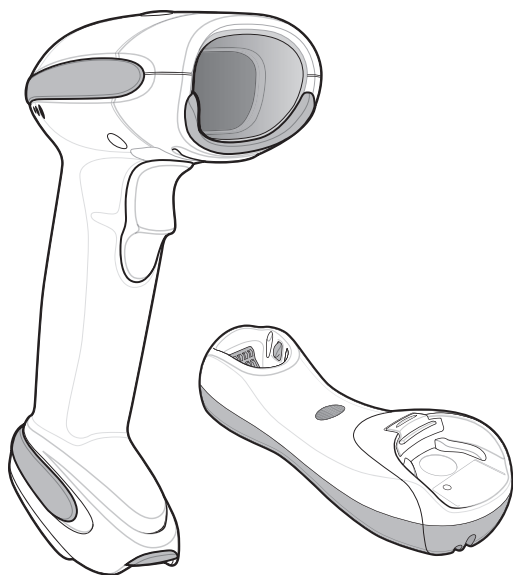


LS4278

Quick Reference Guide



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Zebra Technologies Corporation
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<http://www.zebra.com>

Warranty

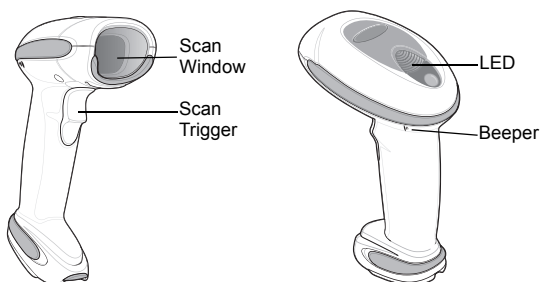
For the complete Zebra hardware product warranty statement, go to:

<http://www.zebra.com/warranty>

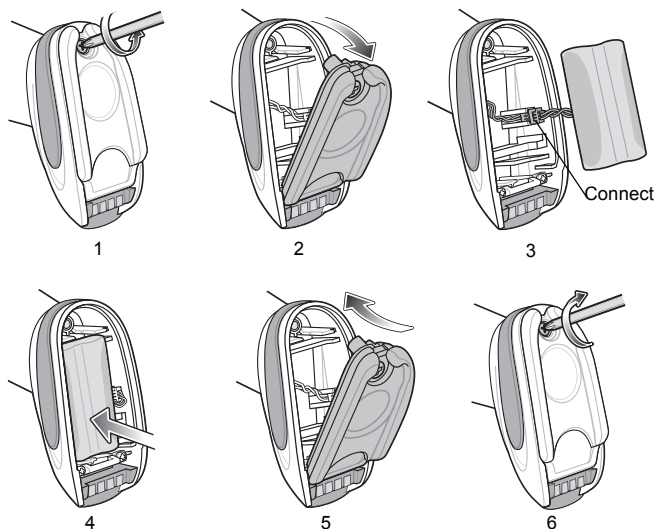
Introduction

The LS4278 scanner combines excellent scanning performance and advanced ergonomics to provide the best value in a lightweight laser scanner. Whether used as a hand-held scanner or in hands-free mode in a stand, the scanner ensures comfort and ease of use for extended periods of time. Before programming the scanner, scan the appropriate bar code(s), beginning on [page 8](#), to communicate with the host.

Parts

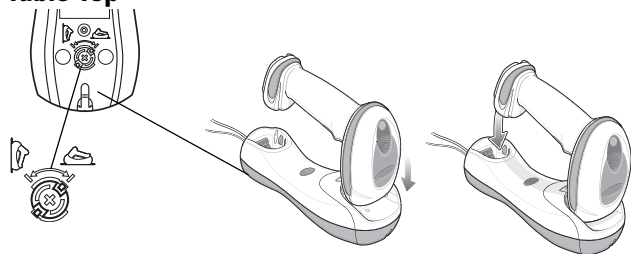


Battery Insertion/Removal

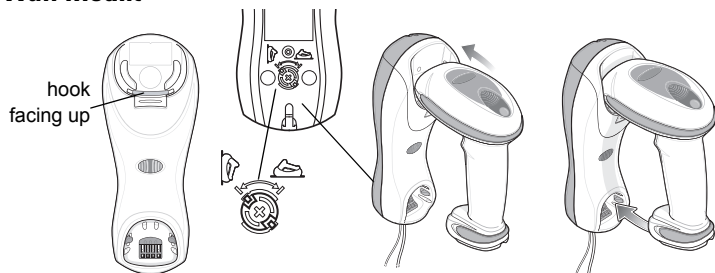


Scanner Insertion in Cradle

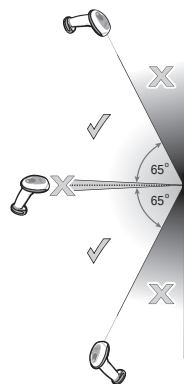
Table Top



Wall Mount



Aiming



Scanning



Beeper Definitions

The scanner issues different beep sequences and patterns to indicate status. The table below defines beep sequences that occur during both normal scanning and while programming the scanner.

Beeper Sequence	Indication
Standard Use	
Low/medium/high beeps	Power up.
High beep	A bar code symbol was decoded (if decode beeper is enabled).
Four long low beeps	A transmission error was detected in a scanned symbol. The data is ignored. This occurs if a unit is not properly configured. Check option setting.
Five low long beeps	Conversion or format error.
Low/high/low beeps	ADF transmit error.
High/high/high/low beeps	RS-232 receive error.
Parameter Menu Scanning	
Long low/long high beeps	Input error, incorrect bar code or "Cancel" scanned, wrong entry, incorrect bar code programming sequence; remain in program mode.
High/low beeps	Keyboard parameter selected. Enter value using bar code keypad.
High/low/high/low beeps	Successful program exit with change in the parameter setting.
Long low/long high/long low/long high beeps	Out of host parameter storage space. Scan Set Defaults on page 8 .
Wireless Operation	
High/low/high/low beeps	Pairing bar code scanned.
Low/high beeps	Bluetooth connection established.

Beeper Sequence	Indication
High/low beeps	Bluetooth disconnection event.
Long low/long high beeps	Page timeout; remote device is out of range/not powered.
Long low/long high/long low/long high beeps	Connection attempt was rejected by remote device.
Code 39 Buffering	
High/low beeps	New Code 39 data was entered into the buffer.
Three long high beep	Code 39 buffer is full.
Low/high/low beeps	The Code 39 buffer was erased or there was an attempt to clear or transmit an empty buffer.
Low/high beeps	A successful transmission of buffered data.
Host Specific	
USB only	
Four high beeps	Scanner has not completed initialization. Wait several seconds and scan again.
Scanner gives a power-up beep after scanning a USB Device Type.	Communication with the bus must be established before the scanner can operate at the highest power level.
This power-up beep occurs more than once.	The USB bus may put the scanner in a state where power to the scanner is cycled on and off more than once. This is normal and usually happens when the host PC cold boots.
RS-232 only	
High beep	A <BEL> character is received and Beep on <BEL> is enabled.

LED Definitions

In addition to beeper sequences, the scanner communicates with the user using a two-color LED display. The table below defines LED colors that display during scanning and charging.

Scanning LED	Indication
Green Flash	A bar code was successfully decoded.
Charging LED	
Green - Slow Continuous Flash	Non-critical battery temperature fault.
Green - Fast Continuous Flash	Scanner is charging.
Green - Solid	Scanner is fully charged.
Amber - Continuous Flash	Critical battery temperature fault.

Troubleshooting

Problem	Possible Cause	Possible Solutions
LED indicates a battery temperature fault.	Battery is above or below normal operating temperature.	Do not use the scanner. Move the scanner to a location within normal operating temperature. The scanner can remain in the cradle while the battery warms or cools to normal operating temperature. Refer to the <i>Product Reference Guide</i> for more information.
Nothing happens when the trigger is pulled.	No power to the scanner.	Battery may be discharged; charge scanner in cradle. Check that battery door is closed Ensure that end cap to battery chamber is secured.
	Scanner is disabled.	Some host interfaces (e.g., Synapse, IBM-468x) can disable the scanner. If this applies, enable the scanner via the host interface.
Laser comes on, but symbol does not decode.	Scanner is not programmed for the correct bar code type.	Ensure the scanner is programmed to read the type of bar code scanned. Refer to the <i>Product Reference Guide</i> for more information.
	Bar code symbol is unreadable.	Check the symbol to ensure it is not defaced. Try scanning test symbols of the same bar code type.
	Distance between scanner and bar code is incorrect.	Move the scanner closer to or further from the bar code.
Symbol is decoded but not transmitted to the host.	Cradle is not programmed for the correct host interface.	Check scanner host parameters or edit options.
	Scanner not paired to host-connected interface.	Pair the scanner to the cradle (using PAIR bar code on the cradle).
	Interface cable is loose.	Ensure all cable connections are secure.
	Cradle has lost connection to host.	<i>In this exact order:</i> disconnect power supply; disconnect host cable; wait three seconds; reconnect host cable; reconnect power supply; reestablish pairing.
Scanned data is incorrectly displayed on the host.	Scanner is not programmed to work with the host.	Ensure proper host is selected. Check the scanner's host type parameters or editing options. For RS-232, ensure the scanner's communication parameters match the host's settings. For a keyboard wedge configuration, ensure the system is programmed for the correct keyboard type, and the CAPS LOCK key is off. Ensure editing options (e.g., UPC-E to UPC-A conversion) are properly programmed. Refer to the <i>Product Reference Guide</i> for more information.

Programming Bar Codes

Following are some frequently used programming bar codes.

- ✓ **NOTE** For additional host types, refer to the *LS4278 Product Reference Guide*, p/n 72E-69834-xx, available on the website:
<http://www.zebra.com/support>.

Set Defaults

Scan **SET DEFAULTS** to set all parameters to their default values.



SET DEFAULTS

Scanning Modes

Scan the appropriate bar code below to determine the scanning pattern.

- **SINGLE LINE ONLY** - No up and down scan line movement (no raster).
- **MULTI-LINE SMART RASTER** - The scan line begins as a single line and moves up and down (rasters) when a partial scan of a bar code is detected, or no bar code is decoded 500 ms after the trigger is pulled.
- **MULTI-LINE ALWAYS RASTER** (default) - Rastering (up and down scan line movement) begins immediately.



SINGLE LINE ONLY



MULTI-LINE SMART RASTER



MULTI-LINE ALWAYS RASTER (Default)

Host Types

If a Synapse cable is used (i.e., part number STlxx-xxxx), the scanner autodetects the Synapse cable and there is no need to scan bar codes to enable the Synapse host.

If a USB interface is used, the scanner autodetects the USB and defaults to the HID keyboard interface. See [page 12](#) to select the IBM hand-held host type.

If a Keyboard Wedge, RS-232, Wand Emulation, Scanner Emulation, or IBM 46XX is used, the appropriate host type must be scanned. Select the appropriate host type from the bar codes that follow.

Keyboard Wedge Host Type



IBM PC/AT and IBM PC COMPATIBLES

Country Keyboard Types (Country Codes)



NORTH AMERICAN (Default)



FRENCH Windows



FRENCH CANADIAN Windows 95/98



FRENCH CANADIAN Windows XP/2000

Country Keyboard Types (Country Codes)**GERMAN Windows****SPANISH Windows****ITALIAN Windows****SWEDISH Windows****UK ENGLISH Windows****JAPANESE Windows****PORTUGUESE-BRAZILIAN Windows**

RS-232 Host Types



STANDARD RS-232



ICL RS-232



NIXDORF RS-232 MODE A



NIXDORF RS-232 MODE B



FUJITSU RS-232



OPOS/JPOS

USB Host Types



HID KEYBOARD EMULATION



IBM HAND-HELD USB

IBM 46XX Host Types**PORT 5B****PORT 9B****Wand Emulation Host Type****SYMBOL WAND**

Many Wand hosts require input as Code 39 data. Scan the following bar codes to enable or disable transmission of data to the Wand host as Code 39 data.

**ENABLE CONVERT TO CODE 39 FOR WAND HOST****DISABLE CONVERT TO CODE 39 FOR WAND HOST (Default)****Scanner Emulation Host Type**

Scan the bar code below to enable the Scanner Emulation host.

**ENABLE SCANNER EMULATION HOST**

Radio Communications Host Types

Scan a bar code below to choose how the scanner connects to a remote device. Scan **Cradle Host** if connecting to the STB4278 cradle.



Pairing

When the scanner is configured as an SPP or HID Master, a 'pairing bar code' must be created for the remote Bluetooth device to which the scanner can connect. The Bluetooth address of the remote device must be known. Pairing bar codes are Code 128 bar codes. The format is: <Fnc 3>Bxxxxxxxxxxx (where xxxxxxxxxxxx represents the 12-character Bluetooth address).

Pairing Modes

When operating with the cradle, two modes of pairing are supported:

- **Locked Pairing Mode** - When a cradle is paired (connected) to the scanner, any attempt to connect to a different scanner, by scanning the pairing bar code on the cradle or by inserting it into the cradle with **Pairing on Contacts** enabled, is rejected. The currently connected scanner maintains its connection.
- **Unlocked Pairing Mode** - A new scanner can be paired (connected) to a cradle at any time by scanning the pairing bar code on the cradle or by inserting it into the cradle with Pairing On Contacts enabled. The original scanner is disconnected from the cradle in favor of the new one (Point-to-Point mode only).

- ✓ **NOTE** If three scanners are actively connected to the cradle (Multipoint-to-Point mode), a fourth scanner cannot connect regardless of the pairing mode.



UNLOCKED PAIRING MODE (Default)



LOCKED PAIRING MODE

Pairing Methods

There are two pairing methods. The default method pairs (connects) the scanner and cradle when the pairing bar code on the cradle is scanned. A second method pairs the scanner and cradle when the scanner is inserted in the cradle. To enable this feature, scan **Enable Pair On Contacts** below. With this feature enabled it is not necessary to scan the pairing bar code on the cradle. If the pairing is successful, a low/high connection beep sequence sounds a few seconds after the scanner is placed in the cradle.



ENABLE PAIR ON CONTACTS



DISABLE PAIR ON CONTACTS (Default)

Carriage Return/Line Feed

To append a carriage return/line feed to all transmitted data, scan the following bar codes in the order shown. To cancel this operation, the **SET DEFAULTS** bar code on [page 8](#), or refer to the *Product Reference Guide*.



SCAN OPTIONS



<DATA><SUFFIX>



ENTER

Ergonomic Recommendations



CAUTION In order to avoid or minimize the potential risk of ergonomic injury follow the recommendations below. Consult with your local Health & Safety Manager to ensure that you are adhering to your company's safety programs to prevent employee injury.

- Reduce or eliminate repetitive motion
- Maintain a natural position
- Reduce or eliminate excessive force
- Keep objects that are used frequently within easy reach
- Perform tasks at correct heights
- Reduce or eliminate vibration
- Reduce or eliminate direct pressure
- Provide adjustable workstations
- Provide adequate clearance
- Provide a suitable working environment
- Improve work procedures.

Regulatory Information

This guide applies to Model Number LS4278.

All Zebra devices are designed to be compliant with rules and regulations in locations they are sold and will be labeled as required.

Any changes or modifications to Zebra Technologies equipment, not expressly approved by Zebra Technologies, could void the user's authority to operate the equipment.

Local language translations are available at the following website:

<http://www.zebra.com/support>

Country Approval

Regulatory markings are applied to the device signifying the radio (s) are approved for use in the following countries: United States, Canada, Australia, Japan & Europe.

Please refer to the Declaration of Conformity (DoC) for details of other country markings. This is available at <http://www.zebra.com/doc>.

Note: For 2.4GHz Products: Europe includes, Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Radio Modules

The LS4278 Scanners contain an approved radio module. This module is the Bluetooth radio Type: LMX5452.

Bluetooth Devices

This product is an approved Bluetooth device. BT ID: B02793.



Operation of the device without regulatory approval is illegal.



FCC / EU RF Exposure Guidelines

Safety Information

The device complies with Internationally recognised standards covering Specific Absorption Rate (SAR) related to human exposure to electromagnetic fields from radio devices.

Reducing RF Exposure – Use Properly

It is advisable to use the device only in the normal operating position.

Hand Held Devices:

To comply with FCC RF exposure requirements, this device must be operated in the hand. Other operating configurations should be avoided.

Radio Frequency Interference Requirements



Radio Transmitters (Part 15)

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.

Radio Frequency Interference Requirements - Canada

Radio Transmitters

This device complies with RSS 210 of Industry & Science Canada. 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.

Label Marking: The Term "IC:" before the radio certification only signifies that Industry Canada technical specifications were met.

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

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



Marking and European Economic Area (EEA)

Bluetooth for use through the EEA have the following restrictions:

- Maximum radiated transmit power of 10mW EIRP in the frequency range 2.400 -2.4835 GHz
- Belgium outside usage, the equipment is restricted to 2.460 -2.4835 GHz frequency range

Statement of Compliance

Zebra hereby, declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC and 2011/65/EU. A Declaration of Conformity may be obtained from <http://www.zebra.com/doc>

Laser Labels

In accordance with IEC60825-1 and EN60825, the following information is provided to the user:



HEBREW

מוצר לייזר רמה 1
או לייזר
חץ להביט אל קרן האור
מוצר לייזר רמה 2

ENGLISH

KLASSE 1 CLASS 1 LASER PRODUCT
LASER LIGHT
DO NOT STARE INTO BEAM
KLASSE 2 LASER PRODUCT

DANISH / DANSK

KLASSE 1 KLASSE 1 LASERPRODUKT
LASERLYS
SE IKKE IND I STRÅLEN
KLASSE 2 LASERPRODUKT

DUTCH / NEDERLANDS

KLASSE 1 KLASSE 1 LASERPRODUKT
LASERLICHT
NIET IN STRAAL STAREN
KLASSE 2 LASERPRODUKT

FINNISH / SUOMI

LUOKKA 1 LUOKKA 1 LASERTUOTE
LASERVALO
ÄLÄ TUIJOTA SÄDETTÄ
LUOKKA 2 LASERTUOTE

FRENCH / FRANÇAIS

CLASSE 1 PRODUIT LASER DE CLASSE 1
LUMIÈRE LASER
NE PAS REGARDER LE RAYON FIXEMENT
PRODUIT LASER DE CLASSE 2

GERMAN / DEUTSCH

KLASSE 1 LASERPRODUKT DER KLASSE 1
LASERSTRAHLEN
NICHT DIREKT IN DEN LASERSTRAHL SCHAUEN
LASERPRODUKT DER KLASSE 2

JAPANESE / 日本語

クラス1 クラス1 レーザ製品
クラス2 レーザ光線
光線を直視しないでください
クラス2 レーザ製品

CHINESE / 简体中文

1 类 1 类激光产品
激光
切勿注视光束
2 类激光产品

ITALIAN / ITALIANO

CLASSE 1 PRODOTTO AL LASER DI CLASSE 1
LUCE LASER
NON FISSARE IL RAGGIO
PRODOTTO AL LASER DI CLASSE 2

NORWEGIAN / NORSK

KLASSE 1 LASERPRODUKT, KLASSE 1
LASERLYS
IKKE STIRR INN I LYSSTRÅLEN
LASERPRODUKT, KLASSE 2

PORTUGUESE / PORTUGUÊS

CLASSE 1 PRODUTO LASER DA CLASSE 1
LUZ DE LASER
NÃO FIXAR O RAIÃO LUMINOSO
PRODUTO LASER DA CLASSE 2

SPANISH / ESPAÑOL

CLASSE 1 PRODUCTO LÁSER DE LA CLASE 1
LUZ LÁSER
NO MIRE FIJAMENTE EL HAZ
PRODUCTO LÁSER DE LA CLASE 2

SWEDISH / SVENSKA

KLASS 1 LASERPRODUKT KLASS 1
LASERLJUS
STIRRA INTE MOT STRÅLEN
LASERPRODUKT KLASS 2

KOREAN / 한국어

1등급 1등급 레이저 제품
2등급 레이저 광선
이 광선을 주시하지 마십시오.
2등급 레이저 제품

Laser Devices



COMPLIES WITH 21CFR1040.10 AND 1040.11 EXCEPT FOR DEVIATIONS PURSUANT TO LASER NOTICE NO. 50, DATED JUNE 24, 2007 AND IEC 60825-1 (Ed. 2.0), EN60825-1:2007.

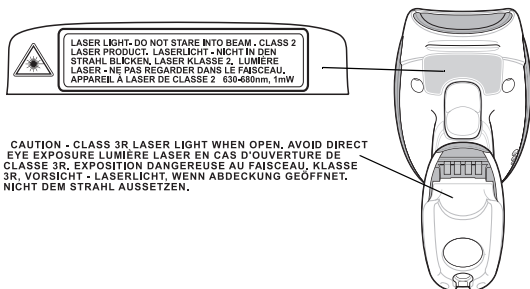
The laser classification is marked on one of the labels on the device.

Class 1 Laser devices are not considered to be hazardous when used for their intended purpose. The following statement is required to comply with US and international regulations:

Caution: Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.

Class 2 laser scanners use a low power, visible light diode. As with any very bright light source, such as the sun, the user should avoid staring directly into the light beam. Momentary exposure to a Class 2 laser is not known to be harmful.

Scanner Labeling



Waste Electrical and Electronic Equipment (WEEE)

English: For EU Customers: All products at the end of their life must be returned to Zebra for recycling. For information on how to return product, please go to: <http://www.zebra.com/weee>.

Български: За клиенти от ЕС: След края на полезния им живот всички продукти трябва да се връщат на Zebra за рециклиране. За информация относно връщането на продукти, моля отидете на адрес: <http://www.zebra.com/weee>.

Čeština: Pro zákazníky z EU: Všechny produkty je nutné po skončení jejich životnosti vrátit společnosti Zebra k recyklaci. Informace o způsobu vrácení produktu najdete na webové stránce: <http://www.zebra.com/weee>.

Dansk: Til kunder i EU: Alle produkter skal returneres til Zebra til recirkulering, når de er udtjent. Læs oplysningerne om returnering af produkter på: <http://www.zebra.com/weee>.

Deutsch: Für Kunden innerhalb der EU: Alle Produkte müssen am Ende ihrer Lebensdauer zum Recycling an Zebra zurückgesandt werden. Informationen zur Rücksendung von Produkten finden Sie unter <http://www.zebra.com/weee>.

Eesti: EL klientidele: kõik tooted tuleb nende eluea lõppedes tagastada taaskasutamise eesmärgil Zebra'ile. Lisainformatsiooni saamiseks toote tagastamise kohta külastage palun aadressi: <http://www.zebra.com/weee>.

Español: Para clientes en la Unión Europea: todos los productos deberán entregarse a Zebra al final de su ciclo de vida para que sean reciclados. Si desea más información sobre cómo devolver un producto, visite: <http://www.zebra.com/weee>.

Ελληνικά: Για πελάτες στην Ε.Ε.: Όλα τα προϊόντα, στο τέλος της διάρκειας ζωής τους, πρέπει να επιστρεφθούν στην Zebra για ανακύκλωση. Για περισσότερες πληροφορίες σχετικά με την επιστροφή ενός προϊόντος, επισκεφθείτε τη διεύθυνση <http://www.zebra.com/weee> στο Διαδίκτυο.

Français: Clients de l'Union Européenne: Tous les produits en fin de cycle de vie doivent être retournés à Zebra pour recyclage. Pour de plus amples informations sur le retour de produits, consultez: <http://www.zebra.com/weee>.

Italiano: per i clienti dell'UE: tutti i prodotti che sono giunti al termine del rispettivo ciclo di vita devono essere restituiti a Zebra al fine di consentirne il riciclaggio. Per informazioni sulle modalità di restituzione, visitare il seguente sito Web: <http://www.zebra.com/weee>.

Lietuvių: ES vartotojams: visi gaminiai, pasibaigus jų eksploatacijos laikui, turi būti grąžinti utilizuoti į kompaniją „Zebra“. Daugiau informacijos, kaip grąžinti gaminius, rasite: <http://www.zebra.com/weee>.

Latviešu: ES klientiem: visi produkti pēc to kalpošanas mūža beigām ir jānogādā atpakaļ Zebra otrreizējai pārstrādei. Lai iegūtu informāciju par produktu nogādāšanu Zebra, lūdz, skatiet: <http://www.zebra.com/weee>.

Magyar: Az EU-ban vásárlóknak: Minden tönkrement termék a Zebra vállalatához kell eljuttatni újrahasznosítás céljából. A termék visszajuttatásának módjával kapcsolatos tudnivalóért látogasson el a <http://www.zebra.com/weee> weboldalra.

Malti: Għal klijenti fl-UE: il-prodotti kollha li jkun wasslu fl-aħħar tal-hajja ta' l-użu tagħhom, iridu jiġu rritornati għand Zebra għar-riciklaġġ. Għal aktar taġġir dwar kif għandek tirritorna l-prodott, jekk jogħġbok żur: <http://www.zebra.com/weee>.

Nederlands: Voor klanten in de EU: alle producten dienen aan het einde van hun levensduur naar Zebra te worden teruggezonden voor recycling. Raadpleeg <http://www.zebra.com/weee> voor meer informatie over het terugzenden van producten.

Polski: Klienci z obszaru Unii Europejskiej: Produkty wycofane z eksploatacji należy zwrócić do firmy Zebra w celu ich utylizacji. Informacje na temat zwrotu produktów znajdują się na stronie internetowej <http://www.zebra.com/weee>.

Português: Para clientes da UE: todos os produtos no fim de vida devem ser devolvidos à Zebra para reciclagem. Para obter informações sobre como devolver o produto, visite: <http://www.zebra.com/weee>.

Românesc: Pentru clienții din UE: Toate produsele, la sfârșitul duratei lor de funcționare, trebuie returnate la Zebra pentru reciclare. Pentru informații despre returnarea produsului, accesați: <http://www.zebra.com/weee>.

Slovenski: Za kupce v EU: vsi izdelki se morajo po poteku življenjske dobe vrniti podjetju Zebra za reciklažo. Za informacije o vračilu izdelka obiščite: <http://www.zebra.com/weee>.

Suomi: Asiakkaita Euroopan unionin alueella: Kaikki tuotteet on palautettava kierrätettäväksi Zebra-yhtiöön, kun tuotetta ei enää käytetä. Lisätietoja tuotteiden palauttamisesta on osoitteessa <http://www.zebra.com/weee>.

Svenska: För kunder inom EU: Alla produkter som uppnått sin livslängd måste returneras till Zebra för återvinning. Information om hur du returnerar produkten finns på <http://www.zebra.com/weee>.

Türkçe: AB Müşterileri için: Kullanım süresi dolan tüm ürünler geri dönüşürme için Zebra'ya iade edilmelidir. Ürünlerin nasıl iade edileceği hakkında bilgi için lütfen şu adresi ziyaret edin: <http://www.zebra.com/weee>.

TRKISH WEEE Statement of Compliance

EEE Yönetmeliğine Uygundur

Service Information

If you have a problem using the equipment, contact your facility's technical or systems support. If there is a problem with the equipment, they will contact the Zebra Global Customer Support Center at: <http://www.zebra.com/support>.

For the latest version of this guide go to: <http://www.zebra.com/support>.



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