METROLOGIC INSTRUMENTS, INC.

MS7580 Genesis™
Presentation Area Imager
Installation and User's Guide

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Product Overview

The MS7580 Genesis™ is a high performance presentation area imaging bar code scanner that utilizes high-resolution CMOS imaging sensors for superior image quality. Genesis utilizes Omniplanar, Inc.'s Swiftdecoder™ software, for reliable decoding of both 1D and 2D bar code symbologies. Sharp images can be captured and transmitted in a variety of outputs including: .jpg, .bmp, and .tiff.

Omnidirectional scanning capabilities and an excellent motion tolerance provides aggressive scanning of all standard 1D, GS1 DataBar™ (RSS), PDF417, microPDF, Composite, Matrix and Postal Codes symbology types. Firmware updates are easily loaded into Flash memory.

The MS7580 provides an extended scan volume and a built in object detection sensor (IR) that instantly turns on the scanner when an object is presented within the scanner's field of view.

Genesis™	Interface Support
MS7580 – 118	Interfaces supported include: • RS232 • RS485 • USB◆ • Keyboard Wedge

◆ *USB is configurable for Keyboard Emulation Mode, Bi-Directional Serial Emulation Mode or IBM OEM. The default USB setting is Keyboard Emulation Mode*

Standard models ship with the ability to read all 1D, PDF and 2D bar codes. Decoding and functional capability is limited and units will not support key features including, but not limited to, the ability to decode PDF, 2D or OCR fonts without proper limited use licenses provided by Metrologic. If you wish to purchase a limited license for one or more of the key features not included in the standard unit, please specify at the time of sale or otherwise contact a Metrologic representative for more information.

Base Kit Components

BASIC KIT	
Part #	**Description**
MS7580-118	MS7580 Presentation Area Imager
00-02544	MetroSelect® Single-Line Configuration Guide*
00-05252	Area Imaging Bar Code Scanner Supplemental Configuration Guide*
00-02290	MS7580 Genesis Presentation Area Imager Installation and User's Guide*

** Available on the Metrologic website - www.metrologic.com*

Optional Accessories

OPTIONAL ACCESSORIES	
Part #	**Description**
AC to DC Power Transformer - Regulated 12VDC @ 1.25 A output.	
46-00862	90VAC to 255VAC United States, Canada and Japan
46-00863	90VAC to 255VAC Continental European
46-00864	90VAC to 255VAC United Kingdom
46-00865	90VAC to 255VAC China
46-00866	90VAC to 255VAC Australia

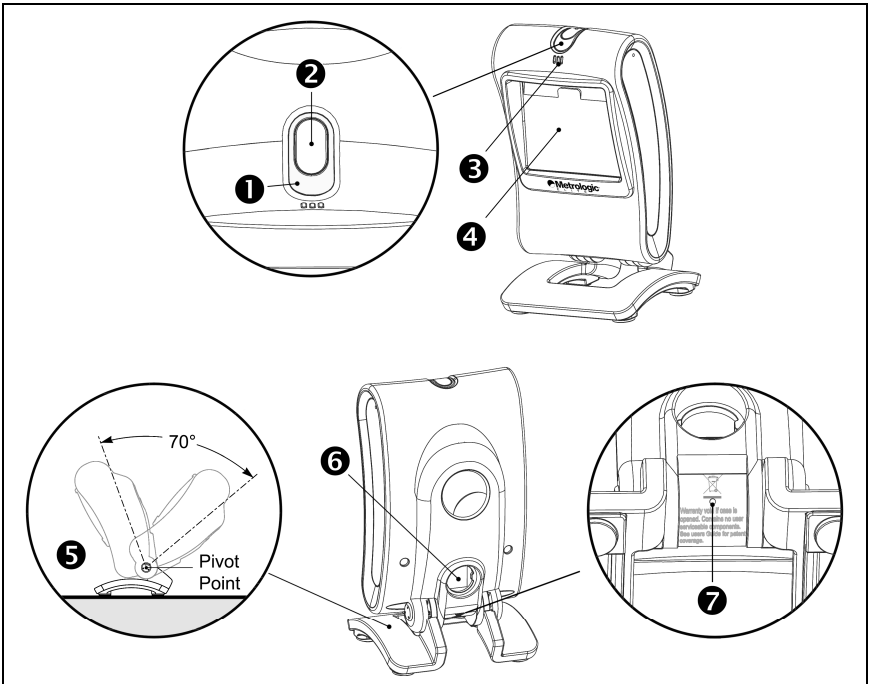
Other items may be ordered for the specific protocol being used. To order additional items, contact the dealer, distributor or call Metrologic's Customer Service Department at 1-800-ID-METRO or 1-800-436-3876.

Optional Accessories

OPTIONAL ACCESSORIES	
Part #	**Description**
 Cable Compatibility Warning The MS7580 requires a cable designed for a 12VDC area imager. Do not attempt to use any cables other than the specified cables listed below (*cable series 5S-5Sxxx*). Any damage incurred from incorrect cable usage will void the limited warranty shown on page 32.	
5S-5S000-3	RS232 12V VLink Cable with Built in Power Jack Straight Black Cable with Short Strain Relief
5S-5S002-3	Keyboard Wedge 12V VLink Cable with Adapter Cable Straight Black Cable with Short Strain Relief
5S-5S006-N-3	RS485, Direct Cable for 12V Host Power Straight Black Cable with Short Strain Relief
5S-5S213-N-3	USB Direct Cable for 12V Host Power Locking Plus-Power™ Type A Connector Straight Black Cable with Short Strain Relief
5S-5S235-3	USB 12V VLink Cable with Built in Power Jack Non-Locking Type A Connector Straight Black Cable with Short Strain Relief

Other items may be ordered for the specific protocol being used. To order additional items, contact the dealer, distributor or call Metrologic's Customer Service Department at 1-800-ID-METRO or 1-800-436-3876.

MS7580 Components



Item	Item Description	
1	Blue and White LED	See *Visual Indicators* (on page 15)
2	Button	Mode Select Button
3	Speaker	See *Audible Indicators* (on page 14)
4	Window	Illumination LED Aperture
5	Adjustable Base	
6	Cable Connection	10-pin RJ45, Female Socket, See *Scanner Pinout Connections* (on page 29)
7	Cable Release	See *Cable Installation and Removal* (on page 5)

Figure 1. Scanner Components

Cable Installation and Removal

Installation

Important: If the cable is not fully 'latched' the unit may power intermittently.

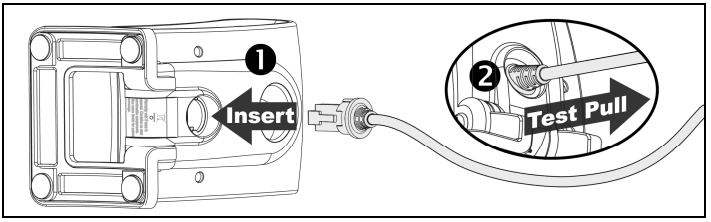


Figure 2.

1. Insert the 10-pin RJ45 end of the cable into the socket on the MS7580. There will be an audible click when the connector lock engages.
2. Gently pull on the cable strain relief to insure the cable is installed.

Removal

Before removing the cable from the unit, Metrologic recommends that the power on the host system is off and the power supply has been disconnected from the cable.

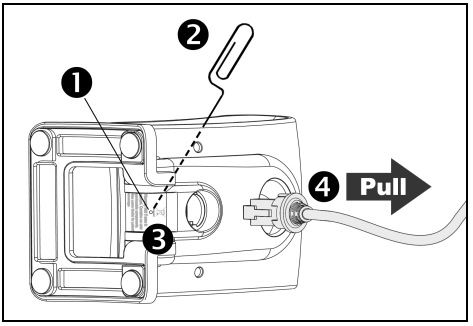


Figure 3. Releasing the Cable

1. Locate the small 'pin-hole' on the unit near the cable.
2. Bend an ordinary paperclip into the shape shown above.
3. Insert the paperclip (or other small metallic pin) into the small 'pin-hole'.
4. There will be a faint 'click' when the lock is released. Pull gently on the strain-relief of the cable to remove the cable from the unit.

Labels

Each MS7580 has a label located near the top of the output window. This label provides the unit's model number, date of manufacture, serial number, CE and caution information. Additional information has been molded into the underside of the unit's case. The following figure gives an example of the label and the molded text with their locations identified.

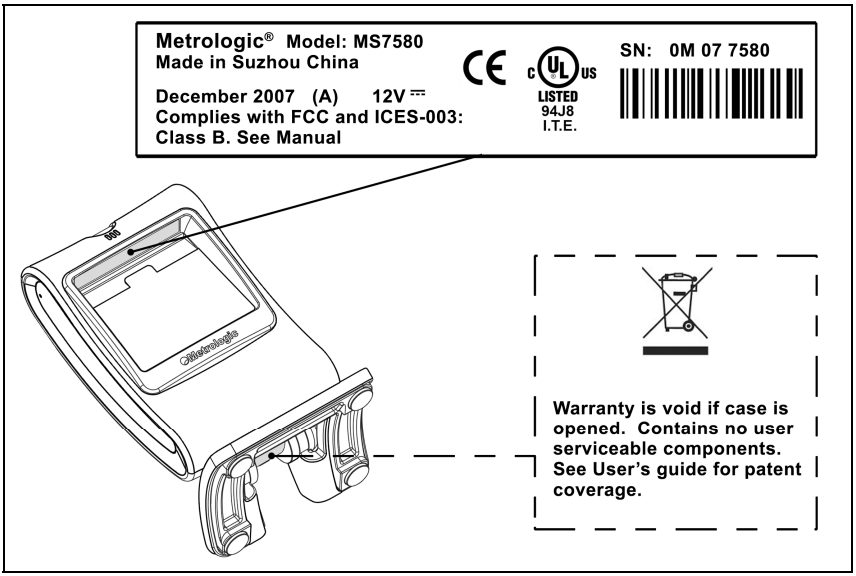


Figure 4. Label and Molded Text Samples

Caution
To maintain compliance with applicable standards, all circuits connected to the scanner must meet the requirements for SELV (Safety Extra Low Voltage) according to EN/IEC 60950-1.

To maintain compliance with standard CSA C22.2 No. 60950-1/UL 60950-1 and norm EN/IEC 60950-1, the power source should meet applicable performance requirements for a limited power source.

Maintenance

Smudges and dirt on the unit's window can interfere with the unit's performance. If the window requires cleaning, use only a mild glass cleaner containing no ammonia. When cleaning the window, spray the cleaner onto a lint free, non-abrasive cleaning cloth then gently wipe the window clean.

If the unit's case requires cleaning, use a mild cleaning agent that does not contain strong oxidizing chemicals. Strong cleaning agents may discolor or damage the unit's exterior.

RS232

1. Turn off the host device.

2. Plug the male 10-pin RJ45 end of the VLink cable into the 10-pin socket on the MS7580. There will be an audible *click* when the connector lock engages.

3. Connect the 9-pin D-type connector of the communication cable to the proper COM port of the host device.

4. Plug the 12V power supply◆ into the power jack on the VLink cable.

> Check the AC input requirements of the power supply to verify the voltage matches the AC outlet. The outlet must be located near the equipment and be easily accessible.

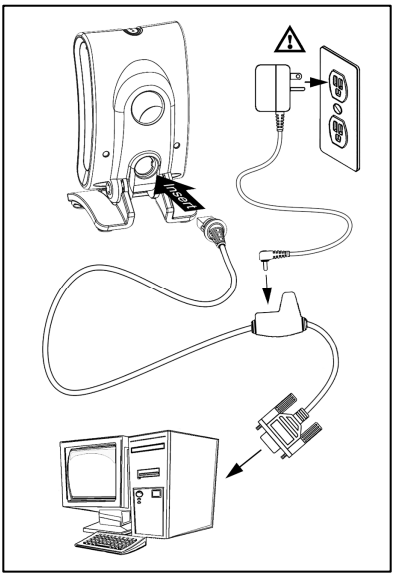


Figure 5.

5. Connect AC power◆ to the transformer.

6. The MS7580 will start to initialize. The white and blue LED will alternately fade on and off for approximately three seconds. When the scanner has finished initializing, the unit will flash the white LED three times while simultaneously beeping three times. The low intensity blue LED will remain turned on.

7. Turn on the host device.

◆ The MS7580 requires 12V power to function for RS232 operation. Metrologic recommends using the external power supply shipped with the MS7580.

Plugging the scanner into a port on the host system does not guarantee that scanned information will be communicated properly to the host system. The scanner is shipped from the factory configured with default settings. Please refer to the MetroSelect Single-Line Configuration Guide (MLPN 00-02544) or MetroSet2's help files for instructions on changing the scanner's configuration. In addition, please check that the scanner and host system are using the same communication protocol.

See caution page 6.

Keyboard Wedge

1. Turn off the host device.
2. Plug the 10-pin RJ45 male end of the VLink cable into 10-pin socket on the MS7580. There will be an audible *click* when the connector lock engages.
3. Disconnect the keyboard from the host device.
4. Connect the "Y" ends of the communication cable to the keyboard and keyboard port on the host device. If necessary use the male/female adapter cable supplied with the scanner for proper connections.
5. Plug the 12V power supply (*required*)◆ into the power jack on the VLink cable.

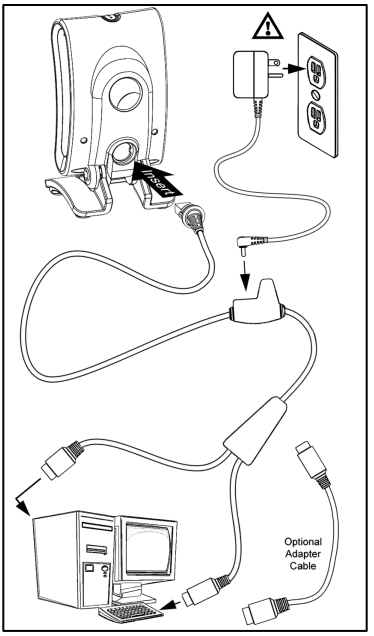


Figure 6.

> Check the AC input requirements of the power supply to verify the voltage matches the AC outlet. The outlet must be located near the equipment and be easily accessible.

6. Connect AC power to the transformer.
7. The MS7580 will start to initialize. The white and blue LED will alternately fade on and off for approximately three seconds. When the scanner has finished initializing, the unit will flash the white LED three times while simultaneously beeping three times. The low intensity blue LED will remain turned on.
8. Turn on the host device.

◆ The MS7580 requires 12V power to function for Keyboard Wedge operation.

> Plugging the scanner into a port on the host system does not guarantee that scanned information will be communicated properly to the host system. The scanner is shipped from the factory configured with default settings. Please refer to the MetroSelect Single-Line Configuration Guide (MLPN 00-02544) or MetroSet2's help files for instructions on changing the scanner's configuration. In addition, please check that the scanner and host system are using the same communication protocol.

See caution on page 6.

RS485

1. Turn off the host device.
2. Plug the male 10-pin RJ45 end of the cable into the 10-pin socket on the MS7580. There will be an audible *click* when the connector lock engages.
3. Connect the other end of the cable to proper COM port of the host device◆.
4. Turn on the host device.
5. The MS7580 will start to initialize. The white and blue LED will alternately fade on and off for approximately three seconds. When the scanner has finished initializing, the unit will flash the white LED three times while simultaneously beeping three times. The low intensity blue LED will remain turned on.

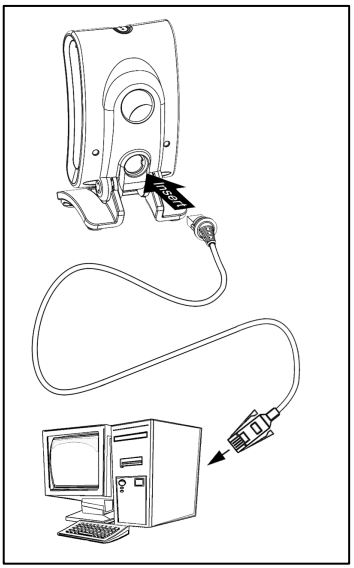


Figure 7.

◆ The MS7580 requires 12V power from the host for RS485 operation.

Plugging the scanner into a port on the host system does not guarantee that scanned information will be communicated properly to the host system. The scanner is shipped from the factory configured with default settings. Please refer to the MetroSelect Single-Line Configuration Guide (MLPN 00-02544) or MetroSet2's help files for instructions on changing the scanner's configuration. In addition, please check that the scanner and host system are using the same communication protocol.

See caution on page 6.

USB

1. Turn off the host device.

2. Plug the male 10-pin RJ45 end of the USB cable into the 10-pin socket on the MS7580. There will be an audible *click* when the connector lock engages.

3. Plug the USB end of the cable into the host's USB port.

Steps 4 and 5 are for VLink cables with a built in power jack and 12V external power supply. Skip to step 6 for USB direct connect cables◆ receiving 12V power from the host.

4. Plug the power supply into the power jack on the VLink cable.

> Check the AC input requirements of the power supply to verify the voltage matches the AC outlet. The outlet must be located near the equipment and be easily accessible.

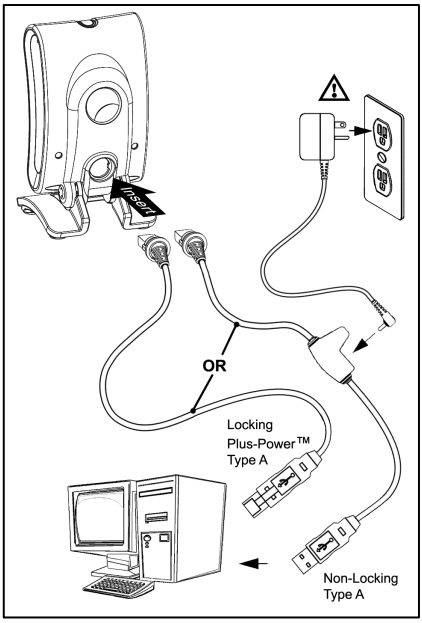


Figure 8.

5. Connect AC power to the transformer.

6. Turn on the host device.

7. The MS7580 will start to initialize. The white and blue LED will alternately fade on and off for approximately three seconds. When the scanner has finished initializing, the unit will flash the white LED three times while simultaneously beeping three times. The low intensity blue LED will remain turned on.

◆ The MS7580 requires 12V power from the host for pass-through capabilities to function. See page 3 for a complete list of USB cable options.

See caution on page 6.

USB

The MS7580 meets the requirements for Full Speed USB hardware. The USB interface is configurable for Keyboard Emulation Mode, Bi-Directional Serial Emulation Mode or IBM OEM. The default setting for the USB interface is Keyboard Emulation Mode.

For information on configuring the MS7580 for USB Serial Emulation Mode or IBM OEM, please refer to the USB section of the MetroSelect Single-Line Configuration Guide (MLPN 00-02544).
Plugging the scanner into a port on the host device does not guarantee that scanned information will be communicated properly to the host device. The scanner is shipped from the factory configured with default settings. Please refer to the MetroSelect Single-Line Configuration Guide (MLPN 00-02544) or MetroSet2's help files for instructions on changing the scanner's configuration. In addition, please check that the scanner and host system are using the same communication protocol.

Modes of Operation

The MS7580 supports two standard modes of operation for scanning bar codes, *automatic activation* and *manual activation* scanning. Scanning while in the automatic activation mode can occur in either one of two configurable options, pass-through◆ or presentation. Both the pass-through and the presentation options are enabled by default.◆◆ With the default configuration, the scanner operates in the pass-through state for 300 ms and then changes to the presentation state for additional decoding capability.

The different modes of operation and scanner states are as follows:

Automatic Activation Mode

Pass-through Scanning◆

- Decodes ONLY 1D and PDF bar codes
- Scanning Method:
  1. Pass the bar code through the active scan area to scan, decode and send data

Presentation Scanning

- Decodes ALL 1D, PDF and 2D matrix codes
- Scanning Method:
  1. Place the object in the IR activation range
  2. Hold the object's bar code in front of the scan window within the active scan area to scan, decode and send data

◆ The MS7580 requires 12V power for pass-through capabilities to function.

◆◆ Default configuration recommended by Metrologic for optimum scan performance.

Manual Activation◇

- Decodes ALL 1D, PDF and 2D matrix codes◇◇
- Scanning Method:
  1. Press the button one time to activate linear targeting
  2. Align the linear targeting line over the desired bar code.

When scanning 1D bar codes, the bar code must be presented to the scanner in the correct orientation, see *Figure 9*.

Figure 9. 1D Bar Code Orientation

PDF and 2D matrix codes may be presented in any orientation.

3. Press button a second time to decode and send the data
4. The unit will return to the default presentation mode by either the default time length or by double pressing the button.

Decoding and functional capability of the unit is restricted through the use of license numbers provided by Metrologic. Units will not support key features such as, but not limited to, the ability to decode PDF, 2D or OCR fonts without the proper licenses. Desired licenses can be specified at the time of sale or call a Metrologic representative for more information. Standard models ship with the ability to read all 1D, PDF and 2D bar codes. OCR fonts are disabled by default and must be specifically requested at an additional cost.

◇ Scanner configuration bar codes require the manual activation mode.

◇◇ 2D matrix bar codes types are not enable by default in the manual activation mode. Refer to the Area-Imaging Supplemental Configuration Guide (see page 3) for additional information on enabling code types.

Audible Indicators

When the MS7580 is in operation, it provides audible feedback. These sounds indicate the status of the scanner. Eight settings are available for the tone of the beep (normal, 6 alternate tones and no tone). To change the tone, refer to the MetroSelect Single-Line Configuration Guide, MLPN 00-02544 or MetroSet2's help files.

One Beep

When the scanner *successfully* reads a bar code the unit will beep once and the white LED will flash once indicating data has been transmitted successfully. The blue LED will return to the low intensity state if no other objects are presented in the active scan area.

If the scanner does not beep once and the white light does not flash, then the bar code has *not* been successfully read.

Short Razzberry Tone

This tone is a failure indicator (see Failure Modes on page 16).

Long Razzberry Tone

This tone is a failure indicator (see Failure Modes on page 16).

Three Beeps - At Power Up

When the MS7580 first receives power it will start an initialization sequence. The white and blue LEDs will alternately fade on and off for approximately 3 seconds. When the scanner has finished initializing the white LED will flash three times while simultaneously beeping three times to indicate the scanner is ready for use.

Three Beeps - Configuration Mode

When entering configuration mode, the white LED will flash while the scanner simultaneously beeps three times. The white and blue LEDs will continue to flash while in this mode. Upon exiting configuration mode, the scanner will beep three times, and the LEDs will stop flashing.

When configured, 3 beeps can also indicate a communications timeout during normal scanning mode.

When using single-code-configuring, the scanner will beep three times: a normal tone followed by a short pause, a high tone and then a low tone. This indicates that the single configuration bar code has successfully configured the scanner.

Visual Indicators

The scanner has blue and white LED indicators surrounding the button on the top of the unit. When the scanner is on, the intensity of the LED and the flashing or stationary activity of the LEDs, indicates the status of the current scan and the diagnostic scanner.

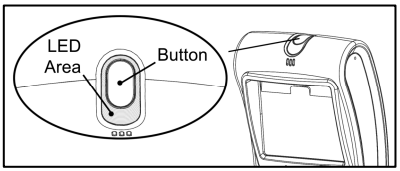


Figure 10.

No LEDs are Illuminated

The LEDs will not be illuminated if the scanner is not receiving power from the host or transformer.

Steady Low Intensity Blue

The scanner is in stand-by mode. Present a bar code to the scanner and the blue LED will switch to a high intensity blue when the IR detects the object.

Steady High Intensity Blue

The high intensity blue LED is illuminated when the scanner is active and attempting to decode a barcode.

Single White Flash

When the scanner *successfully* reads a bar code the unit will beep once and the white LED will flash once indicating data has been transmitted successfully. The blue LED will return to the low intensity state if no other objects are presented in the active scan area.

If the scanner does not beep once and the white light does not flash, then the bar code has *not* been successfully read.

Steady White

When the scanner successfully reads a bar code it will beep once and the white LED will turn on indicating data is being transmitted.

After a successful scan, the scanner transmits the data to the host device. Some communication modes require that the host inform the scanner when data is ready to be received. If the host is not ready to accept the information, the scanner's white LED will remain on until the data can be transmitted.

Alternating Flashing of Blue and White

This indicates the scanner is in configuration mode. A short razzberry tone indicates that an invalid bar code has been scanned while in this mode.

Failure Modes

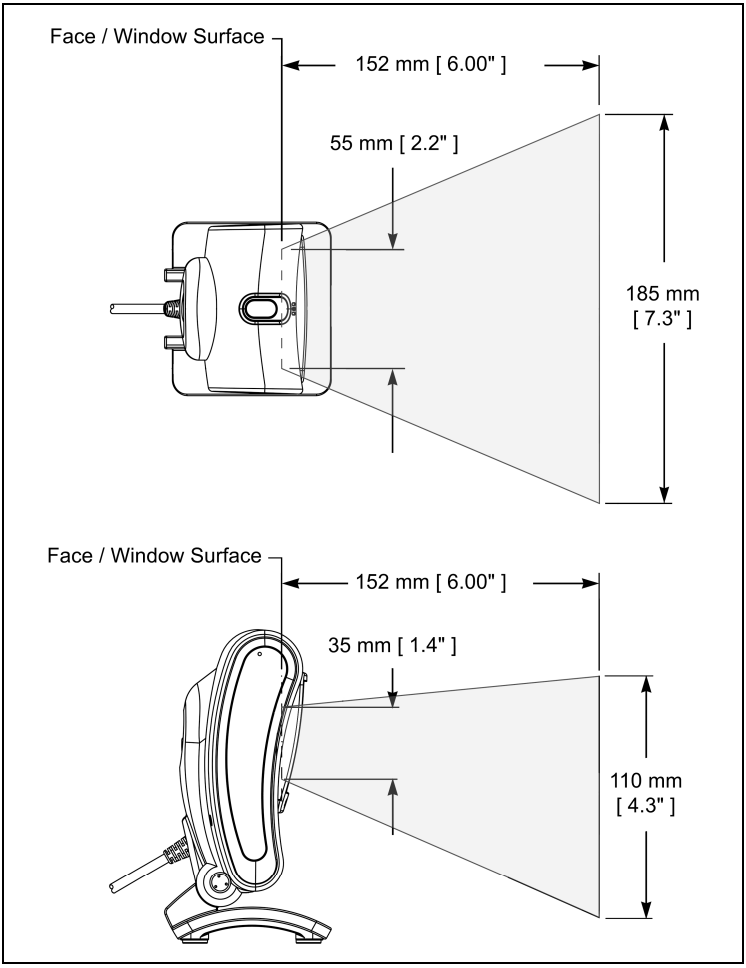
Long Razzberry Tone – During Power Up

Failed to initialize or configure the scanner. If the scanner does not respond after reconfiguration, return the scanner for repair.

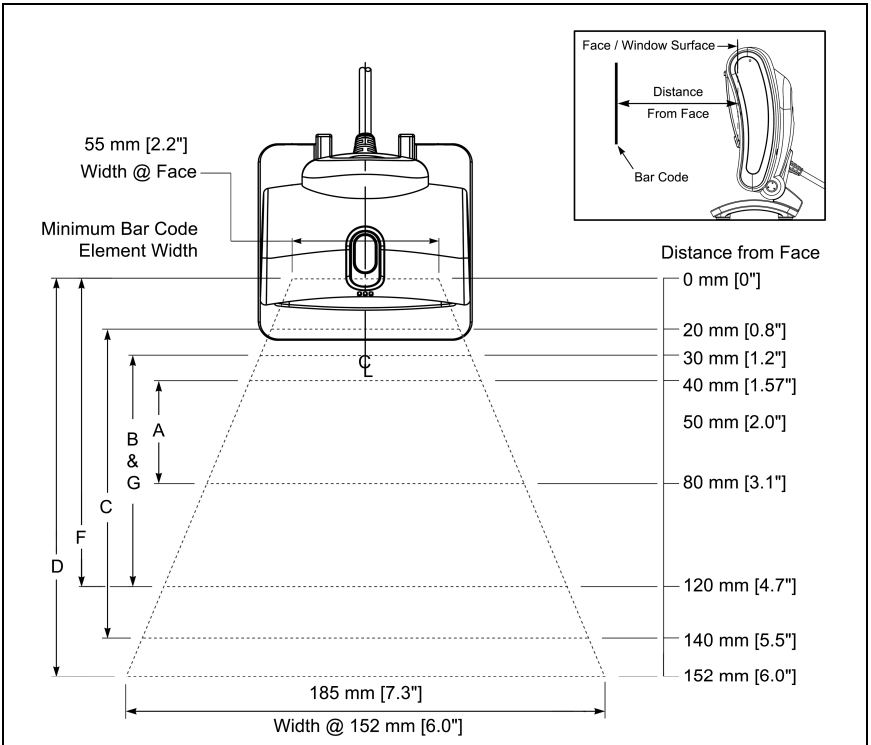
Short Razzberry Tone – During Scanning

An Invalid bar code has been scanned when in configuration mode.

Field of View



Depth of Field by Minimum Bar Code Element Width



	MINIMUM BAR CODE ELEMENT WIDTH					
	1D				PDF	
	A	B	C	D	F	G
mm	.13	.19	.26	.33	.25	.4
mils	5.0	7.5	10.4	13	10	16

Figure 11. Depth of Field by Minimum Bar Code Element Width

Standard models ship with the ability to read all 1D, PDF and 2D bar codes. Decoding and functional capability is limited and units will not support key features including, but not limited to, the ability to decode PDF, 2D or OCR fonts without proper limited use licenses provided by Metrologic. If you wish to purchase a limited license for one or more of the key features not included in the standard unit, please specify at the time of sale or otherwise contact a Metrologic representative for more information.

Specifications are subject to change without notice.

IR Activation Range

The MS7580 has a built in object detection sensor that instantly turns on the scanner when an object is presented within the scanner's IR activation Area.

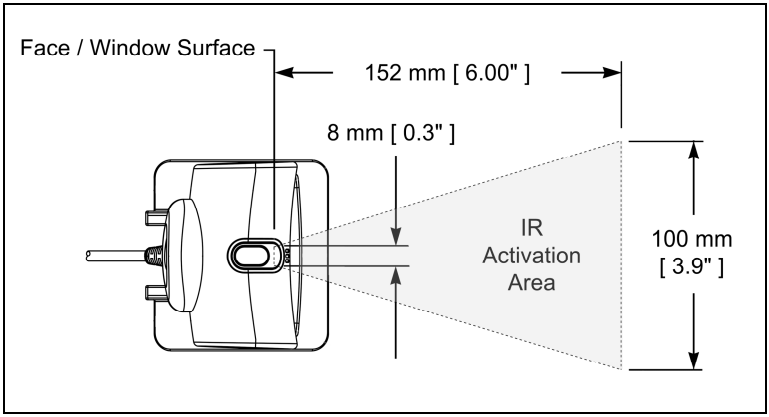


Figure 12. IR Activation Area

Specifications are subject to change without notice.

TROUBLESHOOTING GUIDE

The following guide is for reference purposes only. Contact a Metrologic representative at 1-800-ID-Metro or 1-800-436-3876 to preserve the limited warranty terms.

All Interfaces

MS7580 Series Troubleshooting Guide		
Symptoms	**Possible Causes**	**Solution**
No LEDs, beep or illumination	No power is being supplied to the scanner.	Check transformer, outlet and power strip. Make sure the cable is plugged into the scanner.
	No power is being supplied to the scanner from the host.	Some host systems cannot supply enough current to power the MS7580. A power supply may be required.
Long Razz tone on power up	There has been a scanner configuration failure.	Contact a Metrologic service representative, if the unit will not hold the saved configuration.
	There has been a diagnostic failure.	Contact a Metrologic service representative, if the unit will not function.
Long Razz tone when exiting configuration mode	There was a failure saving the new configuration.	Re-try to configure the scanner. Contact a Metrologic Service Representative if the unit will not hold the saved configuration.
Long Razz tone	There is a scanning mechanism failure.	Contact a Metrologic service representative.
Short Razz tone in configuration mode	An invalid bar code has been scanned.	Scan a valid bar code or quit configuration mode.

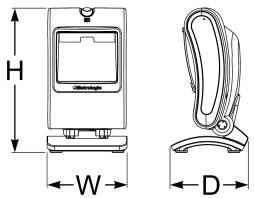
Symptoms	Possible Causes	Solution
The unit powers up, but does not beep when bar code is scanned.	The beeper is disabled and no tone is selected.	Enable the beeper and select a tone.
The unit powers up, but does not scan and/or beep.	The bar code symbology trying to be scanned is not enabled.	UPC/EAN, Code 39, interleaved 2 of 5, Code 93, Code 128, Codabar and PDF are enabled by default. Verify that the type of bar code being read has been selected.
The unit powers up, but does not scan and/or beep.	The scanner is trying to scan a barcode that does not match the configured criteria.	Verify that the bar code being scanned falls into the configured criteria (i.e. character length lock or minimum bar code length settings).
The following item is only relevant for RS232 and POS USB Interfaces.		
The unit scans a bar code, but locks up after the first scan and the white LED stays on.	The scanner is configured to support some form of host handshaking but is not receiving the signal.	If the scanner is setup to support ACK/NAK, RTS/CTS, or XON/XOFF, verify that the host cable and host are supporting the handshaking properly.
The unit scans, but the data transmitted to the host is incorrect.	The scanner's data format does not match the host system requirements.	Verify that the scanner's data format matches that required by the host. Make sure that the scanner is connected to the proper host port.

Symptoms	Possible Causes	Solution
The unit beeps at some bar codes and NOT for others of the same bar code symbology.	The bar code may have been printed incorrectly.	Check if it is a check digit/character/or border problem.
	The scanner is not configured correctly for this type of bar code.	Check if check digits are set properly.
	The minimum symbol length setting does not work with the bar code.	Check if the correct minimum symbol length is set.
The unit scans the bar code but there is no data.	The configuration is not set correctly.	Make sure the scanner is configured for the appropriate mode.
The next four items are only relevant for a Keyboard Wedge interface.		
The unit scans but the data is not correct.	The configuration is not set correctly.	Make sure that the proper PC type AT, or PS2 is selected. Verify correct country code and data formatting are selected. Adjust inter-character delay symptom.
The unit is transmitting each character twice.	The configuration is not set correctly.	Increase interscan code delay setting. Adjust whether the F0 break is transmitted. It may be necessary to try this in both settings.
Alpha characters show as lower case.	The computer is in Caps Lock mode.	Enable Caps Lock detect setting of the scanner to detect if the PC is operating in Caps Lock.
Everything works except for a couple of characters.	These characters may not be supported by that country's key look up table.	Try operating the scanner in Alt mode.

Symptoms	Possible Causes	Solution
The unit scans but the data is not correct.	The scanner and host may not be configured for the same interface parameters.	Check that the scanner and the host are configured for the same interface parameters.
The following item is only relevant for an RS232 interface.		
The unit powers up OK and scans OK but does not communicate properly with the host.	The com port at the host is not working or not configured properly.	Check to make sure that the baud rate and parity of the scanner and the communication port match and the program is looking for "RS232" data.
The unit powers up OK and scans OK but does not communicate properly with the host.	The cable is not connected to the correct com port.	Check to make sure that the cable is connected to the correct com port.
Characters are being dropped.	Inter-character delay needs to be added to the transmitted output.	Add some inter-character delay to the transmitted output by using the Configuration Guides (MLPN 00-02544 and 00-05252).
The following item is only relevant for a USB interface.		
No LEDs, beep or Illumination	The USB host may not be active. The MS7580 will not operate from hub/host power without host communication.	Turn on the host device.
	The unit is not receiving sufficient power to support operation. *Refer to the electrical specifications on page 25.*	Verify adequate power is being supplied to the scanner.

DESIGN SPECIFICATIONS

	MS7580 DESIGN SPECIFICATIONS		
OPERATIONAL			
Light Source:	LED 645 nm ±7.5 nm		
Pulse Duration:	Up to 500µs (Default)		
Maximum Output of an Osram LED:	Maximum 85 mA emits 3,120 mlm		
Depth of Scan Field:	0 mm – 152 mm (0" - 6") for 0.33 mm (13 mil)		
Field of View:	55 mm x 35 mm (2.2" x 1.4") @ Face / Window		
	185 mm x 110 mm (7.3" x 4.3") @ 152 mm (6") from Face		
Minimum Element Width:	1D	0.1 mm (4 mil)	
	2D	0.254 mm (10 mil)	
Resolution:	1280 x 768 Pixels		
Infrared Activation Range:	0 mm (0") face to 152 mm to (6")		
Optional Decode and Imaging Capabilities:	Autodiscriminates all Standard 1-D, RSS, PDF417, microPDF, MaxiCode, Data Matrix, QR Code, UCC, EAN Composites, Postals, Aztec (*Image Transfer*) – BMP, TIFF, or JPEG output on USB and RS232 Interfaces		
System Interfaces:	PC Keyboard Wedge, RS232, RS485, USB		
Print Contrast:	20% Minimum Reflectance Difference		
Number Characters Read:	4096 Bytes Maximum		
Beeper Operation:	7 tones or no beep		
Indicators (LED) *Default Settings:*	High Intensity Blue	The unit is active and attempting to scan	
	Low Intensity Blue	The unit is idle	
	White	Good Read	
MECHANICAL			
Height (H):	150 mm (5.91")		
Width (W):	83 mm (3.27")		
Depth (D):	80 mm (3.15")		
Weight:	340 g (12 oz.)		
Termination:	10 pin modular RJ45		



Specifications are subject to change without notice.

DESIGN SPECIFICATIONS

	MS7580 DESIGN SPECIFICATIONS		
ELECTRICAL			
		+ 12 Volt Adapter Value	**+5 Volt USB Power Value**
Input Voltage:		12VDC ± 0.25V	5VDC ± 0.25V
Power:	Peak◆	3.1 W (Typical)	2.0 W (Typical)
	Operating	2.3 W (Typical)	1.8 W (Typical)
	Idle	1.7 W (Typical)	1.6 W (Typical)
Current:	Peak◆	260 mA (Typical)	408 mA (Typical)
	Operation	192 mA (Typical)	362 mA (Typical)
	Idle	142 mA (Typical)	322 mA (Typical)
	◆ Peak Values of at least 1 ms in width.		
DC Transformer:	Class 2; 12VDC @ 1.25 A		
For regulatory compliance information see pages 33 - 35			
ENVIRONMENTAL			
Temperature:	Operating = 0°C to 40° (32° to 104°F)		
	Storage = -40°C to 60°C (-40°F to 140°F)		
Humidity:	0% to 95% Relative Humidity, Non-Condensing		
Light Levels:	Up to 50,000 Lux		
Shock:	Designed to withstand 1.5 m (5') drops		
Contaminants:	Sealed to resist airborne particulate contaminants		
Ventilation:	None required		

Specifications are subject to change without notice.

APPLICATIONS AND PROTOCOLS

The model number on each scanner includes the scanner number and factory default communications protocol.

SCANNER	VERSION IDENTIFIER	COMMUNICATION PROTOCOL(S)
MS7580	118	Interfaces supported include: • RS232 (TXD◆, RXD, RTS◆, CTS) • RS485 • USB◆◆ • Keyboard Wedge

◆ *TXD and RTS are transmitted at TTL levels. Contact a Metrologic customer service representative for information on additional RS232 options.*

◆◆ *USB is configurable for Keyboard Emulation Mode, Bi-Directional Serial Emulation Mode or IBM OEM. The default USB setting is Keyboard Emulation Mode*

The MS7580 with a built-in PC Keyboard Wedge interface is designed for Keyboard emulation use only. Many RS232 configurable functions, available in other Metrologic scanners, are also available as keyboard wedge functions.

The following are the most important selectable options specific to the keyboard wedge.

Keyboard Type

- *AT (includes IBM® PS2 models 50, 55, 60, 80)
- IBM PS2 (includes models 30, 70, 8556)

Keyboard Country Type

- *USA
- Belgian
- French
- German
- Hungarian
- Italian
- Japanese
- Russian Cyrillic
- Slovenian
- Spanish
- Swiss
- Swedish/Finnish
- Turkish
- United Kingdom

* Indicates a default setting. For information on how to change the default settings, refer to the help files in MetroSet2, the MetroSelect Single-Line Configuration Guide or the Area Imaging Supplemental Configuration Guide.

CONFIGURATION MODES

The MS7580 has three modes of configuration.

- **Bar Codes**
  The MS7580 can be configured by scanning the bar codes included in the Metrologic Single-Line Configuration Guide or the Area Imaging Supplemental Configuration Guide shipped with the area imager.
  These manuals can also be downloaded for FREE from Metrologic's website (www.metrologic.com).

- **MetroSet*2***
  This user-friendly Windows-based configuration program allows you to simply 'point-and-click' at the desired scanner options. This program can be downloaded for FREE from Metrologic' website (www.metrologic.com) or set-up disks can be ordered by calling 1-800-ID-METRO.

- **Serial Programming**
  This mode of configuration is ideal for OEM applications. This mode gives the end-user the ability to send a series of commands using the serial port of the host system. The commands are equivalent to the numerical values of the bar codes located in the MetroSelect Single-Line Configuration Guide (MLPN 00-02544).

UPGRADING THE FIRMWARE

The MS7580 is part of Metrologic's line of scanners with flash upgradeable firmware. The upgrade process requires, a new firmware file supplied to the customer by a customer service representative◆ and Metrologic's MetroSet*2* software◆◆. A personal computer running Windows 95 or greater with an available RS232 serial or USB port is required to complete the upgrade.

> **Do not** use the standard cable supplied with Keyboard Wedge or RS485 MS7580 interface kits for firmware upgrades. If using USB or RS232 for the upgrade process, the standard USB or RS232 cable provided with the scanner can be used.

To upgrade the firmware in the MS7580:

1. Plug the scanner into a serial communication port on the host system.
2. Start the MetroSet*2* software.
3. Click on the plus sign (+) next to *POS Scanners* to expand the supported scanner list.
4. Choose the MS7580 Genesis from the list.
5. Click on the *Configure Genesis/7580 Scanner* button.
6. Choose *Flash Utility* from the options list located on the left side of the screen.
7. Click on the *Open File* button in the Flash Utility window.
8. Locate and open the flash upgrade file supplied by Metrologic.
9. Select the COM port that the scanner is connected to on the host system.
10. Verify the settings listed in the Flash Utility window.
11. Click on the *Flash Scanner* button to begin the flash upgrade.
12. A message will appear on the screen when the upgrade is complete.

◆ Metrologic's customer service department can be reached at 1-800-ID-METRO or 1-800-436-3876.

◆◆ MetroSet*2* is available for download, at no additional cost, from http://www.metrologic.com/corporate/download.

Scanner Pinout Connections

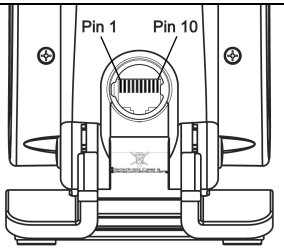


Figure 13. Back/Connector View of the MS7580

RS232◆	
Pin	Function
1	Signal/Power Ground
2	CTS/DTR Input
3	RS232 Receive Input
4	No Connect
5	No Connect
6	RTS Output ✧
7	No Connect
8	RS232 Transmit Output ✧
9	Adapter Power
10	Shield Ground
SHELL	Signal/Power Ground

Keyboard Wedge◆	
Pin	Function
1	Signal/Power Ground
2	Tied to Pin 3 in Cable
3	Tied to Pin 2 in Cable
4	PC Data
5	PC Clock
6	KB Clock
7	+5VDC PC Keyboard Power
8	KB Data
9	Adapter Power
10	Shield Ground
SHELL	Signal/Power Ground

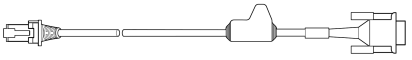
RS485◆	
Pin	Function
1	Signal/Power Ground
2	Tied to Pin 6 in Cable
3	No Connect
4	IBM A+
5	IBM B-
6	Tied to Pin 2 in Cable
7	No Connect
8	No Connect
9	Adapter Power
10	Shield Ground
SHELL	Signal/Power Ground

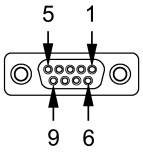
USB◆◆	
Pin	Function
1	Signal/Power Ground
2	Tied to Pin 4 in Cable
3	No Connect
4	Tied to Pin 2 in Cable
5	No Connect
6	USB D+
7	+5VDC USB Power
8	USB D-
9	Adapter Power
10	Shield Ground
SHELL	Signal/Power Ground

◆ RS485, RS232, and Keyboard Wedge interfaces require 12V power for operation.
◆◆ USB requires 12V power for pass-through functionality.
✧ Signals on Pin 6 and 8 are TTL level RS232 output signals.

Cable Connector Configurations (Host End)

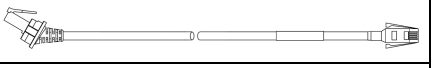
RS232, 12V VLink Cable 5S-5S000-3	
Pin	**Function**
1	Shield Ground
2	RS232 Transmit Output
3	RS232 Receive Input
4	No Connect
5	Power/Signal Ground
6	Reserved
7	CTS Input
8	RTS Output
9	+12VDC

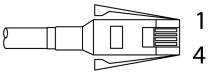




9-Pin Female, D-Type

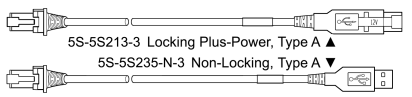
RS485, 5S-5S006-N-3	
Pin	**Function**
1	Signal/Power Ground
2	IBM A+
3	IBM B-
4	+12VDC





SDL A Key Connector

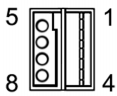
USB 5S-5S213-3 or 5S-5S006-N-3		
Pin		**Function**
Type A Non-Locking	Type A Locking Plus-Power	
1	1	PC +5V/V_USB
2	2	D-
3	3	D+
4	4	Ground
	5	Ground
	6	+12VDC
	7-8	No Connect



5S-5S235-N-3

USB Type A
Non-Locking

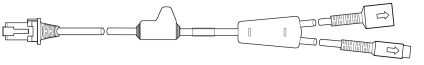
5S-5S213-3



USB Type A
Locking Plus-Power

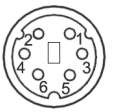
Cable Connector Configurations (Host End)

Keyboard Wedge VLink Cable *5S-5S002-N-3*	
Pin	**Function**
1	Keyboard Clock
2	Keyboard Data
3	No Connect
4	Power Ground
5	+5VDC



5-Pin DIN, Female

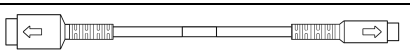
Pin	**Function**
1	PC Data
2	No Connect
3	Power Ground
4	+5VDC
5	PC Clock
6	No Connect

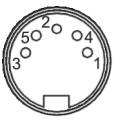


6-Pin DIN, Male

Metrologic will supply an adapter cable with a 5-pin DIN male connector on one end and a 6-pin mini DIN female connector on the other. According to the termination required, connect the appropriate end of the adapter cable to the VLink cable, leaving the necessary termination exposed for connecting to the keyboard and the keyboard port on the PC.

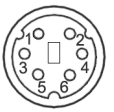
Keyboard Wedge Adapter Cable *Supplied with Cable 5S-5S002-N-3*	
Pin	**Function**
1	PC Clock
2	PC Data
3	No Connect
4	Power Ground
5	+5VDC





5-Pin DIN, Male

Pin	**Function**
1	Keyboard Data
2	No Connect
3	Power Ground
4	+5VDC
5	Keyboard Clock
6	No Connect



6-pin Mini DIN, Female

LIMITED WARRANTY

The MS7580 Genesis™ scanners are manufactured by Metrologic at its Blackwood, New Jersey, U.S.A. facility and at its Suzhou, China facility. The MS7580 Genesis scanners have a two (2) year limited warranty from the date of manufacture. Metrologic warrants and represents that all MS7580 Genesis scanners are free of all defects in material, workmanship and design, and have been produced and labeled in compliance with all applicable U.S. Federal, state and local laws, regulations and ordinances pertaining to their production and labeling.

This warranty is limited to repair, replacement of product or refund of product price at the sole discretion of Metrologic. Faulty equipment must be returned to one of the following Metrologic repair facilities: Blackwood, New Jersey, USA; Madrid, Spain; or Suzhou, China. To do this, contact the appropriate Metrologic Customer Service/Repair Department to obtain a Returned Material Authorization (RMA) number.

In the event that it is determined the equipment failure is covered under this warranty, Metrologic shall, at its sole option, repair the Product or replace the Product with a functionally equivalent unit and return such repaired or replaced Product without charge for service or return freight, whether distributor, dealer/reseller, or retail consumer, or refund an amount equal to the original purchase price.

This limited warranty does not extend to any Product which, in the sole judgment of Metrologic, has been subjected to abuse, misuse, neglect, improper installation, or accident, nor any damage due to use or misuse produced from integration of the Product into any mechanical, electrical or computer system. The warranty is void if the case of Product is opened by anyone other than Metrologic's repair department or authorized repair centers.

THIS LIMITED WARRANTY, EXCEPT AS TO TITLE, IS IN LIEU OF ALL OTHER WARRANTIES OR GUARANTEES, EITHER EXPRESS OR IMPLIED, AND SPECIFICALLY EXCLUDES, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE UNDER THE UNIFORM COMMERCIAL CODE, OR ARISING OUT OF CUSTOM OR CONDUCT. THE RIGHTS AND REMEDIES PROVIDED HEREIN ARE EXCLUSIVE AND IN LIEU OF ANY OTHER RIGHTS OR REMEDIES. IN NO EVENT SHALL METROLOGIC BE LIABLE FOR ANY INDIRECT OR CONSEQUENTIAL DAMAGES, INCIDENTAL DAMAGES, DAMAGES TO PERSON OR PROPERTY, OR EFFECT ON BUSINESS OR PROPERTY, OR OTHER DAMAGES OR EXPENSES DUE DIRECTLY OR INDIRECTLY TO THE PRODUCT, EXCEPT AS STATED IN THIS WARRANTY. IN NO EVENT SHALL ANY LIABILITY OF METROLOGIC EXCEED THE ACTUAL AMOUNT PAID TO METROLOGIC FOR THE PRODUCT. METROLOGIC RESERVES THE RIGHT TO MAKE ANY CHANGES TO THE PRODUCT DESCRIBED HEREIN.

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Safety

ITE Equipment

IEC 60950-1, EN 60950-1

LED

Class 1 LED Product: IEC 60825-1:1993+A1+A2,
EN 60825-1:1994+A1+A2

⚠ Caution

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure. Under no circumstances should the customer attempt to service the LED scanner. Never attempt to look at the LED beam, even if the scanner appears to be nonfunctional. Never open the scanner in an attempt to look into the device. Doing so could result in hazardous radiation exposure. The use of optical instruments with the LED equipment will increase eye hazard.

⚠ Atención

La modificación de los procedimientos, o la utilización de controles o ajustes distintos de los especificados aquí, pueden provocar una exposición de luz brillante peligrosa. Bajo ninguna circunstancia el usuario deberá realizar el mantenimiento del LED (Diodo Emisor de Luz) del lector. Ni intentar mirar al haz del LED incluso cuando este no esté operativo. Tampoco deberá abrir el lector para examinar el aparato. El hacerlo puede conllevar una exposición peligrosa a la luz del LED. El uso de instrumentos ópticos con el equipo LED puede incrementar el riesgo para la vista.

⚠ Attention

L'emploi de commandes, réglages ou procédés autres que ceux décrits ici peut entraîner de graves irradiations. Le client ne doit en aucun cas essayer d'entretenir lui-même le scanner ou la LED. Ne regardez jamais directement le rayon LED, même si vous croyez que le scanner est inactif. N'ouvrez jamais le scanner pour regarder dans l'appareil. Ce faisant, vous vous exposez à un risque d'irradiation. L'emploi d'appareils optiques avec cet équipement à LED augmente le risque d'endommagement de la vision.

⚠ Achtung

Die Verwendung anderer als der hier beschriebenen Steuerungen, Einstellungen oder Verfahren kann eine gefährliche Licht emittierender Dioden strahlung hervorrufen. Der Kunde sollte unter keinen Umständen versuchen, den Licht emittierender Dioden-Scanner selbst zu warten. Sehen Sie niemals in den Licht emittierender Diodenstrahl, selbst wenn Sie glauben, daß der Scanner nicht aktiv ist. Öffnen Sie niemals den Scanner, um in das Gerät hineinzusehen. Wenn Sie dies tun, können Sie sich einer gefährlichen Licht emittierender Diodenstrahlung aussetzen. Der Einsatz optischer Geräte mit dieser Laserausrüstung erhöht das Risiko einer Sehschädigung.

⚠ Attenzione

L'utilizzo di sistemi di controllo, di regolazioni o di procedimenti diversi da quelli descritti nel presente Manuale può provocare delle rischiose esposizioni radiattive. Il cliente non deve assolutamente tentare di riparare egli stesso lo scanner LED (o diodo emettitore di luce). Non guardate mai il raggio LED (d. emettitore di luce), anche se credete che lo scanner non sia attivo. Non aprite mai lo scanner per guardare dentro l'apparecchio. Facendolo potete esporVi ad una radiazione rischiosa. L'uso di apparecchi ottici, equipaggiati con raggi LED (d. emettitori di luce), aumenta il rischio di danni alla vista.

EMC

Emissions
FCC Part 15, ICES-003, CISPR 22, EN 55022

Immunity
CISPR 24, EN 55024

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Class A Devices

The following is applicable when the scanner cable is greater in length than 3 meters (9.8 feet) when fully extended:
Les instructions ci-dessous s'appliquent aux cables de scanner dépassant 3 métres (9.8 pieds) de long en extension maximale:
Folgendes trifft zu, wenn das Scannerkabel länger als 3 Meter ist:

This equipment has been tested and found to comply with 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 their own expense. Any unauthorized changes or modifications to this equipment could void the user's authority to operate this device.

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.

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

Remarque
Cet appareil numérique de classe A est conforme à la norme canadienne NMB-003.

European Standard

Warning
This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Funkstöreigenschaften nach EN55022:1998

Warnung!
Dies ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen. In diesem Fall kann vom Betreiber verlangt werden, angemessene Massnahmen durchzuführen.

Standard Europeo

Attenzione
Questo e' un prodotto di classe A. Se usato in vicinanza di residenze private potrebbe causare interferenze radio che potrebbero richiedere all'utilizzatore opportune misure.

Attention
Ce produit est de classe "A". Dans un environnement domestique, ce produit peut être la cause d'interférences radio. Dans ce cas l'utiliseteur peut être amené à predre les mesures adéquates.

EMC

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Class B Devices

The following is applicable when the scanner cable is less than 3 meters (9.8 feet) in length when fully extended:

Les instructions ci-dessous s'appliquent aux cables de scanner ne dépassant pas 3 métres (9.8 pieds) de long en extension maximale:

Folgendes trifft zu, wenn das Scannerkabel kürzer als 3 Meter ist:

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

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

Remarque
Cet appareil numérique de classe B est conforme à la norme canadienne NMB-003.

PATENTS

This METROLOGIC product may be covered by, but not limited to, one or more of the following U.S. Patents:

U.S. Patent No.: 7,086,595; 7,128,266; 7,213,762; 7,216,810; 7,225,988; 7,225,989;

No license right or sublicense is granted, either expressly or by implication, estoppel, or otherwise, under any METROLOGIC or third party intellectual property rights (whether or not such third party rights are licensed to METROLOGIC), including any third party patent listed above, except for an implied license only for the normal intended use of the specific equipment, circuits, and devices represented by or contained in the METROLOGIC products that are physically transferred to the user, and only to the extent of METROLOGIC'S license rights and subject to any conditions, covenants and restrictions therein.

Other worldwide patents pending.

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