% to 85% non-condensing

Power Requirements Consider the current rating of the print engine during installation. When power is applied to the print engine and the enclosing equipment, an overload condition must not be created.

Grounding Requirements Maintain reliable grounding of the print engine. Pay particular attention to the AC power supply connections so that earth ground is maintained through the AC power input connector.

Clearance for Cables and Connectors Allow ample space at the rear of the print engine for electronic connectors and dressing of the following cables: IEC power cord, serial and/or parallel host communication cable, optional host communication cable (Ethernet), and the discrete signal (applicator) interface cable.

Power Cord Requirements The IEC power cord does not have a strain relief on the print engine. If the operating characteristics of the applicator include vibration or strain on the power cord, provide an appropriate clamping mechanism to avoid unintentional disconnection of the power cord from the print engine.

Select a Site for the Printer

Consider the following when selecting an appropriate location for your printer.

Stability

When the print engine is mounted, the complete assembly must be physically stable. When the print engine is loaded with ribbon and media, the equipment must not become physically unstable.

Provide Proper Operating Conditions

This printer is designed to function in a wide range of environmental and electrical conditions, including a warehouse or factory floor. For more information on the required conditions, see *ZE500 General Specifications* on page 75.

Table 8 shows the temperature and relative humidity requirements for the printer when it is operating.

Table 8 • Operating Temperature and Humidity

Mode	Temperature	Relative Humidity
Thermal Transfer	41° to 104° F (5° to 40° C)	20 to 85% non-condensing.
Direct Thermal	32° to 104° F (0° to 40° C)	20 to 85% non-condensing

Allow Proper Space

The printer should have enough space around it for you to be able to open the media door. To allow for proper ventilation and cooling, leave open space on all sides of the printer.

Caution • Do not place any padding or cushioning material behind or under the printer because this restricts air flow and could cause the printer to overheat.

Provide a Data Source

If the printer will be located away from the data source (such as a computer), the selected site must provide the appropriate connections to that data source. For more information on the types of communication interfaces and their limitations, refer to the User Guide.

Provide a Power Source

Place the printer within a short distance of a power outlet that is easily accessible.

Power Requirements Consider the current rating of the print engine during installation. When power is applied to the print engine and the enclosing equipment, an overload condition must not be created.

Grounding Requirements Maintain reliable grounding of the print engine. Pay particular attention to the AC power supply connections so that earth ground is maintained through the AC power input connector.

Clearance for Cables and Connectors Allow ample space at the rear of the print engine for electronic connectors and dressing of the following cables: IEC power cord, serial and/or parallel host communication cable, optional host communication cable (Ethernet), and the discrete signal (applicator) interface cable.

Power Cord Requirements The IEC power cord does not have a strain relief on the print engine. If the operating characteristics of the applicator include vibration or strain on the power cord, provide an appropriate clamping mechanism to avoid unintentional disconnection of the power cord from the print engine.

ZE500 General Specifications

Physical

Dimensions	ZE500-4		ZE500-6	
	U.S. Standard	Metric	U.S. Standard	Metric
Height	11.8 in	300 mm	11.8 in	300 mm
Width	9.6 in.	245 mm	9.6 in.	245 mm
Depth	14.95 in.	380 mm	17.23 in.	438 mm
Weight	34 lb	15.4 kg	38 lb	17.3 kg

Electrical Specifications

Power	
General	100 to 240 VAC; 47 to 63 Hz
Power Consumption Idle Printing	 20 W 375 W (maximum)
Fuses	5 Amp, 250 VAC, 5 × 20 mm IEC style, as supplied with the printer

Environmental Conditions

Environment		Temperature	Relative Humidity
Operation	Thermal Transfer	41° to 104° F 5° to 40° C	20 to 85% non-condensing
	Direct Thermal	32° to 104° F 0° to 40° C	
Storage		–40° to 160° F –40° to 71° C	5 to 95% non-condensing

ZE500 Compliance Information

Important • The user is cautioned that any changes or modifications not expressly approved by Zebra Technologies Corporation could void the user's authority to operate the equipment. To ensure compliance, this printer must be used with Shielded Communication Cables.

FCC Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Canadian DOC Compliance Statement

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

This Class A digital apparatus complies with Canadian ICES-003.

Brasil — Aviso da Anatel

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

Este produto está homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolução 242/2000, e atende aos requisitos técnicos aplicados. Para maiores informações, consulte o site da ANATEL http://www.anatel.gov.br

This equipment's operation is of a secondary character; that is, it doesn't have the right to protection against damaging interference, even from stations of the same type, nor can it cause interference to systems with a primary operating character.

This product is approved by ANATEL, in accordance with the procedures regulated by Resolution 242/2000, and meets the technical requirements specified. For more information, see the ANATEL website at http://www.anatel.gov.br

Korean Compliance Statement

이 기기는 업무용(A 급) 전자파 적합기기로서 판매자 또는 사용자는 이
점을 주의하시길 바라며, 가정 외의 지역에서 사용하는 것을 목적으로

해당무선설비기기는 운용 중 전파혼신가능성이 있으므로
인명안전과 관련된 서비스는 할 수 없습니다

The equipment is for business use (Class A), and has acquired electromagnetic conformity registration. Sellers and users are required to take caution in this regard.

This radio device is not allowed to be used for human safety since it has possibility of radio interference during operation.

NCC

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

According to "Administrative Regulations on Low Power Radio Waves Radiated Devices" Without permission granted by the NCC, any company, enterprise, or user is not allowed to change frequency, enhance transmitting power or alter original characteristic as well as performance to an approved low power radio-frequency devices. The low power radio-frequency devices shall not influence aircraft security and interfere legal communications; If found, the user shall cease operating immediately until no interference is achieved. The said legal communications means radio communications is operated in compliance with the Telecommunications Act.

The low power radio-frequency devices must be susceptible with the interference from legal communications or ISM radio wave radiated devices.

Mexico — NOM-121-SCT1-2009

Este equipo ha sido diseñado para operar con las antenas que enseguida se enlistan y para una ganancia máxima de antena de [x] dB. El uso con este equipo de antenas no incluidas en esta lista o que tengan una ganancia mayor que [x] dB quedan prohibidas. La impedancia requerida de la antena es de [y] ohms.

This equipment has been designed to operate with the antennas that are listed below and for maximum antenna gain of {X} dB. Using this device with antennas not included in this list or that may have a gain higher than {X} dB is prohibited. The required antenna impedance is {Y} ohms.

Laird Technologies — Model WRR2400-RPSMA

- Gain = 1.3dBi @ 2.45GHz
- Impedance = 50 ohms

WLAN Radio Specification

802.11 b

- 2.4GHz
- DSSS (DBPSK, DQPSK and CCK)
- RF power 10 mW (ZebraNet b/g Print Server)

802.11 g

- 2.4GHz
- OFDM (16-QAM and 64-QAM with BPSK and QPSK)
- RF power 10 mW (ZebraNet b/g Print Server)

11

ZT200 Series

This section provides the features of and specifications for these printers.

Note • Printer specifications are subject to change without notice.

Contents

Select a Site for the Printer

Consider the following when selecting an appropriate location for your printer.

Select a Surface

Select a solid, level surface of sufficient size and strength to accommodate the printer and other equipment (such as a computer), if necessary. The choices include a table, countertop, desk, or cart. For the printer's weight and dimensions, see *ZT210, ZT220, and ZT230 General Specifications* on page 81.

Provide Proper Operating Conditions

This printer is designed to function in a wide range of environmental and electrical conditions, including a warehouse or factory floor. For more information on the required conditions, see *ZT210, ZT220, and ZT230 General Specifications* on page 81.

Table 9 shows the temperature and relative humidity requirements for the printer when it is operating.

Table 9 •

Mode	Temperature	Relative Humidity
Thermal Transfer	41° to 104° F 5° to 40° C	20 to 85% non-condensing.
Direct Thermal	32° to 104° F 0° to 40° C	20 to 85% non-condensing

Allow Proper Space

The printer should have enough space around it for you to be able to open the media door. To allow for proper ventilation and cooling, leave open space on all sides of the printer.

Caution • Do not place any padding or cushioning material behind or under the printer because this restricts air flow and could cause the printer to overheat.

Provide a Data Source

If the printer will be located away from the data source (such as a computer), the selected site must provide the appropriate connections to that data source. For more information on the types of communication interfaces and their limitations, refer to your printer's user guide.

Provide a Power Source

Place the printer within a short distance of a power outlet that is easily accessible.

ZT210, ZT220, and ZT230 General Specifications

Physical Specifications

Dimensions	ZT210		ZT220		ZT230	
	U.S. Standard	Metric	U.S. Standard	Metric	U.S. Standard	Metric
Height	11 in.	28 cm	11 in.	28 cm	11 in	28 cm
Width	9.5 in.	24 cm	9.5 in	24 cm	9.5 in	24 cm
Depth	17 in.	28 cm	17 in	43 cm	17 in	43 cm
Weight	20 lb	9 kg	17 lb	7.75 kg	20 lb	9 kg

Electrical Specifications

Power	
General	100 to 240 VAC; 47 to 63 Hz 5 Amps (fused)
Printer idle	6W

Environmental Conditions for Operation and Storage

Environment		Temperature	Relative Humidity
Operation	Thermal Transfer	41° to 104° F 5° to 40° C	20 to 85% non-condensing
	Direct Thermal	32° to 104° F 0° to 40° C	
Storage	Thermal Transfer or Direct Thermal	–40° to 140° F –40° to 60° C	5 to 85% non-condensing

ZT210, ZT220, and ZT230 Compliance Information

Important • The user is cautioned that any changes or modifications not expressly approved by Zebra Technologies Corporation could void the user's authority to operate the equipment. To ensure compliance, this printer must be used with Shielded Communication Cables.

FCC Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Note: FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note • The radio is for indoor use only in the 5150-5250MHz frequency range.

Canadian DOC Compliance Statement

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

This Class B digital apparatus complies with Canadian ICES-003.

Industry Canada (IC) Warning

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- L'appareil ne doit pas produire de brouillage, et
- L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

- This device may not cause interference.
- This device must accept any interference, including interference that may cause undesired operation of the device.

Brasil — Aviso da Anatel

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

Este produto está homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolução 242/2000, e atende aos requisitos técnicos aplicados. Para maiores informações, consulte o site da ANATEL http://www.anatel.gov.br

This equipment's operation is of a secondary character; that is, it doesn't have the right to protection against damaging interference, even from stations of the same type, nor can it cause interference to systems with a primary operating character.

This product is approved by ANATEL, in accordance with the procedures regulated by Resolution 242/2000, and meets the technical requirements specified. For more information, see the ANATEL website at http://www.anatel.gov.br

European Regulatory Information

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

Important Notice:

This device is a portable RF printer intended for commercial and industrial use in all EU and EFTA member states.

Japan Restricted Frequencies

For 5.725 - 5.825 GHz, this frequency band will not be available in Japan.

Taiwan Restricted Frequencies

For 5.15 - 5.25 GHz, this frequency band will not be available in Taiwan.

Korean Compliance Statement

이 기기는 가정용 (B 급) 전자파 적합기기 로서 주로 가정에서 사용하는 것을 목적으로 하며 , 모든 지역에서 사용할 수 있습니다 .

해당 무선설비기기는 운용 중 전파혼신 가능성이 있으므로 인명 안전과 관련된 서비스는 할 수 없습니다 .

The equipment is for home use (Class B) and has acquired electromagnetic conformity registration, so it can be used not only in residential area but other areas as well.

This radio device is not allowed to be used for human safety since it has possibility of radio interference during operation.

NCC

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

According to "Administrative Regulations on Low Power Radio Waves Radiated Devices" Without permission granted by the NCC, any company, enterprise, or user is not allowed to change frequency, enhance transmitting power or alter original characteristic as well as performance to an approved low power radio-frequency devices. The low power radio-frequency devices shall not influence aircraft security and interfere legal communications; If found, the user shall cease operating immediately until no interference is achieved. The said legal communications means radio communications is operated in compliance with the Telecommunications Act.

The low power radio-frequency devices must be susceptible with the interference from legal communications or ISM radio wave radiated devices.

Mexico — NOM-121-SCT1-2009

Este equipo ha sido diseñado para operar con las antenas que enseguida se enlistan y para una ganancia máxima de antena de [x] dB. El uso con este equipo de antenas no incluidas en esta lista o que tengan una ganancia mayor que [x] dB quedan prohibidas. La impedancia requerida de la antena es de [y] ohms.

This equipment has been designed to operate with the antennas that are listed below and for maximum antenna gain of {X} dB. Using this device with antennas not included in this list or that may have a gain higher than {X} dB is prohibited. The required antenna impedance is {Y} ohms.

Laird Technologies — Model RD2458-5-RSMA

- Gain = 3dbi @ 2.4GHz
- Gain = 5dBi @ 5GHz
- Impedance = 50 ohms

WLAN Radio Specification

802.11 b

- 2.4GHz
- DSSS (DBPSK, DQPSK and CCK)
- RF power 63 mW (ZebraNet n Print Server)

802.11 g

- 2.4GHz
- OFDM (16-QAM and 64-QAM with BPSK and QPSK)
- RF power 63 mW (ZebraNet n Print Server)

802.11 n

- 2.4GHz
- OFDM (16-QAM and 64-QAM with BPSK and QPSK)
- RF power 63 mW (ZebraNet n Print Server)

802.11 a/n

- 5.15-5.25 GHz, 5.25-5.35 GHz, 5.47-5.725 GHz, 5.725-5.825 GHz
- OFDM (16-QAM and 64-QAM with BPSK and QPSK)
- RF power 50 mW (ZebraNet n Print Server)

12

ZT400 Series

This section provides the features of and specifications for this printer.

Note • Printer specifications are subject to change without notice.

Contents

Select a Site for the Printer

Consider the following when selecting an appropriate location for your printer.

Select a Surface

Select a solid, level surface of sufficient size and strength to accommodate the printer and other equipment (such as a computer), if necessary. The choices include a table, countertop, desk, or cart. For the printer's weight and dimensions, see *ZT400 Series General Specifications* on page 89.

Provide Proper Operating Conditions

This printer is designed to function in a wide range of environmental and electrical conditions, including a warehouse or factory floor. For more information on the required conditions, see *ZT400 Series General Specifications* on page 89.

Table 10 shows the temperature and relative humidity requirements for the printer when it is operating.

Table 10 •

Mode	Temperature	Relative Humidity
Thermal Transfer	41° to 104° F 5° to 40° C	20 to 85% non-condensing.
Direct Thermal	32° to 104° F 0° to 40° C	20 to 85% non-condensing

Allow Proper Space

The printer should have enough space around it for you to be able to open the media door. To allow for proper ventilation and cooling, leave open space on all sides of the printer.

Caution • Do not place any padding or cushioning material behind or under the printer because this restricts air flow and could cause the printer to overheat.

Provide a Data Source

If the printer will be located away from the data source (such as a computer), the selected site must provide the appropriate connections to that data source. For more information on the types of communication interfaces and their limitations, refer to your printer's user guide.

Provide a Power Source

Place the printer within a short distance of a power outlet that is easily accessible.

ZT400 Series General Specifications

Physical Specifications

Dimensions	ZT410		ZT420	
	U.S. Standard	Metric	U.S. Standard	Metric
Height	12.8 in	325 mm	12.8 in	325 mm
Width	10.7 in.	272 mm	13.2 in.	335 mm
Depth	19.7 in.	500 mm	19.7 in.	500 mm
Weight (without options)	36 lbs.	16 kg	40 lbs.	18 kg

Electrical Specifications

Power	ZT410	ZT420
General	100 to 240VAC; 47 to 63 Hz	100 to 240VAC; 47 to 63 Hz
Power Consumption Printing PAUSE test at slowest speed	118.7 W	220.0 W
Power Consumption Printer idle	6.0 W	6.0 W
Fuses	5A	5A

Environmental Conditions for Operation and Storage

Environment		Temperature	Relative Humidity
Operation	Thermal Transfer	41° to 104° F 5° to 40° C	20 to 85% non-condensing
	Direct Thermal	32° to 104° F 0° to 40° C	
Storage	Thermal Transfer or Direct Thermal	–40° to 140° F –40° to 60° C	5 to 85% non-condensing

ZT400 Series Compliance Information

Important • The user is cautioned that any changes or modifications not expressly approved by Zebra Technologies Corporation could void the user's authority to operate the equipment. To ensure compliance, this printer must be used with Shielded Communication Cables.

FCC Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Contains FCC ID: I28-RFIDM6EMTT

M6e-Micro RFID Radio Installation Instructions

The M6e-Micro is not intended for OEM integrators or end users. It can only be installed in the ZT400 series printer at the grantee manufacturing facility.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Canadian DOC Compliance Statement

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

This Class B digital apparatus complies with Canadian ICES-003.

Industry Canada (IC) Warning

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- L'appareil ne doit pas produire de brouillage, et
- L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Comprend IC: 3798B-RFIDM6EMTT

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

- This device may not cause interference.
- This device must accept any interference, including interference that may cause undesired operation of the device.

Contains IC: 3798B-RFIDM6EMTT

Brasil — Aviso da Anatel

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

Este produto está homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolução 242/2000, e atende aos requisitos técnicos aplicados. Para maiores informações, consulte o site da ANATEL http://www.anatel.gov.br

This equipment's operation is of a secondary character; that is, it doesn't have the right to protection against damaging interference, even from stations of the same type, nor can it cause interference to systems with a primary operating character.

This product is approved by ANATEL, in accordance with the procedures regulated by Resolution 242/2000, and meets the technical requirements specified. For more information, see the ANATEL website at http://www.anatel.gov.br

European Regulatory Information

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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

Important Notice:

This device is a portable RF printer intended for commercial and industrial use in all EU and EFTA member states.

Japan Restricted Frequencies

For 5.725 - 5.825 GHz, this frequency band will not be available in Japan.

Taiwan Restricted Frequencies

For 5.15 - 5.25 GHz, this frequency band will not be available in Taiwan.

Korean Compliance Statement

이 기기는 가정용 (B 급) 전자파 적합기기 로서 주로 가정에서 사용하는 것을 목적으로 하며 , 모든 지역에서 사용할 수 있습니다 .

해당 무선설비기기는 운용 중 전파혼신 가능성이 있으므로 인명 안전과 관련된 서비스는 할 수 없습니다 .

The equipment is for home use (Class B) and has acquired electromagnetic conformity registration, so it can be used not only in residential area but other areas as well.

This radio device is not allowed to be used for human safety since it has possibility of radio interference during operation.

NCC

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

According to "Administrative Regulations on Low Power Radio Waves Radiated Devices" Without permission granted by the NCC, any company, enterprise, or user is not allowed to change frequency, enhance transmitting power or alter original characteristic as well as performance to an approved low power radio-frequency devices. The low power radio-frequency devices shall not influence aircraft security and interfere legal communications; If found, the user shall cease operating immediately until no interference is achieved. The said legal communications means radio communications is operated in compliance with the Telecommunications Act.

The low power radio-frequency devices must be susceptible with the interference from legal communications or ISM radio wave radiated devices.

Mexico — NOM-121-SCT1-2009

Este equipo ha sido diseñado para operar con las antenas que enseguida se enlistan y para una ganancia máxima de antena de [x] dB. El uso con este equipo de antenas no incluidas en esta lista o que tengan una ganancia mayor que [x] dB quedan prohibidas. La impedancia requerida de la antena es de [y] ohms.

This equipment has been designed to operate with the antennas that are listed below and for maximum antenna gain of {X} dB. Using this device with antennas not included in this list or that may have a gain higher than {X} dB is prohibited. The required antenna impedance is {Y} ohms.

Laird Technologies — Model RD2458-5-RSMA

- Gain = 3dbi @ 2.4GHz
- Gain = 5dBi @ 5GHz
- Impedance = 50 ohms

Auden Techno Corp Model 220370-09

- Gain = 3.81dBi @ 2.5GHz
- Impedance = 50 ohms

WLAN Radio Specification

802.11 b

- 2.4GHz
- DSSS (DBPSK, DQPSK and CCK)
- RF power 63 mW (ZebraNet n Print Server)

802.11 g

- 2.4GHz
- OFDM (16-QAM and 64-QAM with BPSK and QPSK)
- RF power 63 mW (ZebraNet n Print Server)

802.11 n

- 2.4GHz
- OFDM (16-QAM and 64-QAM with BPSK and QPSK)
- RF power 63 mW (ZebraNet n Print Server)

802.11 a/n

- 5.15-5.25 GHz, 5.25-5.35 GHz, 5.47-5.725 GHz, 5.725-5.825 GHz
- OFDM (16-QAM and 64-QAM with BPSK and QPSK)
- RF power 50 mW (ZebraNet n Print Server)

Bluetooth 2.1 + EDR Radio Specification

- 2.4 GHz
- FHSS
- RF power 0.4 mW

RFID Radio Specification

- 902 - 928 MHz (US); 865 - 868 MHz (EU)
- ISO-18000 - 6B; ISO 18000-6C
- RF power <30 dBm ERP
- integrated PCBA antenna

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