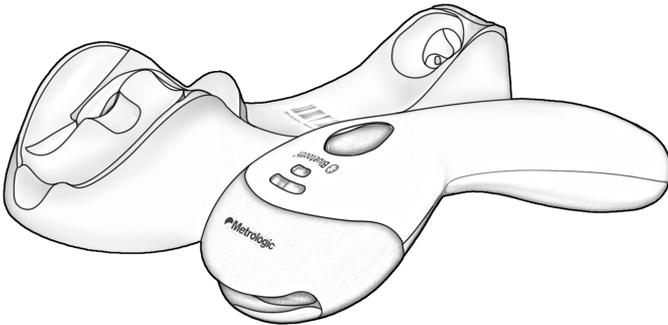




METROLOGIC INSTRUMENTS, INC.  
**MS9535 VoyagerBT<sup>®</sup> Series**  
**Single-Line Hand Held Laser Scanner**  
**Installation and User's Guide**



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## INTRODUCTION

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MS9535 VoyagerBT® laser bar code scanner is a new member of Metrologic's Voyager series. Besides featuring the patented technologies of an automatic trigger and CodeGate, the VoyagerBT has incorporated the latest Bluetooth® wireless technology. This technology gives the customer the freedom of mobility, with scanning up to 10 meters from the cradle.

VoyagerBT works hand in hand with its cradle. Before normal scanning, the scanner must establish communications with the cradle by scanning a Bluetooth address bar code. After communications have been established between the scanner and cradle, future bar code scans will be transmitted from the scanner to the cradle and from the cradle to the host. VoyagerBT scanners can also optionally communicate to other Bluetooth enabled devices.

The cradle of the VoyagerBT also works as a battery charger for the scanner. When resting in the cradle, the scanner can reach a fully charged state in 2.5 hours. When fully charged, the scanner can provide up to 12,000 scans. For power saving, the scanner can be put into a full sleep mode by depressing the CodeGate button for 5 seconds after the laser has shut down. In this mode, the scanner can remain powered for up to 35 hours before the batteries require recharging. To wake-up the scanner, simply depress the CodeGate button, and the scanner will resume normal operation.

VoyagerBT includes the ability to decode Reduced Space Symbology (RSS) bar codes. VoyagerBT offers checkout personnel the ability to scan bulky items without the need for unnecessary heavy lifting by customers or checkout personnel, making for added convenience. It can be used in applications including supermarkets, hypermarkets, shopping clubs, retailers, light warehouse and manufacturing.

## INTRODUCTION

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### Scanner and Accessories

BASIC KIT	
Part #	Description
MS9535-5 or MS9535-5M	VoyagerBT Scanner or VoyagerBT Scanner with Memory
70-79004.x	MS9535 VoyagerBT Wireless Hand Held Laser Scanner Installation and User's Guide*
00-02544.x	MetroSelect Single-Line Configuration Guide*
70-73524	Wrist Strap

OPTIONAL ACCESSORIES	
Part #	Description
<b>Receiver / Charger Cradle</b>	
MI9535-514	Receiver / Charger Cradle, Full RS232
MI9535-541	Receiver / Charger Cradle, RS232/Light Pen
MI9535-547	Receiver / Charger Cradle, Keyboard Wedge
MI9535-538	Receiver / Charger Cradle, Low Speed USB, Keyboard Emulation Mode or Serial Emulation Mode**
MI9535-511	Receiver / Charger Cradle, IBM
MI9535C540	Receiver / Charger Cradle, Full Speed USB with External Power Supply
MI9535D540	Receiver / Charger Cradle, Full Speed USB with Power from Register

\* Product manuals are available for download at [www.metrologic.com](http://www.metrologic.com).

\*\* Configurable for Keyboard Emulation Mode or Serial Emulation Mode. The default setting is Keyboard Emulation Mode.

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.

**Scanner and Accessories**

<b>OPTIONAL ACCESSORIES</b>	
<b>Part #</b>	<b>Description</b>
<b>AC to DC Power Transformer- Regulated 5VDC @ 2A Output</b>	
46-46881	Power Supply, China
46-46880	Power Supply, United Kingdom
46-46879	Power Supply, Continental Europe
46-46882	Power Supply, Australia
46-46878	Power Supply, United States
46-46842	Power Supply, Japan
<b>Communication Cable</b>	
54-54000.x-N	RS232 / Light Pen Cable, short strain relief
54-54002.x	Keyboard Wedge Cable, short strain relief
52-52828.x	Low Speed USB Cable, short strain relief
54-54250.x-N	IBM Cable, straight
54-54073.x	Full Speed USB Cable, with Power From Register
54-54200.x-N	Full Speed USB Cable, with External Power Supply

*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.*

Scanner Components

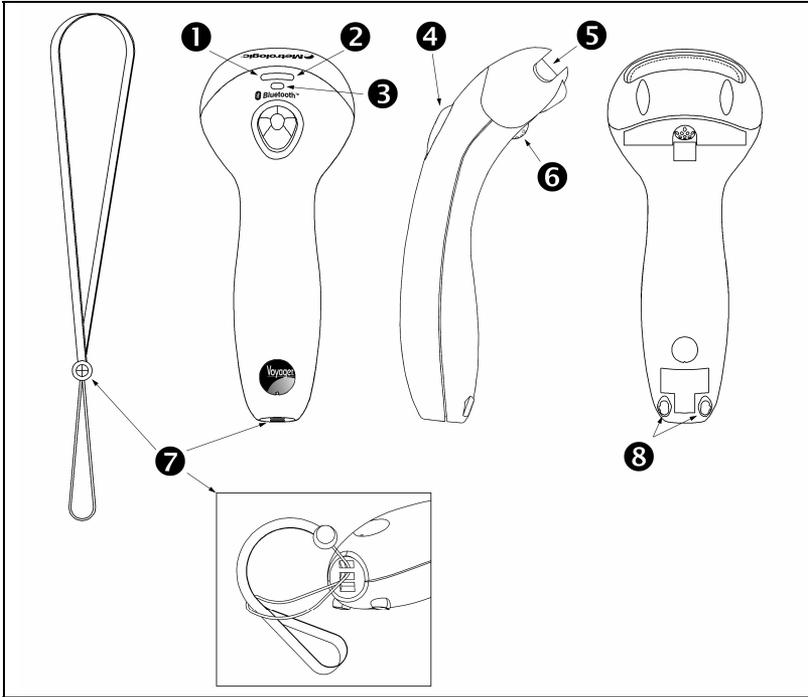


Figure 1. Scanner Components

Item #	Description
1	Blue LED (see pages 23)
2	White LED (see pages 23)
3	Amber LED (see pages 23)
4	CodeGate Button
5	Output Window, Laser Aperture
6	Speaker (see page 22)
7	Wrist Strap
8	Charging Contacts /Rubber Feet <b>Do not short circuit the charging contacts on the scanner!</b>  A short circuit can occur when a metallic object such as a coin, clip or pen contacts the metal terminals of the scanner.

Receiver/Charger Cradle Components

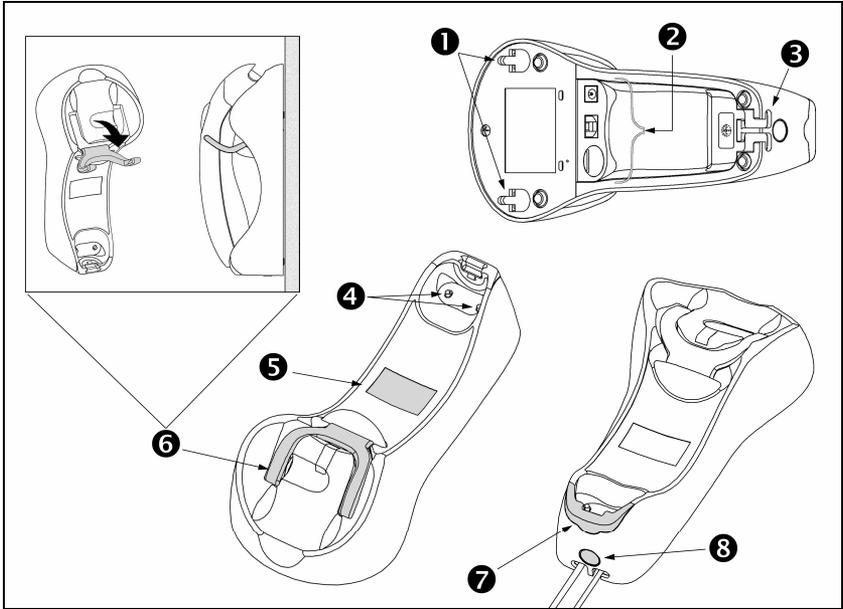


Figure 2 Cradle Components

Item #	Description
1	Recesses for Wall Mount Hardware
2	Power and Communication Connectors
3	Cable Strain Relief Channel
4	Charging Contacts <b>⚠ Do not short circuit the charging contacts on the scanner!</b> A short circuit can occur when a metallic object such as a coin, clip or pen contacts the metal terminals of the scanner.
5	Bluetooth Address Bar Code (see page 23)
6	Wall Mount Hook – Scanner Support
7	Blue LED (see page 23)
8	Page Button When the page button on the cradle is pressed, the scanner will begin to beep and the blue and amber LEDs will alternately flash. To discontinue paging the scanner, press the page button again.

# INTRODUCTION

## Caution and Serial Number Labels

The scanner and cradle have labels that provide important information including; the model number, date of manufacture, serial number, safety and regulatory information. *Figure 3* provides examples of these labels and their locations.

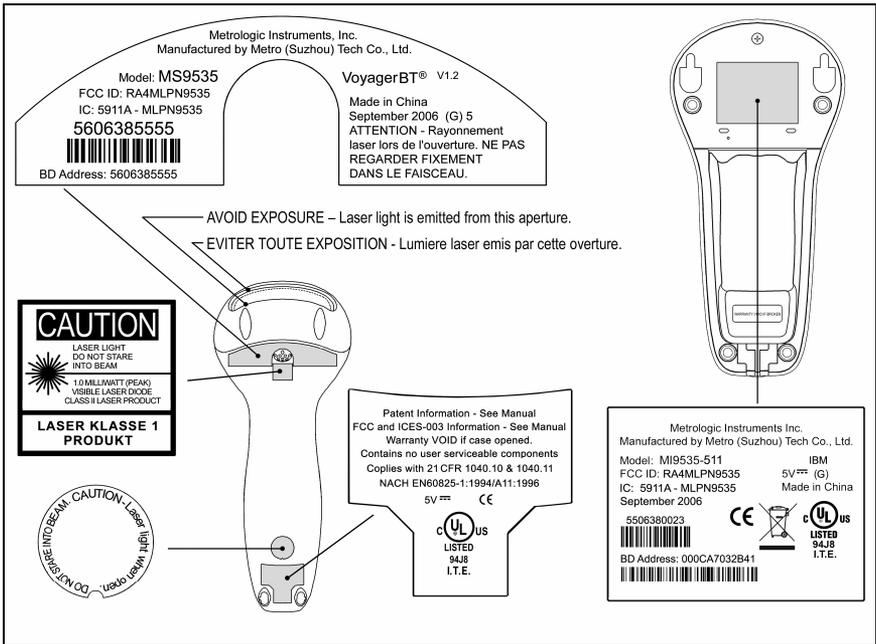


Figure 3. Label Sample and Location



### 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 can interfere with the proper scanning of a bar code. The output window will need occasional cleaning with glass cleaner sprayed onto a lint free, no-abrasive cleaning cloth.

# CRADLE INSTALLATION TO THE HOST DEVICE

## RS232 and Light Pen

1. Turn off the host device.
2. Connect the 10-pin RJ45 male connector into the 10-pin modular jack on the bottom of the cradle.
3. Connect the 9-pin D-type Female connector of the RS232 cable to the proper COM port of the host device.
4. Plug the external power supply into the power jack on the bottom of the cradle.

 Check the AC input requirements of the power supply to make sure the voltage matches the AC outlet. The outlet must be located near the requirement and be easily accessible.

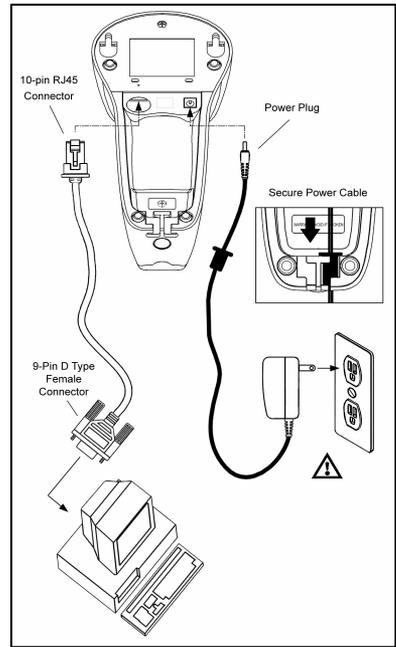


Figure 4. RS232 and Light Pen

5. Plug the power supply into the AC outlet. The blue LED on the rear of the cradle will stay on.
6. Turn on the host device.
7. **Establish communication between the scanner and cradle.** See page 15 for complete instructions on *Establishing Bluetooth Communication* between the scanner and cradle.

 The scanner must be charged for a minimum of 3 hours before the scanner can be placed in full operation for the first time. After the initial preparation charge of 3 hrs, the battery will only require 2.5 hrs to come to a full charge when it gives a Low Power warning (see page 18).

 See page 6.

# CRADLE INSTALLATION TO THE HOST DEVICE

## Keyboard Wedge

1. Turn off the host device.
2. Connect the 10-pin RJ45 male connector into the 10-pin modular jack on the bottom of the cradle.
3. Disconnect the keyboard from host.
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 the proper connections.
5. Plug the external power supply into the power jack on the bottom of the cradle.



Check the AC input requirements of the power supply to make sure the voltage matches the AC outlet. The outlet must be located near the requirement and be easily accessible.

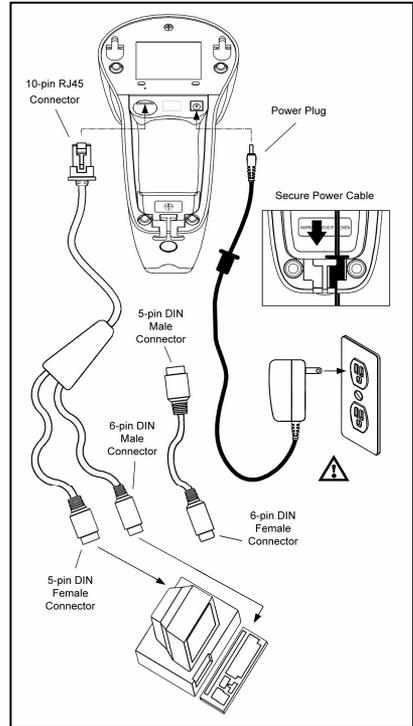


Figure 5. Keyboard Wedge

6. Plug the power supply into the AC outlet. The blue LED on the rear of the cradle will stay on.
7. Turn on the host device.
8. **Establish communication between the scanner and cradle.** See page 15 for complete instructions on *Establishing Bluetooth Communication* between the scanner and cradle.



The scanner must be charged for a minimum of 3 hours before the scanner can be placed in full operation for the first time. After the initial preparation charge of 3 hrs, the battery will only require 2.5 hrs to come to a full charge when it gives a Low Power warning (see page 18).



See page 6.

## CRADLE INSTALLATION TO THE HOST DEVICE

### Stand Alone Keyboard

1. Turn off the host system.
2. Connect the 10-pin RJ45 male connector into the 10-pin modular jack on the bottom of the cradle.
3. Connect the 6-pin Mini-DIN male connector of the keyboard cable to keyboard port on the host device.
4. Plug the external power supply into the power jack on the bottom of the cradle.



Check the AC input requirements of the power supply to make sure the voltage matches the AC outlet. The outlet must be located near the requirement and be easily accessible.

5. Plug the power supply into the AC outlet. The blue LED on the rear of the cradle will stay on.
6. Turn on the host device.
7. **Establish communication between the scanner and cradle.** See page 15 for complete instructions on *Establishing Bluetooth Communication* between the scanner and cradle.



The scanner must be charged for a minimum of 3 hours before the scanner can be placed in full operation for the first time. After the initial preparation charge of 3 hrs, the battery will only require 2.5 hrs to come to a full charge when it gives a Low Power warning (see page 18).



See page 6.

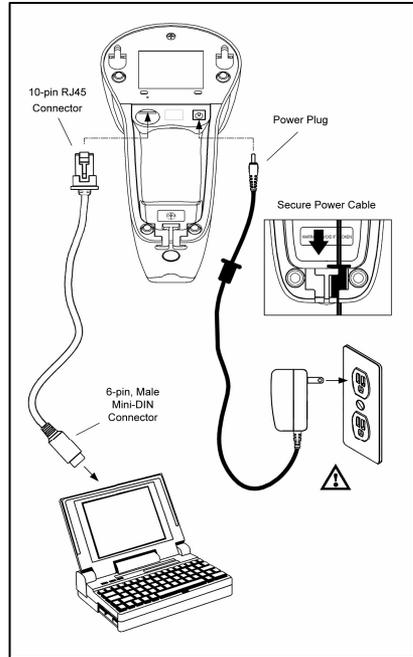


Figure 6. Stand Alone Keyboard

# CRADLE INSTALLATION TO THE HOST DEVICE

## IBM

1. Turn off the host device.
2. Connect the 10-pin RJ45 male connector into the 10-pin modular jack on the bottom of the cradle.
3. Connect the IBM SDL connector to the IBM port on the host device.
4. Plug the power supply into the power jack on the bottom of the cradle.

 Check the AC input requirements of the power supply to make sure the voltage matches the AC outlet. The outlet must be located near the requirement and be easily accessible.

5. Plug the power supply into the AC outlet. The blue LED on the rear of the cradle will stay on.
6. Turn on the host device.
7. **Establish communication between the scanner and cradle.**  
See page 15 for complete instructions on *Establishing Bluetooth Communication* between the scanner and cradle.

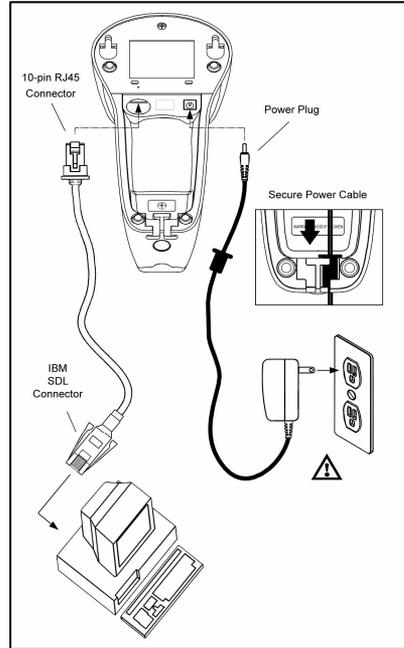


Figure 7. IBM



The scanner must be charged for a minimum of 3 hours before the scanner can be placed in full operation for the first time. After the initial preparation charge of 3 hrs, the battery will only require 2.5 hrs to come to a full charge when it gives a Low Power warning (see page 18).



See page 6.

# CRADLE INSTALLATION TO THE HOST DEVICE

## Low Speed USB

### Important Notes for VoyagerBT USB Interface Scanners

In order for the VoyagerBT to **scan and charge** properly both the power supply and the USB communication cable must be attached **before** the host device is turned on.

When the scanner is in the cradle and the power supply is connected to the cradle, the scanner is in a charging state. The power supply acts as the charging source not the USB communication cable. To perform normal scanning operations, it is critical to connect the USB communication cable to the cradle and the USB port on the host device. *The blue LED on the cradle will turn on when the USB communication cable is connected.*

1. Turn off the host device.
2. Connect the USB B type connector into the center jack on the bottom of the charger cradle.
3. Connect the USB A type connector to the USB port on the host device. *The blue LED on the rear of the cradle will turn on.*
4. Plug the power supply into the power jack on the bottom of the cradle.



Check the AC input requirements of the power supply to make sure the voltage matches the AC outlet. The outlet must be located near the requirement and be easily accessible.

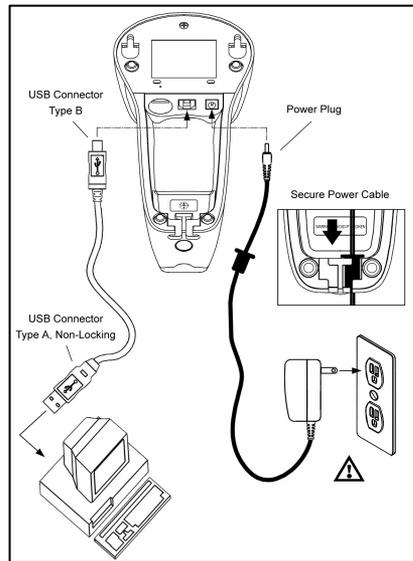


Figure 8. Low Speed USB

5. Plug the power supply into the AC outlet.

*Installation instructions continued on page next page.*



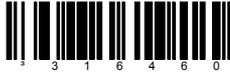
See page 6.

### Low Speed USB

6. Turn on the host device.
7. **Establish communication between the scanner and cradle.**  
See page 15 for complete instructions on *Establishing Bluetooth Communication* between the scanner and cradle.



As a default, the MI9535-538 leaves the factory with USB Keyboard Emulation Mode enabled. Scan the following bar code to configure the MI9535-538 for *USB Serial Emulation Mode*.



The scanner must be charged for a minimum of 3 hours before the scanner can be placed in full operation for the first time. After the initial preparation charge of 3 hrs, the battery will only require 2.5 hrs to come to a full charge when it gives a Low Power warning (see *page 18*).

### Full Speed USB (Powered by External Power Supply)

1. Turn off the host device.
2. Connect the 10-pin RJ45 male connector into the 10-pin modular jack on the bottom of the charger cradle.
3. Connect the USB A type connector to the USB port on the host device.
4. Plug the power supply into the power jack on the bottom of the cradle.



Check the AC input requirements of the power supply to make sure the voltage matches the AC outlet. The outlet must be located near the requirement and be easily accessible.

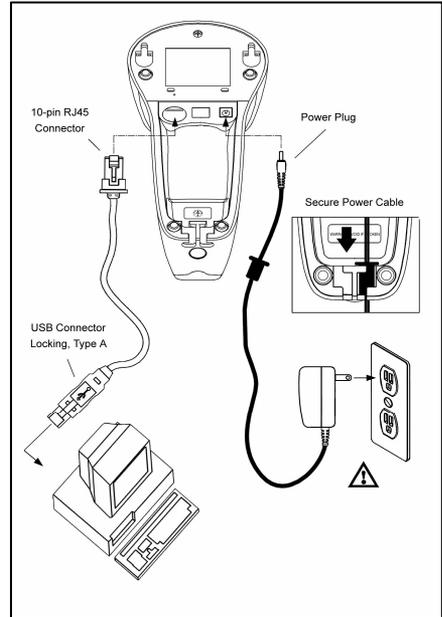


Figure 9. Full Speed USB

5. Plug the power supply into the AC outlet. The blue LED on the rear of the cradle will stay on.
6. Turn on the host device.
7. **Establish communication between the scanner and cradle.** See page 15 for complete instructions on *Establishing Bluetooth Communication* between the scanner and cradle.



The scanner must be charged for a minimum of 3 hours before the scanner can be placed in full operation for the first time. After the initial preparation charge of 3 hrs, the battery will only require 2.5 hrs to come to a full charge when it gives a Low Power warning (see page 18).



See page 6.

### Full Speed USB (Powered by the Host Device)

1. Turn off the host device.
2. Connect the 10-pin RJ45 male connector into the 10-pin modular jack on the bottom of the charger cradle.
3. Connect the female DC power jack of the USB cable to the center power jack on the bottom of the charger cradle.
4. Connect the USB Type A plus power connector to the USB port on the host device.
5. Turn on the host device.
6. **Establish communication between the scanner and cradle.** See page 15 for complete instructions on *Establishing Bluetooth Communication* between the scanner and cradle.

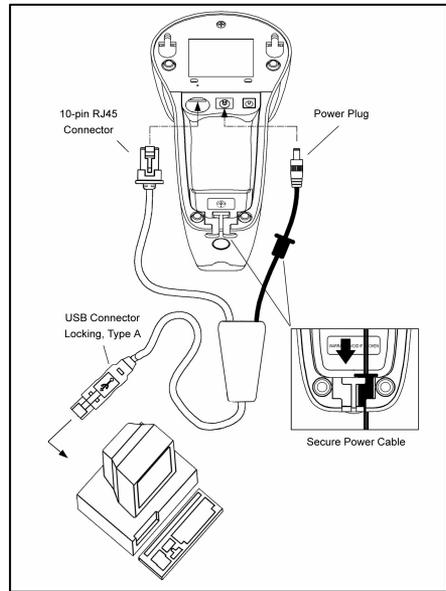


Figure 10. Full Speed USB



The scanner must be charged for a minimum of 3 hours before the scanner can be placed in full operation for the first time. After the initial preparation charge of 3 hrs, the battery will only require 2.5 hrs to come to a full charge when it gives a Low Power warning (see page 18).



See page 6.

### Between the Scanner and the Cradle



Bluetooth communication between the scanner and cradle must be established before the VoyagerBT can be used for normal operation.

#### Dynamic Pair Function

Dynamic Pair Function refers to when a scanner has been *paired* or *linked* to a specific cradle by scanning that cradle's unique Bluetooth address code. The unique address code is located directly on the body of the cradle, see figure below. **To established communication between the scanner and cradle:**

1. Scan the Bluetooth address code located on the cradle.
2. Wait 10 seconds.
3. If successful, the blue LED on the cradle and the blue LED on the scanner will stop blinking and stay continuously illuminated.

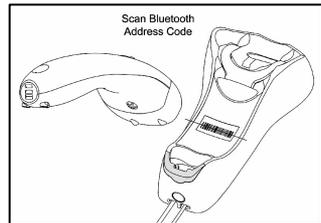


Figure 11.

It is important to note that the MS9535 will only communicate with a cradle whose Bluetooth address was the last address scanned. Once a cradle is paired with the MS9535, another scanner can not be paired with that cradle until the original connection is broken.

The following steps show how to change existing communication links between two previously linked scanner/cradle pairs (#1 and #2).

1. Place scanner #2 into sleep mode by holding down the CodeGate button for three (3) seconds.



The existing communication links between scanner #2 and cradle #2 are temporarily broken.

2. Scan cradle #2's Bluetooth address code with scanner #1.



The link between cradle #2 and scanner #2 is now permanently broken.

3. Scanner #1 has now re-established a communication link with cradle #2.



Any attempt to scan a cradle's bluetooth code when it is already linked to an active scanner, not in sleep mode, will result in the scanner razzing to indicate a communication link is not possible due to existing links.

**When the MS9535 Acts as a Client to Other Bluetooth Devices**

The MS9535 scanner can also link to other Bluetooth compatible devices such as a desktop computer, laptop computer, or printer. As a default, the MS9535 will act as the client to another Bluetooth device. The devices' Bluetooth address must be scanned to establish a communication link between it and the MS9535 before they will work properly as a complete system. How the communication link is established depends on the type of Bluetooth address bar code of the compatible device.

- a) If the Bluetooth address is headed with FNC3 and consists of a 12-digit hex value (e.g. <sup>3</sup>000CA7FFFF99), scan the address bar code to establish the communication.



- b) If the Bluetooth address is NOT headed with FNC3 but is just a common 12-digit hex value (e.g. 000CA7000118), scan the *Get Bluetooth Address* code first, and then scan the address bar code.



## When the MS9535 Acts as a Server to Other Bluetooth Devices

Scan the *Provide Service* bar code below to enable the MS9535 to act as a server and be detected by another Bluetooth device. This will allow other Bluetooth devices to send inquiries to the scanner and attempt communication. Use this bar code to establish communication directly with a Bluetooth enabled device, bypassing the cradle.



Provide service to other Bluetooth devices

### Charging Guidelines and Low Battery Indicators

The scanner should be fully charged prior to being placed into service. Metrologic recommends that Bluetooth communication between the scanner and the cradle be established first before charging.

To charge the scanner, place the unit into the cradle. The amber LED on the scanner will begin to flash indicating the charging process has begun.

*For first time installations*, leave the scanner in the cradle for a full 3 hours.

Please note that the amber LED on the scanner will stop flashing after 2.5 hours but it is recommended that the scanner be left in the cradle for an additional 30 minutes to complete the initial 3 hour charge.

Once the initial 3 hour charge is complete, the battery will only require 2.5 hours to come to a full charge when the unit gives a *low power warning*. A steady amber LED on the scanner will indicate the completion of a full charge.

### Low Battery Warning

The following items indicate the scanner battery is low and will need to be recharged.

- During operation, the scanner gives two beeps after a successful scan.
- The laser is not activated when a bar code is presented in the scanner's IR range and the scanner has automatically entered normal sleep mode to reserve power.
- The CodeGate button is pressed, the laser comes on briefly but does not stay on and the scanner has automatically entered normal sleep mode to reserve power.
- The CodeGate button is pressed but the laser does not turn on.

### Manufacturer's Recommendation

If the scanner is not be used for a long period of time, it is recommended that the unit be placed into normal or full sleep mode to save power.

- To enable *normal sleep mode*, scan the configuration bar codes in the MetroSelect Single-Line Configuration Guide (MLPN 00-02544x).
- To enable *full sleep mode*, after the laser shuts off, depress the CodeGate button and hold for 3 seconds, the scanner will give a long beep and switch into full sleep mode.

To wake-up the scanner from either mode, depress the CodeGate button. After an automatic reset, the scanner is ready for normal operation.

## Safety Precautions for Lithium Batteries

- Do not place batteries in fire or heat the batteries.
- Do not store batteries near fire or other high temperature locations.
- Do not store or carry batteries together with metal objects.
- Do not expose batteries to water or allow the batteries to get wet.
- Do not connect (short) the positive and negative terminals, of the batteries, to each other with any metal object.
- Do not pierce, strike or step on batteries or subject batteries to strong impacts or shocks.
- Do not disassemble or modify batteries.



**Caution:**

Danger of explosion if batteries are incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacture. Dispose of used batteries according to the recycle program for batteries as directed by the governing agency for the country where the batteries are to be discarded.

## Communication Protocols

The MI9535-5<sub>xx</sub> cradle works as a receiver and a charger for the MS9535.

### Receiver

Once Bluetooth communication has been established between the scanner and cradle, the cradle will act as a receiver for the barcode data transmitted from the scanner. The cradle then transmits the data to the host. Metrologic provides several versions of the cradle to meet a variety of host interfaces. The following chart lists all available cradle versions and their default communication protocol.

Cradle	Version Identifier ( <i>xx</i> )	Communication Protocol(s)
MI9535-5	14	Full RS232
	41	RS232 / Light Pen Emulation
	47	Receiver / Charger Cradle, Keyboard Wedge
	38	Low Speed USB Keyboard Emulation Mode or Serial Emulation Mode**
	11	IBM and RS232 Transmit / Receive
MI9535C5	40	Full Speed USB with external Power Supply
MI9535D5	40	Full Speed USB with power from Register

\*\* *Configurable for Keyboard Emulation Mode or Serial Emulation Mode.  
The default setting is Keyboard Emulation Mode.*

### Charger

As a charger, the cradle recharges the scanner whenever it is set into place. Even if the scanner's battery is full, the cradle will continue to supply power to the scanner. To order a cradle with *charging capabilities only* (MLPN 46-46772), contact a Metrologic Customer service representative at 1-800-ID-METRO or 1-800-436-3876.

### Modes of Operation

#### Auto-Trigger Mode

- Auto Trigger, In-Stand
- Auto-triggers while in the stand
- Bar code is automatically decoded and transmitted

#### CodeGate Mode

- CodeGate, Out-of-Stand
- CodeGate activates when removed from the stand
- Bar code data is transmitted when the button is pressed

#### RangeGate

The operation range of Bluetooth communication is 10 meters between the scanner and receiver/cradle. When the scanner is out of Bluetooth operation range, the communication link with the cradle will break and the blue LED will start to flash on the scanner. At which time, RangeGate will become active and the bar codes scanned, while out of Bluetooth range, will be stored in the SRAM of the scanner instead of being lost. Once communication is re-established, the stored data will be transmitted to the receiver/cradle and then to the host device. For the bar codes associated with this mode, please consult the *MetroSelect Single-Line Configuration Guide (MLPN 00-02544.x)*.

#### Inventory Mode (Specific to MS9535-5M)

For light warehousing applications, Metrologic offers the MS9535-5M VoyagerBT with extended memory and a unique feature called Inventory Mode. This mode allows a customer to store approximately 2500 bar codes (length dependent) with quantity information to facilitate inventory taking. This information can then be transmitted in batch to the host by scanning a specific bar code or putting the unit back into the cradle. For the bar codes associated with this mode, please consult the *MetroSelect Single-Line Configuration Guide (MLPN 00-02544.x)*.

## Indicators

### Audible

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



#### One Beep

The scanner will beep once after communication has been established and the unit is properly placed into the cradle.

When the scanner *successfully* reads a bar code, the scanner's white LED will flash and the unit will beep once.

When the CodeGate button is pressed for 3 seconds, the scanner will indicate it has entered *full sleep mode* with an extended beep.



#### Two Beeps

When the scanner has a low battery voltage, it will emit two beeps after a successful scan and flash the amber LED every 5 seconds.

When there is a Flash ROM upgrade needed, the scanner will beep twice followed by alternating flashing of the blue and white LEDs.

When communication has been broken between the scanner and cradle, the scanner will emit two combined high and low tones while the blue LED flashes.



#### Three Beeps

When entering configuration mode, the white LED will flash while the scanner simultaneously beeps three times.

When exiting configuration mode, the scanner will beep three times and the white LED will stop flashing.

When using single-code-Configuration, the scanner will sound a 3-combination tone (a short pause followed by a high tone and a low tone). This indicates a single configuration bar code has successfully configured the scanner.

When scanning a Bluetooth address bar code, the scanner will beep three times. The scanner's blue LED will start to flash as it attempts to establish a communication link. The scanner will emit a 3-combination tone and the blue LED will stop flashing, staying steadily illuminated to indicate communication between the scanner and the cradle has been successfully established.



#### Razzberry Tones

This tone indicates a type of failure. Refer to "Failure Modes" on page 25.

## Indicators

### Visual

The MS9535 has three LED indicators (blue, white and amber) located on the head of the scanner. When the scanner is in operation, the flashing or stationary activity of the LEDs indicates the status of the scanner and the current scan.



#### **Blue, White & Amber LEDs are off**

The scanner is not receiving power from the cradle or the scanner's internal battery.

The scanner is in full sleep mode. Press the CodeGate button to *wake* the scanner from full sleep mode. The blue LED will start to flash as the unit exits full sleep mode.



#### **Steady Amber**

After establishing communication, when the scanner is put into the cradle and the battery has been fully charged, the amber LED will remain steady.

If the communication is not established, when the scanner is put into the cradle, the amber LED will stay on after a short delay.



#### **Steady Blue**

When the laser is active, the blue LED is illuminated. The blue LED will remain illuminated until the laser is deactivated.



#### **Steady Blue and Single White Flash**

When the scanner successfully reads a bar code, the white LED will flash, the blue LED remains steady and the scanner will beep once. If the scanner reads the bar code successfully at a relatively long distance but still within the 10-meter operation range, the white LED may flash after a short delay.



#### **Steady Blue and Steady White**

After a successful scan, the scanner transmits the data to the cradle. If the cradle is not ready to accept the information, the scanner's white LED will remain on until the data can be transmitted or until a communication time-out occurs.

## Indicators

### Visual



#### **Alternating Flashing of Blue and White**

This indicates the scanner is in configuration mode. Two razzberry tones indicate that an invalid bar code has been scanned while in this mode.

If the scanner is in RangeGate active mode, this indicates the SRAM of the scanner becomes full.

If the scanner needs to have a Flash ROM upgrade, the alternating flashing of the blue and white LEDs will occur during startup and is accompanied by three beeps.



#### **Steady White, Blue off**

This indicates the laser is off and the scanner is still waiting for communication from the cradle.



#### **Flashing Blue**

The blue LED on the scanner and the cradle indicates the “connecting” status of the cradle with the scanner. When the Bluetooth connection breaks, the blue LED will flash. This indicates the scanner is trying to establish communication with the cradle.

A single blue flash on the cradle indicates data has been received from the scanner.



#### **Flashing Amber**

When scanner is in the cradle, a flashing amber LED indicates the scanner is being charged.

When the scanner is out of cradle, a flashing amber LED indicates the scanner has low battery power and needs recharging.

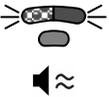
## Indicators

### Failure Modes



#### **Flashing Blue and one Razzberry Tone**

This indicates the scanner has experienced a laser sub-system failure. Return the unit for repair to an authorized service center.



#### **Flashing Blue and White with Two Razzberry Tones**

This indicates the scanner has experienced a scanning mechanism failure. Return the unit for repair to an authorized service center.



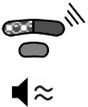
#### **Continuous Razzberry Tone with all LEDs off**

If the scanner emits a continuous razzberry tone upon power-up, the scanner has experienced an electronic failure. Return the unit for repair to an authorized service center.



#### **Three Beeps – on power up**

If the scanner beeps 3 times on power-up then the non-volatile memory (NovRAM) that holds the scanner configuration has failed. If the scanner does not respond after reconfiguring, return the scanner for repair to an authorized service center.



#### **Two Razzberry Tones with Steady White**

When the scanner scans a bar code without establishing Bluetooth communication first, the scanner will emit two razzberry tones and the white LED will stay steadily lit.

The scanner reads a bar code but the cradle fails to transmit the data



#### **Long Beeps with Steady Amber LED**

The scanner will emit a long beep every 5 second indicating the scanner's contacts are not making a physical connection with the charging contacts on the cradle.

Proper placement of the scanner in the cradle is essential for the charging process. .

Depth of Field by Bar Code Element Width\*

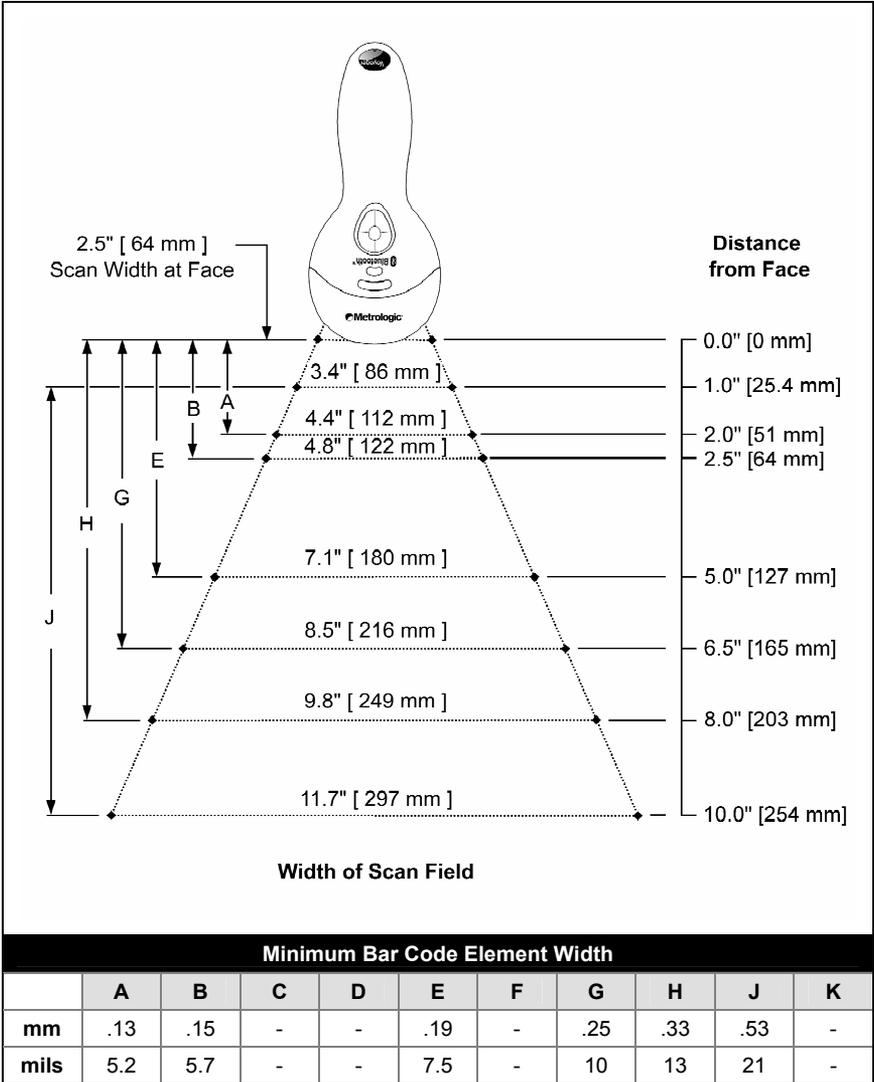


Figure 12. Depth of Field by Bar Code Element Width

\* All specifications are subject to change without notice.

IR Activation Range

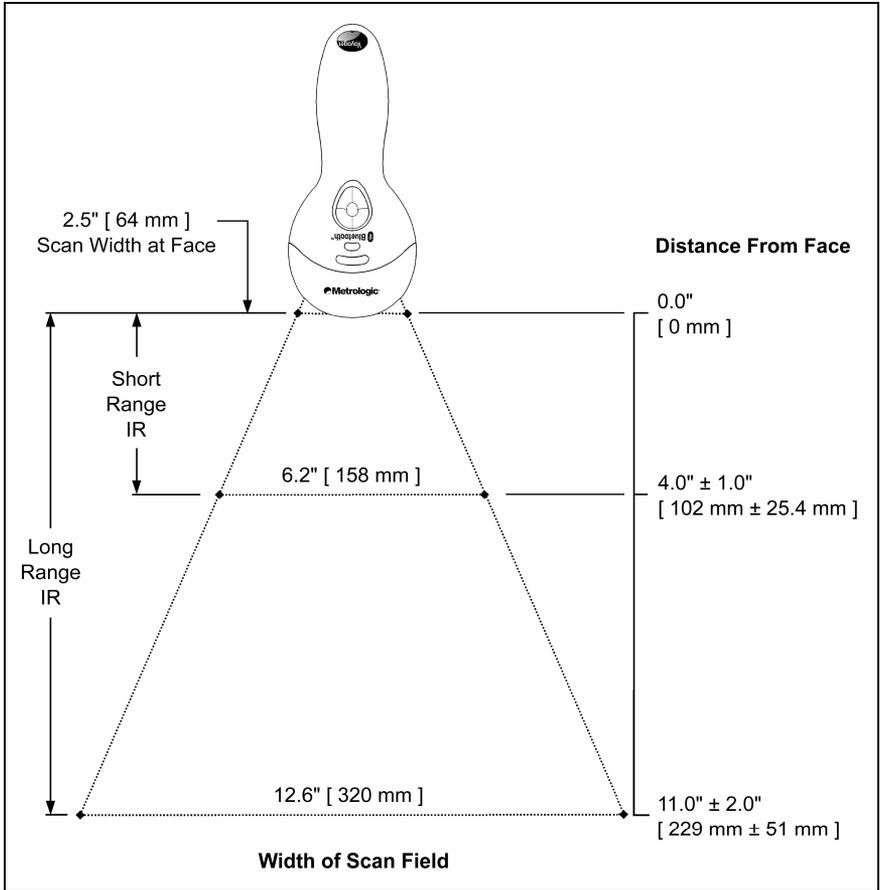


Figure 13. IR Activation Range

\* All specifications are subject to change without notice.

**Cable Removal**

Before removing the cable from the scanner, Metrologic recommends that the power on the host device is off and the power supply has been disconnected from the PowerLink cable

1. Locate the small 'pin-hole' on the bottom of the cradle near the cable.
2. Bend an ordinary paperclip into the shape shown above.
3. Insert the paperclip (or the small metallic pin) into the small 'pin-hole'.

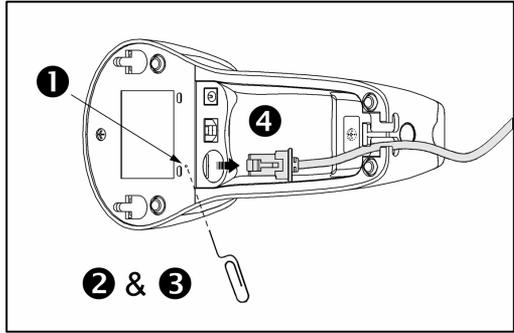


Figure 14. Cable Release

4. You will hear a faint 'click'. Pull gently on the strain-relief of the 10-pin, RJ45 cable to remove the cable from the cradle.

**Cradle Wall Mount**

- Metrologic provides two #7 wood screws for securing the cradle to the wall.
- Figure 15 provides the pilot hole dimensions for securing the cradle base.

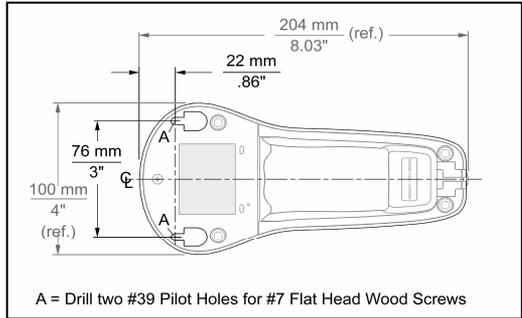


Figure 15. Hole Pattern

- Install the cradle base to the wall.

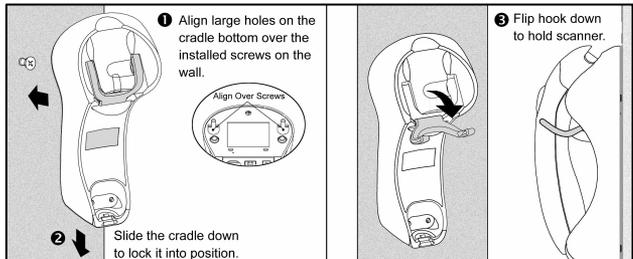


Figure 16. Wall Attachment (left) and Wall Hook (right)

## TROUBLESHOOTING GUIDE

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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.

Symptoms	Possible Causes	Solution
The scanner has no LEDs, beeper or laser while seated in cradle.	No power is being supplied from cradle to scanner.	Check the transformer, outlet and power strip. Verify the power cable is plugged into the cradle properly.
The scanner has no LEDs, beeper or laser when out of the cradle.	The scanner's internal battery is not supplying power to scanner.	Place the scanner into the cradle to recharge the battery.
The scanner locks up after the first scan. The white LED stays on and the unit razzes twice.	Communication has not been established between scanner and cradle.	Establish communication between scanner and cradle before scanning a normal bar code.
The scanner locks up after scanning a bar code. The white LED stays on and the unit razzes twice.	The distance between scanner and cradle is beyond the 10-meter operation range and RangeGate is not activated.	Bring the scanner back into the 10-meter communication range from the cradle.
The scanner emits 2 beeps with alternately flashing LEDs on power-up.	There may be a possible ROM failure.	A flash ROM upgrade required.

## TROUBLESHOOTING GUIDE

Symptoms	Possible Causes	Solution
The scanner emits 3 beeps on power up.	A non-volatile RAM failure may have occurred.	Contact a Metrologic customer service representative, if the unit will not hold the configuration.
The scanner emits a continuous razz tone on power – up.	A RAM or ROM failure may have occurred.	Contact a Metrologic customer service representative.
The scanner emits a razz tone and the blue LED flashes on power up.	There has been a VLD failure.	Contact a Metrologic customer service representative.
The scanner emits a razz tone and both the blue and white LEDs flash at power-up.	A scanning mechanism failure may have occurred.	Contact a Metrologic customer service representative.
The scanner scans, communicates and beeps twice.	The same symbol timeout is set too short.	Adjust the same symbol timeout for a longer time.
The scanner powers up, but does not scan and/or beep	The beeper disabled and/or no tone is selected	Enable beeper and/or select a tone.
	The bar code being scanned is a particular symbology that is not enabled.	UPC/EAN, Code 39, interleaved 2 of 5, Code 93, Code 128 and Codabar are enabled by default. Verify that the type of bar code being read has been selected.
	The bar code being scanned does not satisfy the scanner's configured criteria (i.e. character length lock, or a minimum length)	Verify that the bar code that is being scanned falls into the criteria.  <i>Typical of Non-UPC/EAN codes, the scanner defaults to a minimum of 3-character bar code.</i>

## TROUBLESHOOTING GUIDE

Symptoms	Possible Causes	Solution
The scanner scans a bar code, but locks up after the first scan. 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, XON/XOFF or D/E, verify that the host cable and host are supporting the handshaking properly.
The scanner 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. Most sure that the scanner is connected to the proper host port.
The scanner beeps at some bar codes and NOT for others of the same bar code symbology.	The print quality of the bar code is suspect.	Check the print mode. The type of printer could be the problem. Change the print settings (i.e. change to econo mode or high speed).
Scanner beeps at some bar codes and NOT for others of the same bar code symbology	The aspect ratio of the bar code is out of tolerance.	Check print mode. The type of printer could be the problem. Change print settings. i.e. change to econo mode or high speed.
	The bar code may have been printed incorrectly.	
	The scanner is not configured correctly for this type of bar code.	Check if it is a check digit/character/or border problem in the configuration of the scanner.
	The minimum symbol length setting does not work with the bar code.	Check if the correct minimum symbol length is set.
Characters are being dropped.	Inter-character delay needs to be added to the transmitted output	Add some inter-character delay to the transmitted output

## TROUBLESHOOTING GUIDE

Symptoms	Possible Causes	Solution
The scanner scans the bar code but there is no data.	The scanner configuration is not correctly.	Make sure the scanner is configured for the appropriate mode.
The scanner scans but the data is not correct.		Make sure that the proper PC type AT, PS2 or XT is selected. Verify correct country code and data formatting are selected. Adjust inter-character delay symptom.
The scanner is transmitting each character twice.		Increase the 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 characters.	The computer is in Caps Lock mode.	Enable the Caps Lock detect setting of the scanner to detect whether 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.
The scanner powers-up OK and scans OK but does not communicate properly with the host.	Com port at the host is not working or configured properly	Check to make sure that the baud rate, parity of the scanner, and the communication port match. Check to make sure the configuration is looking for RS232 data.
	The cable is not connected to the proper com port.	Check to make sure the communication cable is securely connected to the host and cradle and that the cable is connected to the correct com port on the host.
The host is receiving data but the data does not look correct.	The cradle and host may not be configured for the same interface parameters.	Check that the cradle and the host are configured for the same interface parameters

# DESIGN SPECIFICATIONS

		Scanner and Cradle Specifications	
Operational			
Light Source:	Visible Laser Diode 650 nm ± 10 nm		
Laser Power:	0.96 mW (peak)		
Depth of Scan Field:	0 mm – 203 mm (0" – 8") 0.330 mm (13 mil) bar code at default setting		
Scan Speed:	72 ± 2 scan lines per second		
Scan Pattern:	Single scan line		
Minimum Bar Width:	0.127 mm (5.0 mil)		
Decode Capability:	Autodiscriminates all standard 1D bar codes, for other symbologies call a Metrologic service representative.		
System Interfaces:	RS232/Light Pen, PC Keyboard Wedge, Stand-Alone Keyboard, Low Speed USB, Full Speed USB, IBM		
Print Contrast:	35% minimum reflectance difference		
Number of Characters Read:	Up to 80 data characters (Maximum number will vary based on symbology & density)		
Roll, Pitch, Yaw:	42°, 68°, 52°		
Beeper Operation:	7 tones or no beep		
Scanner LED Indicators:	Blue	laser on, ready to scan	
	White	good read	
	Amber	battery full	
Cradle LED indicators:	Blue	connection status	
Mechanical			
Length:	198 mm (7.8")		
Width:	Handle - 45 mm (1.8"), Head - 78 mm (3.1")		
Depth:	40 mm (1.6")		
Weight:	Scanner: 199 g (7.02 oz)    Cradle: 225g (7.94 oz)		

*\* All specifications are subject to change without notice.*

## DESIGN SPECIFICATIONS

		Scanner and Cradle Specifications	
Electrical			
Input Voltage:	Scanner:	5.2VDC $\pm$ 0.25V	
	Cradle:	5.0VDC $\pm$ 0.25V	
Cradle Power:	0.6 W		
Scanner Power:	Operating	1.15 W	
	Sleep	150 mW	
Scanner Current:	Operating	230 mA@5VDC	
	Sleep	30mA@ 5VDC	
Cradle Current:	Cradle: 120 mA @ 5VDC		
DC Transformers:	Class II; 5.0V @ 2A		
Battery Capacity /Recharge Time:	12000 scans per charge / recharge time = 2.5 hours		
Radio Range:	10 m (33 ft)		
<i>For regulatory compliance information, see pages 47 - 49.</i>			
Environmental			
Temperature:	Operating = 0°C to 40° (32° to 104°F)		
	Storage = -20°C to 50°C (-4°F to 122°F)		
Humidity:	5% to 95% relative humidity, non-condensing		
Light Levels:	Up to 4842 Lux (450 footcandles)		
Shock:	Designed to withstand 1.5 m (5') drops		
Contaminants:	Sealed to resist airborne particulate contaminants		
Ventilation:	None required		

\* All specifications are subject to change without notice.

## DEFAULT SETTINGS - COMMUNICATION PARAMETERS

Many functions of the scanner and cradle can be “configured” – that is, enabled or disabled. The scanner and cradle are shipped from the factory configured to a set of default conditions. The default parameter has an asterisk (\*) in the charts on the following pages. If an asterisk is not in the default column then the default setting is OFF or DISABLED. Every communication does not support every parameter. If the communication supports a parameter listed in the charts on the following pages, a check mark will appear.

Parameter	Default	RS232	Light Pen	IBM 46XX	KBW	USB
Normal Scan Mode	*	✓	✓	✓	✓	✓
Continuous Scan Mode		✓	✓	✓	✓	✓
Blinky Scan		✓	✓	✓	✓	✓
Continuous Blinky Scan		✓	✓	✓	✓	✓
Custom (one shot) Scan		✓	✓	✓	✓	✓
Long-Range In-Stand	*	✓	✓	✓	✓	✓
Short-Range In-Stand		✓	✓	✓	✓	✓
Long-Range Out-of-Stand	*	✓	✓	✓	✓	✓
Short-Range Out-of-Stand		✓	✓	✓	✓	✓
CodeGate Active In-Stand		✓	✓	✓	✓	✓
CodeGate Inactive In-Stand	*	✓	✓	✓	✓	✓
CodeGate Active Out-of Stand	*	✓	✓	✓	✓	✓
CodeGate Inactive Out-of Stand		✓	✓	✓	✓	✓
UPC/EAN	*	✓	✓	✓	✓	✓
Code 128	*	✓	✓	✓	✓	✓
Code 93	*	✓	✓	✓	✓	✓
Codabar	*	✓	✓	✓	✓	✓
Interleaved 2 of 5 (ITF)	*	✓	✓	✓	✓	✓
MOD 10 check on ITF		✓	✓	✓	✓	✓
Code 11		✓	✓	✓	✓	✓
Code 39	*	✓	✓	✓	✓	✓
Full ASCII Code 39		✓	✓	✓	✓	✓

## DEFAULT SETTINGS - COMMUNICATION PARAMETERS

Parameter	Default	RS232	Light Pen	IBM 46XX	KBW	USB
Mod 43 Check on Code 39		✓	✓	✓	✓	✓
MSI-Plessey 10/10 Check Digit		✓	✓	✓	✓	✓
MSI-Plessey Mod 10 Check Digit	*	✓	✓	✓	✓	✓
Paraf Support ITF		✓	✓	✓	✓	✓
ITF Symbol Lengths	Variable	✓	✓	✓	✓	✓
Minimum Symbol Length	3	✓	✓	✓	✓	✓
Symbol Length Lock	None	✓	✓	✓	✓	✓
Bars High as Code 39	*		✓			✓
Spaces High as Code 39			✓			✓
Bars High as Scanned			✓			✓
Spaces High as Scanned			✓			✓
Poll light pen source			✓			
Beeper tone	Normal	✓	✓	✓	✓	✓
Beep/transmit sequence	Before transmit	✓	✓	✓	✓	✓
Communication timeout	None	✓	✓	✓	✓	✓
Razzberry tone on timeout		✓	✓	✓	✓	✓
Three beeps on timeout		✓	✓	✓	✓	✓
Same symbol rescan timeout 250 msec		✓	✓	✓	✓	✓
Same symbol rescan timeout 375 msec		✓	✓	✓	✓	✓
Same symbol rescan timeout: 500 msec)		✓	✓	✓	✓	✓
Same symbol rescan timeout 625 msec		✓	✓	✓	✓	✓
Same symbol rescan timeout 750 msec		✓	✓	✓	✓	✓
Same symbol rescan timeout 875 msec	*	✓	✓	✓	✓	✓
Same symbol rescan timeout: 1000 msec		✓	✓	✓	✓	✓
No Same symbol timeout		✓	✓	✓	✓	✓

## DEFAULT SETTINGS - COMMUNICATION PARAMETERS

Parameter	Default	RS232	Light Pen	IBM 46XX	KBW	USB
Infinite Same symbol timeout		✓	✓	✓	✓	✓
Inter-character delay Configurable in 1 msec steps (max 255 msec)	1 msec 10 msec in KBW	✓	✓	✓	✓	✓
Number of scan buffers (maximum)	4	✓	✓	✓	✓	✓
Transmit UPC-A check digit	*	✓	✓	✓	✓	✓
Transmit UPC-E check digit		✓	✓	✓	✓	✓
Expand UPC-E		✓	✓	✓	✓	✓
Convert UPC-A to EAN-13		✓	✓	✓	✓	✓
Transmit lead zero on UPC-E		✓	✓	✓	✓	✓
Transmit UPC-A number system	*	✓	✓	✓	✓	✓
Transmit UPC-A Manufacturer ID#	*	✓	✓	✓	✓	✓
Transmit UPC – A Item ID#	*	✓	✓	✓	✓	✓
Transmit Codabar Start/Stop Characters		✓		✓	✓	✓
CLSI Editing (Enable)		✓		✓	✓	✓
Transmit Mod 43 Check digit on Code 39		✓		✓	✓	✓
Transit Mod 10/ITF		✓		✓	✓	✓
Transmit MSI-Plessy		✓		✓	✓	✓
Parity	Scanner: Space Cradle: None	✓		✓		
Baud Rate	9600	✓				
8 Data Bits	Scanner: *	✓				
7 Data Bits	Cradle: *	✓				
Stop Bits	2	✓				
Transmit Sanyo ID Characters		✓			✓	✓
Nixdorf ID		✓			✓	✓
LRC Enabled		✓			✓	✓

## DEFAULT SETTINGS - COMMUNICATION PARAMETERS

Parameter	Default	RS232	Light Pen	IBM 46XX	KBW	USB
UPC Prefix		✓			✓	✓
UPC Suffix		✓			✓	✓
Carriage Return	*	✓			✓	✓
Line Feed-Disabled by default in KBW	*	✓			✓	✓
Tab Prefix		✓			✓	✓
Tab Suffix		✓			✓	✓
“DE” Disable Command		✓				
“FL” Laser		✓				
Enable Command		✓				
DTR Handshaking support		✓				
RTS/CTS Handshaking		✓				
Character	*	✓				
Message RTS/CTS		✓				
XON/XOFF Handshaking		✓				
ACK/NAK		✓				
Two Digit Supplements		✓	as code 39	✓	✓	
Five Digit Supplements		✓	as code 39	✓	✓	
Bookland		✓	as code 39	✓	✓	
977 (2 digit) Supplemental Requirement		✓	✓	✓	✓	✓
Supplements are not Required	*	✓	✓	✓	✓	✓
Two Digit Redundancy	*	✓	✓	✓	✓	✓
Five digit Redundancy		✓	✓	✓	✓	✓
100 msec to Find Supplement Configurable in 100 msec steps (max 800 msec)	*	✓	✓	✓	✓	✓
Coupon Code 128		✓	as code 39	✓	✓	
† Configurable Code Lengths	7 avail	✓	✓	✓	✓	✓

## DEFAULT SETTINGS - COMMUNICATION PARAMETERS

Parameter	Default	RS232	Light Pen	IBM 46XX	KBW	USB
† Code Selects with Configurable Code Length Locks	3 avail	✓	✓	✓	✓	✓
Configurable Prefix characters	10 avail	✓			✓	✓
Suffix characters	10 avail	✓			✓	✓
Prefixes for Individual Code types		✓			✓	✓
Editing		✓	✓	✓	✓	✓
Inter Scan-Code delay Configurable (100 µsec steps)	800 µsec				✓	
Function/control Key Support						
Minimum Element width Configurable in 5.6 µsec steps	1 msec		✓			✓
RangeGate Enabled		✓	✓	✓	✓	✓
Authenticate		✓	✓	✓	✓	✓
MTLG Challenge		✓	✓	✓	✓	✓
Charging enabled	*	✓	✓	✓	✓	✓

† These options are mutually exclusive. One can not be used in conjunction with the other.

## UPGRADING THE FLASH ROM FIRMWARE

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The **MetroSet 2** program also allows the user of a Metrologic scanner to quickly upgrade to a new or custom version of software. It requires the use of a personal computer running under Windows 95 or greater and the use of a communication port. The user merely connects the scanner's cradle to a communication port on the PC, launches the **MetroSet 2** program, and blasts off to new software upgrades.

Each MS9535 and its cradle, regardless of the version number or communication protocol, can be upgraded. In other words, all RS232/Light Pen (-41), keyboard wedge (-47), Low Speed USB (-38), Full Speed USB (C40), Full Speed USB (D40), and IBM 468X/469X (-11) units can be upgraded. To upgrade *all* units, an RS232 cable (MLPN 54-54000B-N) is required. Communication between the scanner and the cradle must be established *before* upgrading the flash ROM within the scanner.

The upgrades and custom software versions will be supplied by Metrologic in files called Motorola S-record files. These files contain all the information needed to upgrade the scanner. Simply add this file to the working directory or retrieve the file from its current location.

The program guides the user with a simplistic one click approach. The user must first select the file. Once selected and verified, the file is ready to be used in the upgrade. Press the button to start the upgrading. Contact a Metrologic customer service representative for additional details on upgrading flash ROM firmware.

## CONFIGURATION MODES

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The MS9535 VoyagerBT has 3 configuration modes.

### Bar Codes

VoyagerBT can be configured by scanning the bar codes in the MetroSelect Single-Line Configuration Guide (MLPN 00-02544.x). Please refer to this guide for instructions. The MetroSelect Single-Line Configuration Guide can be downloaded for FREE from Metrologic's website ([www.metrologic.com](http://www.metrologic.com)).

### MetroSet2

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's website ([www.metrologic.com](http://www.metrologic.com)), or set-up disks can be ordered by calling 1-800-ID-METRO.

### Serial Program Mode

This method is only valid when RS232 cradles are used. It basically simulates the scanning of the configuration bar codes, but through the serial port. Serial Program Mode is described in detail in the MetroSelect Single-Line Configuration Guide (MLPN 00-02544.x).

# CRADLE AND CABLE TERMINATIONS

## Cradle Pinout Connections

There are interface and power ports located on the bottom of each MI9535-5xx cradle. The number of ports and type of connection varies by cradle model and the interface required. The following charts provide the pinout information for the different cradle models and interfaces available.

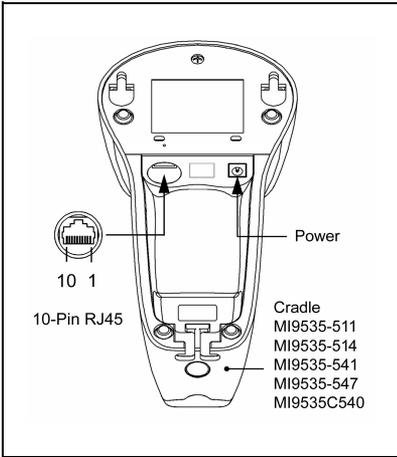


Figure 17.

<b>MI9535-514 Full RS232 and MI9535-541 RS232 / Light Pen Emulation</b>	
10-Pin, RJ45	
Pin	Function
1	Ground
2	RS232 Transmit Output
3	RS232 Receive Input
4	RTS Output
5	CTS Input
6	DTR Input / LTPN Source*
7	Reserved
8	LTPN Data*
9	Reserved
10	Shield Ground

\* MI9535-541 Interface Specific

<b>MI9535-547 Keyboard Wedge</b>	
10-Pin, RJ45	
Pin	Function
1	Ground
2	RS232 Transmit Output
3	RS232 Receive Input
4	PC Data
5	PC Clock
6	KB Clock
7	PC +5V
8	KB Data
9	+5VDC
10	Shield Ground

<b>MI9535-511 IBM</b>	
10-Pin, RJ45	
Pin	Function
1	Ground
2	RS232 Transmit Output
3	RS232 Receive Input
4	RTS Output
5	CTS Input
6	DTR Input
7	IBM B- Transmit
8	IBM A+ Receive
9	Reserved
10	Shield Ground

# CRADLE AND CABLE TERMINATIONS

## Cradle Pinout Connections

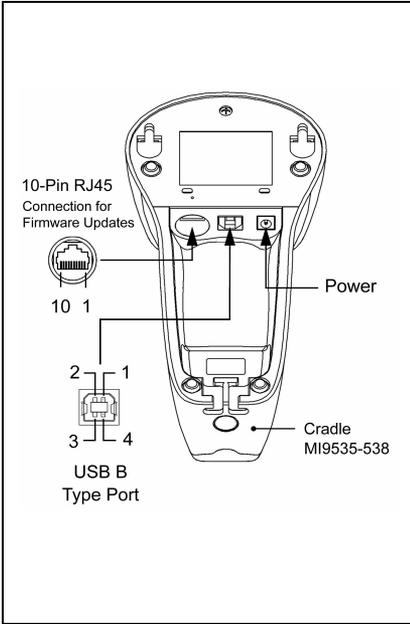


Figure 18. Cradle MI9535-538

MI9535-538 Low Speed USB Port	
10-Pin, RJ45	
Pin	Function
1	Ground
2	RS232 Transmit Output
3	RS232 Receive Input
4	RTS Output
5	CTS Input
6	Reserved
7	Reserved
8	Reserved
9	Reserved
10	Shield Ground
USB Type B	
Pin	Function
1	VCC
2	D-
3	D+
4	Ground

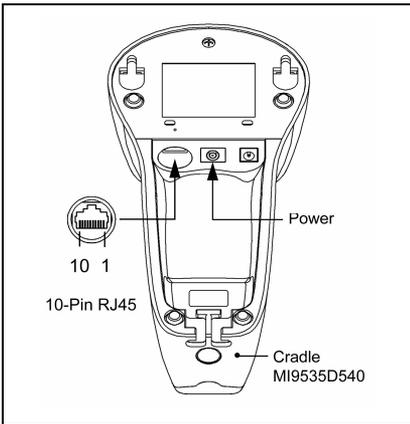


Figure 19. Cradle MI9535D540

MI9535D540 Full Speed USB	
10-Pin, RJ45	
Pin	Function
1	Ground
2	RS232 Transmit Output
3	RS232 Receive Input
4	RTS Output
5	CTS Input
6	D+
7	USB +5V
8	D-
9	Reserved
10	Shield Ground

## Cradle Pinout Connections

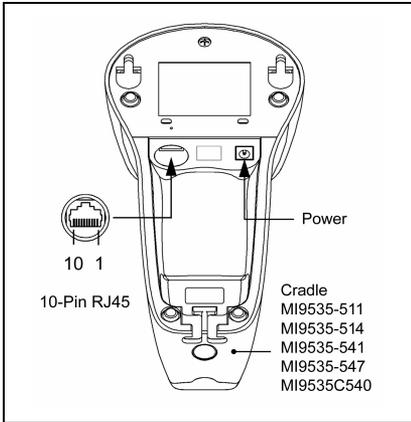
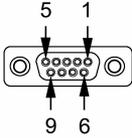


Figure 20. Cradle MI9535C540

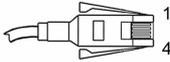
MI9535C540 Full Speed USB	
10-Pin, RJ45	
Pin	Function
1	Ground
2	RS232 Transmit Output
3	RS232 Receive Input
4	RTS Output
5	CTS Input
6	D+
7	USB +5V
8	D-
9	Reserved
10	Shield Ground

## CRADLE AND CABLE TERMINATIONS

### Cable Connector Configurations (Host End)

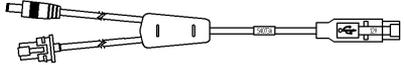
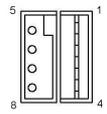
RS232/Light Pen Cable MLPN 54-54000x-N		
Pin	Function	 <p>9-Pin D-Type Connector</p>
1	Shield Ground	
2	RS232 Transmit Output	
3	RS232 Receive Input	
4	DTR Input/Light Pen Source	
5	Power/Signal Ground	
6	Light Pen Data	
7	CTS Input	
8	RTS Output	
9	+5VDC	

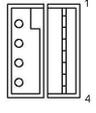
USB Cable MLPN 52-52828x		
Pin	Function	
1	VCC	
2	D-	
3	D+	
4	Ground	

IBM Cable MLPN 54-54250x-N		
Pin	Function	 <p>SDL A Key</p>
1	Ground	
2	IBM A+	
3	IBM B-	
4	Reserved	

# CRADLE AND CABLE TERMINATIONS

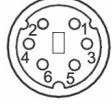
## Cable Connector Configurations

Full Speed USB Cable with power from Register MLPN 54-54073x		
<b>Pin</b>	<b>Function</b>	 <p>USB A Plus Power Type Connector</p>
1	+5VDC	
2	D-	
3	D+	
4	Ground	
5	Ground	
6	+12V	
7	+12V	
8	Ground	

Full Speed USB Cable with external Power Supply MLPN 54-54200x-N		
<b>Pin</b>	<b>Function</b>	 <p>USB A Plus Power Type Connector</p>
1	+5VDC	
2	D-	
3	D+	
4	Ground	

# CRADLE AND CABLE TERMINATIONS

## Cable Connector Configurations

Keyboard Wedge PowerLink Cable <i>54-54002x-3</i>		
<b>Pin</b>	<b>Function</b>	 <p>5-Pin DIN, Female</p>
1	Keyboard Clock	
2	Keyboard Data	
3	No Connect	
4	Power Ground	
5	+5 Volts DC	 <p>6-Pin DIN, Male</p>
<b>Pin</b>	<b>Function</b>	
1	PC Data	
2	No Connect	
3	Power Ground	
4	+5 Volts DC	
5	PC Clock	
6	No Connect	

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 PowerLink cable, leaving the necessary termination exposed for connecting to the keyboard and the keyboard port on the PC.

Keyboard Wedge Adapter Cable		
<b>Pin</b>	<b>Function</b>	 <p>5-Pin DIN, Male</p>
1	PC Clock	
2	PC Data	
3	No Connect	
4	Power Ground	
5	+5 Volts DC	 <p>6-pin Mini DIN, Female</p>
<b>Pin</b>	<b>Function</b>	
1	Keyboard Data	
2	No Connect	
3	Power Ground	
4	+5 Volts DC	
5	Keyboard Clock	
6	No Connect	

### Safety

#### ITE Equipment

IEC 60950-1, EN 60950-1

#### Laser

Laser Class 1: 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 laser light exposure. Under no circumstances should the customer attempt to service the laser scanner. Never attempt to look at the laser 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 laser light exposure. The use of optical instruments with the laser 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 luz de láser peligrosa. Bajo ninguna circunstancia el usuario deberá realizar el mantenimiento del láser del escáner. Ni intentar mirar al haz del láser incluso cuando este no esté operativo. Tampoco deberá abrir el escáner para examinar el aparato. El hacerlo puede conllevar una exposición peligrosa a la luz de láser. El uso de instrumentos ópticos con el equipo láser 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 le laser. Ne regardez jamais directement le rayon laser, 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 une rayonnement laser qu'est dangereux. L'emploi d'appareils optiques avec cet équipement laser augmente le risque d'endommagement de la vision.

#### ⚠ Achtung

Die Verwendung anderer als der hier beschriebenen Steuerungen, Einstellungen oder Verfahren kann eine gefährliche Laserstrahlung hervorrufen. Der Kunde sollte unter keinen Umständen versuchen, den Laser-Scanner selbst zu warten. Sehen Sie niemals in den Laserstrahl, 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 Laserstrahlung 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 esposizioni a raggi laser rischiose. Il cliente non deve assolutamente tentare di riparare egli stesso lo scanner laser. Non guardate mai il raggio laser, anche se credete che lo scanner non sia attivo. Non aprite mai lo scanner per guardare dentro l'apparecchio. Facendolo potete esporVi ad una esposizione laser rischiosa. L'uso di apparecchi ottici, equipaggiati con raggi laser, aumenta il rischio di danni alla vista..

## EMC

### Emissions

FCC Part 15, ICES-003, CISPR 22, EN 55022, EN300 328 V1.6.1, EN301 489-17 V1.2.1

### 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

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.

The radiated output power of this intentional wireless radio is far below the FCC radio frequency exposure limits. The internal wireless radio operates within guidelines found in radio frequency safety standards and recommendations, which reflect the consensus of the scientific community. The level of energy omitted is far less than the electromagnetic energy emitted by wireless devices such as mobile phones. However, the use of wireless radios may be restricted in some situations or environments, such as aboard airplanes. If you are unsure of restrictions, you are encouraged to ask for authorization before turning on the wireless radio.

### Notice

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

\* The IC before the certification /registration number signifies that the Industry Canada technical specifications were met.

### 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'utilisateur peut être amené à prendre 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

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\*.

\* The IC before the certification /registration number signifies that the Industry Canada technical specifications were met.

#### Remarque

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

## LIMITED WARRANTY

---

The MS9535 VoyagerBT<sup>®</sup> scanners are manufactured by Metrologic at its Suzhou, China facility. The MS9535 VoyagerBT scanners have a two (2) year limited warranty from the date of manufacture. Metrologic warrants and represents that all MS9535 VoyagerBT 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.

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## PATENTS

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

US Patent No.

4,958,984; 5,081,342; 5,260,553; 5,340,971; 5,340,973; 5,424,525; 5,468,951; 5,484,992; 5,525,789; 5,528,024; 5,591,953; 5,616,908; 5,627,359; 5,661,292; 5,777,315; 5,789,730; 5,789,731; 5,811,780; 5,825,012; 5,828,048; 5,883,375; 5,886,337; 5,895,907; 5,925,870; 5,925,871; 5,939,698; 6,029,894; D408,532;

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Other worldwide patents are currently pending.

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