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METROLOGIC INSTRUMENTS, INC.

MS1633 Focus*BT*™ Bluetooth® Enabled Area Imaging Bar Code Scanner Installation and User's Guide

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INTRODUCTION

Focus*BT*™ is the Bluetooth enabled Area Imager that outperforms the competition by integrating advanced features to both hand-held and presentation mode scanning such as FirstFlash™ scanning, automatic aim line, object detection and RangeGate® to optimize efficiency and productivity while providing the freedom of mobility.

Focus*BT* has been designed with a removable battery pack for remote charging to decrease down time caused by having to charge a complete unit. The user can have a battery on charge while scanning with a provided spare battery pack. The benefits of this feature are 24/7 scanning and increased throughput for all enterprise applications.

Focus is the industry leader in Area Imaging and the added benefits of Bluetooth along with a rich feature set, make it the scanner of choice for 2D wireless applications.

Focus*BT*™	Interface
MS1633 – 5	BT Interface 1.2 Bluetooth Profile Supported: SPP (Serial Port Profile)

SCANNER AND ACCESSORIES

BASIC KIT		
Part #	**Description**	**Qty.**
MS1633	Focus*BT* Area Imaging Bar Code Scanner	1
70-72018	Li-ION Battery Pack	2
46-00358	Battery Charger	1
00-01576	USB BT adaptor	1
00-02544	MetroSelect® Single-Line Configuration Guide*	1
00-02281	Supplemental Configuration Guide*	1
46-00374	Software CD	1
00-02280	MS1633 Focus*BT* Area Imaging Bar Code Scanner Installation and User's Guide*	1

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

OPTIONAL ACCESSORIES	
Part #	**Description**
AC to DC Power Transformer - 5.2VDC @ 2 A output	
46-46915	120V United States
46-46913	220V-240V Continental European
46-46912	220V-240V United Kingdom
46-46914	220V-240V Australia
46-46911	220V-240V China
46-46843	220V-240V Japan
00-02001	MS1633 Focus Stand (46-00147) Installation Guide
46-00147	Modular Presentation Stand

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 CHARGER COMPONENTS

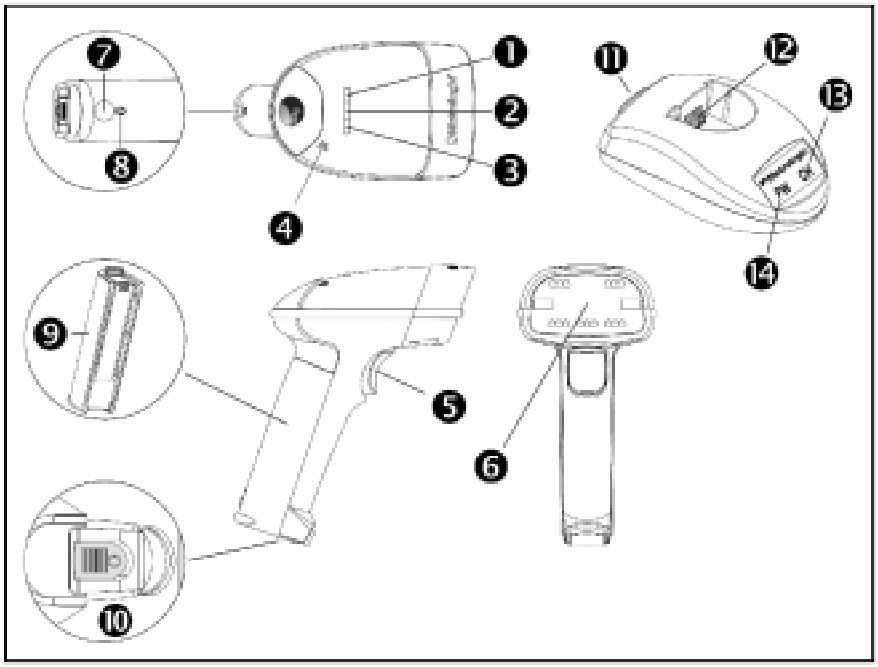

Figure 1. Scanner and Charger Components

	Item Description	
1	Yellow LED	See *Visual Indicators* (on page 23)
2	White LED	See *Visual Indicators* (on page 23)
3	Blue LED	See *Visual Indicators* (on page 23)
4	Speaker	See *Audible Indicators* (on page 22)
5	Trigger	
6	Red Window	LED Aperture
7	Power Button	See *Charging the Battery* (on page 7)
8	Blue Power LED	See *Charging the Battery* (on page 6)
9	Battery Pack	See *Battery Installation* (on page 7)
10	Lock	See *Battery Installation* (on page 7)
11	Power Jack	See *Battery Installation* (on page 7)
12	Charging Contacts	See *Battery Installation* (on page 6)
13	Blue Power LED	See *Charger Status Indicators* (on page 5)
14	White Charge LED	See *Charger Status Indicators* (on page 5)

Labels

Each scanner has a label located on the underside of the head. This label provides the unit's model number, date of manufacture, serial number, CE and caution information. The charger, the Bluetooth USB Adapter and the battery also have labels with important safety and compliance information. The following figure provides examples of these labels and their locations.

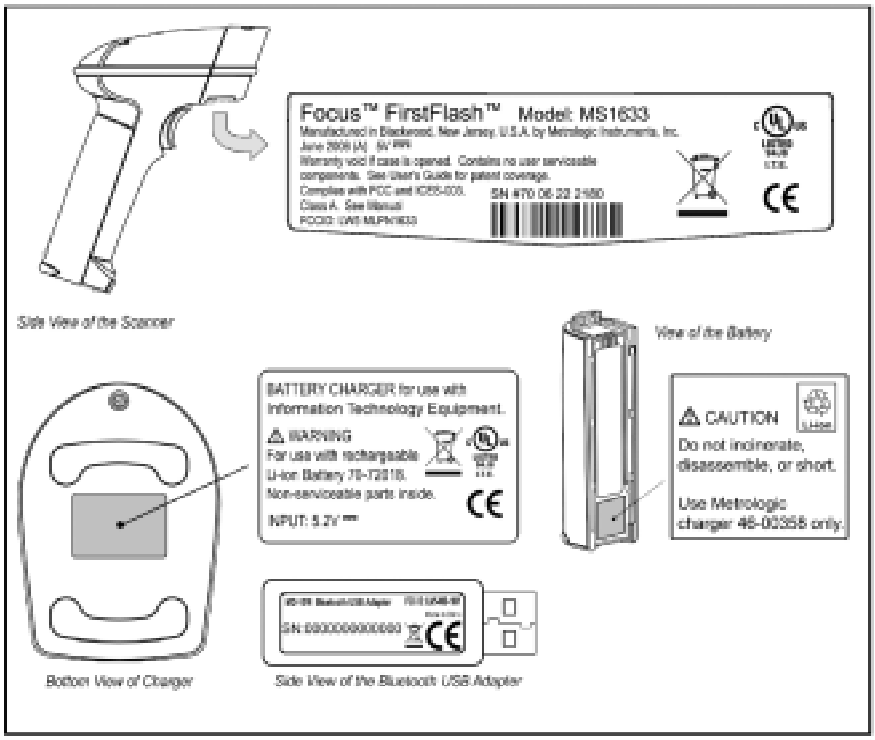

Figure 2. Label Locations and Samples

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 can interfere with the proper scanning of a bar code.
The output window should be routinely cleaned with glass cleaner sprayed onto a lint free, non-abrasive cleaning cloth.

BATTERY TIPS AND CAUTIONS

Before the Focus*BT* can be placed in operation the battery pack must be charged for a minimum of 8 hours. After the initial preparation charge of 8 hrs, the battery will only require 6 hrs to come to a full charge when it gives a *Low Battery* warning (see page 7). Follow the steps on page 6 to fully charge the battery.

Once charged, the unit is able to handle 5400 continuous first pass readings over a period of approximately 9 hours. After 30 seconds of no activity the scanner will go into a sleep mode to conserve battery life.

⚠ Caution

Observe proper precautions when handling batteries.

Batteries may leak or explode if improperly handled. Observe the following precautions when handling batteries for use in this product:

- Be sure the battery is turned off before replacing the battery.
- Be sure the battery is turned off when installed in the charger.
- Use only batteries approved for use in this equipment.
  Do not mix old and new batteries or batteries of different types.
- Do not attempt to insert the battery upside down or backwards.
- Do not short or disassemble the battery.
- Do not expose the battery to flame or excessive heat.
- Do not immerse the battery in water or expose it to water.
- Do not transport or store with metal objects such as necklaces or hairpins.
- Batteries are prone to leakage when fully discharged.
  To avoid damage to the product, be sure to remove the battery when no charge remains.
- When not in use store the battery in a cool dry place.
- Discontinue use immediately should you notice any changes in the battery, such as discoloration or deformation.
- Please recycle used batteries in accord with local regulations.

CHARGER STATUS INDICATORS

There are two status indicators on the front of the charger located under the Metrologic Logo. The following table lists how these indicators will illuminate depending on the status of the charger.

CHARGER STATUS	BLUE LED (PW)	WHITE LED (CH)
Charging	On	Blinking
Fully Charging	On	Solid
Power On	On	OFF
Power Off	OFF	OFF

CHARGING THE BATTERY

Before the Focus*BT* can be placed in operation for the first time, the battery must be charged for a minimum of 8 hours. After the initial preparation charge of 8 hrs, the battery will only require 6 hrs to come to a full charge when it gives a *Low Battery* warning (*see page 7*).

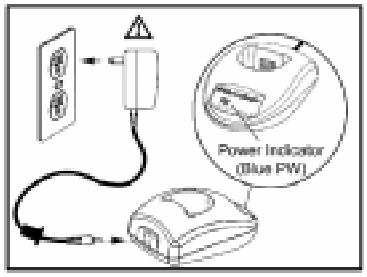

Figure 3

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

2. Plug the power supply into the socket on the back of the charger.

   A blue **PW** will illuminate near the Metrologic Logo indicating the charger is receiving power.

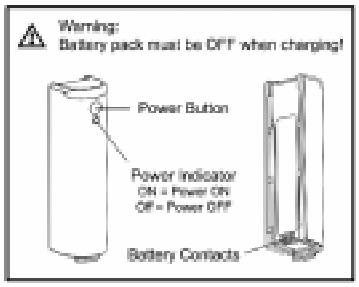

Figure 4

3. Verify that the battery pack is not ON. The blue power LED on the battery pack should be OFF.

   Warning!
   Damage to the battery pack can occur if it is charged while turned ON.

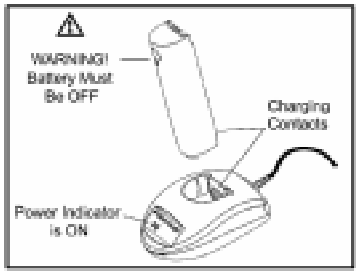

Figure 5

4. Insert the battery pack into the charger as shown in *Figure 5*.

   A white **CH** will start to flash on and off on the charger near the Metrologic logo.

   If the white **CH** does not appear, check to make sure the battery pack is seated all the way in the charger with the battery contacts facing the contacts on the charger.

5. When the battery is completely charged the charging indicator (**CH**) will stop flashing and stay illuminated.

Figure 6

BATTERY INSTALLATION

MS1633 Focus*BT* is a battery powered scanner. **Before the Focus*BT* can be placed in operation for the first time, the battery must be charged for a minimum of 8 hours.**

To install the battery:

1. Align the tabs of the charged battery pack with the slots on the scanner's handle
2. Then, slide the battery pack up toward the top of the scanner. There will be a snap when the battery is installed correctly.

Figure 7. Steps for Installing the Battery

LOW BATTERY WARNING

When the battery is low the unit will add an additional beep after the *good scan beep*. The additional beep alerts the user when there is less than 10% of a charge left on the battery.

REMOVING THE BATTERY FOR CHARGING

In order to charge the battery, it must be disconnected from the scanner.

1. Turn off the battery by pressing the button near the base of the battery.
2. Disengage the lock on end of the scanner handle (see below).
3. Slide the battery pack down away from the head of the scanner.
4. Lift the battery straight off the scanner handle (see below).

Figure 8. Steps for Removing the Battery for Charging

Driver Installation For Bluetooth® USB Adapter

DO NOT connect the Bluetooth USB Adapter before installing the driver!

1. Place the included Focus*BT CD* into the CD-ROM drive on the host/computer.
2. If the CD-ROM does not automatically open, click on the Window's **Start** button, choose **Run**, then click **Browse** to locate and open the CD-ROM drive.
3. Double-Click on the ***Driver*** folder on the Focus*BT CD*

   The ***Driver*** folder vary with the OS version, two options are available:

   Software\MetroBT Driver\2KXP and Software\MetroBT Driver\XP64.

   Choose the correct folder according to your OS features.
4. Click on the ***setup.exe*** file then choose **OK** to start the installation process.
5. Choose a **Setup Language** then click **OK**.
6. At the welcome screen select **Next**.
7. After reviewing, select the *I accept the terms in the license agreement* option then, click **Next** to continue.
8. Choose **Install** from the Ready to Install the Program screen.
9. The driver for this utility has an alternative ID from Microsoft as they do not have any authorization program for Bluetooth drivers.

   To continue the installation procedure without showing warnings for unauthorized drivers, select ***I accept*** and click **OK**.

   OR

   If you want to continue the installation procedure with the warning displayed, select ***I do not accept*** and click **OK**.
10. Plug the Bluetooth USB adapter into an available USB port on the host device then click on **OK**.
11. After the installation completes click on **Yes** to restart the host device/computer. The host/computer must be rebooted at this time in order for the driver to function properly.

Focus*BT* Connection Configuration

1. Double-Click on the Bluetooth icon located in the windows start bar on the right hand side of the screen.

2. The new connection wizard will automatically start.

   Power on the Focus*BT* scanner and allow it to completely boot up (indicated by 3 beeps after turning it on).

   Make sure **Express Mode** is selected and click on **Next** to continue.

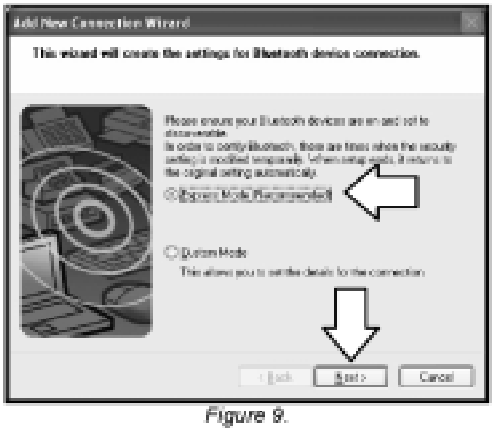

Figure 9.

3. A search for Bluetooth devices will run, and the Focus*BT* should be found. The number next to the words Focus*BT* indicate the serial number of the unit(s) found.

   Select the proper device and click **Next** to continue.

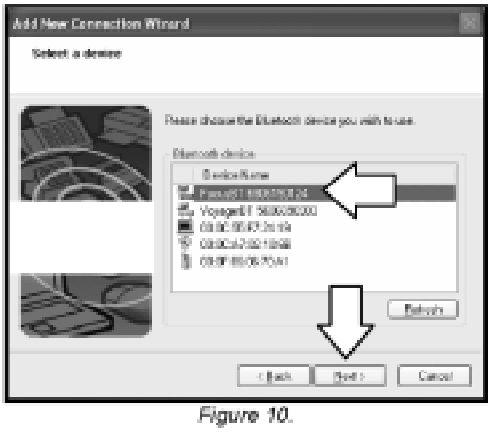

Figure 10.

Focus*BT* Connection Configuration

4. The final screen of the New Connection Wizard should indicate the virtual Bluetooth Com port that was setup. This will usually be a high number, as seen in the screen shot below. Remember this COM number for application setup.

   Click **Next** to Continue.

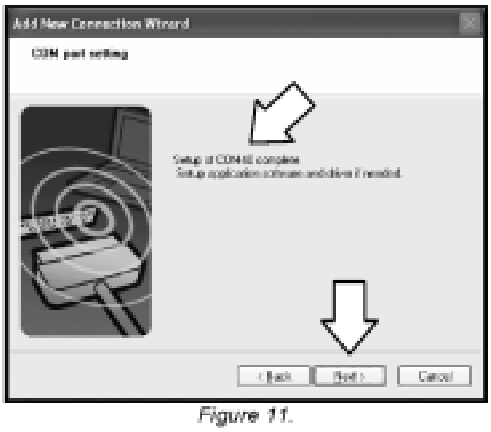

Figure 11.

5. After the Focus*BT* has been added to the connection list, right click on the icon and select **Connect** in order to establish a Bluetooth link between the Focus*BT* and your computer.

   The Focus*BT* should emit a connection tone and/or the blue light on the top of the unit should stop blinking, indicating a connection has been established.

Figure 12.

Auto Reconnect Drivers

1. Place the included Focus*BT CD* into the CD-ROM drive on the host/computer.
2. If the CD-ROM does not automatically open, click on the Window's **Start** button, choose **Run**, then click **Browse** to locate and open the CD-ROM drive.
3. Double-Click on the ***COM Reconnect Utility*** folder on the Focus*BT CD*.
4. Click on the ***comreconnectinstall.exe*** file then choose **OK** to start the installation process.
5. At the welcome screen select **Next** to continue.

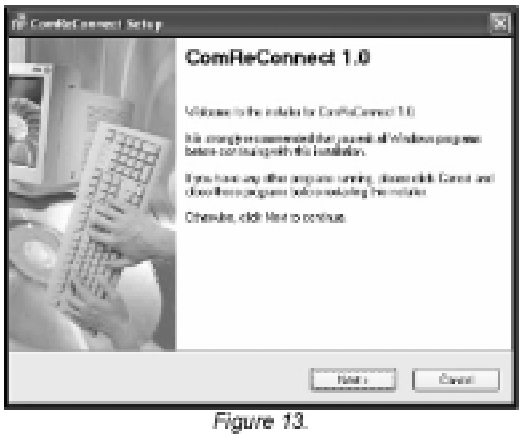

Figure 13.

6. Select your installation folder (defaults are recommended) and then click on **Next** to continue.

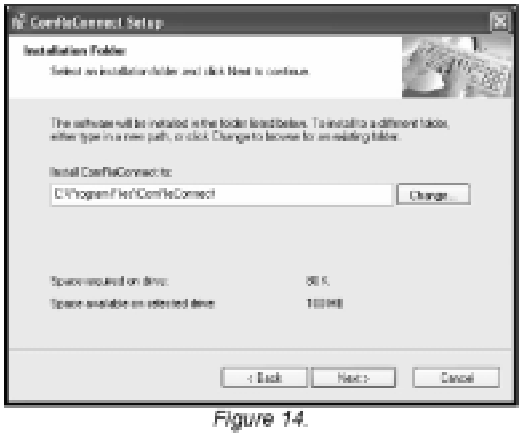

Figure 14.

Auto Reconnect Drivers

7. Select **Finish** at the final screen to complete the installation procedure.

Figure 15.

Setting up the Auto Reconnect Drivers

1. Locate the **COMReConnect** icon on the Windows Desktop and double-click it to open the program.

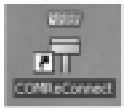

Figure 16.

2. Select the checkbox next to the COM port that the Bluetooth Driver mapped for the Focus*BT* unit.

   Click on the **Start** button to enable the auto-reconnect feature.

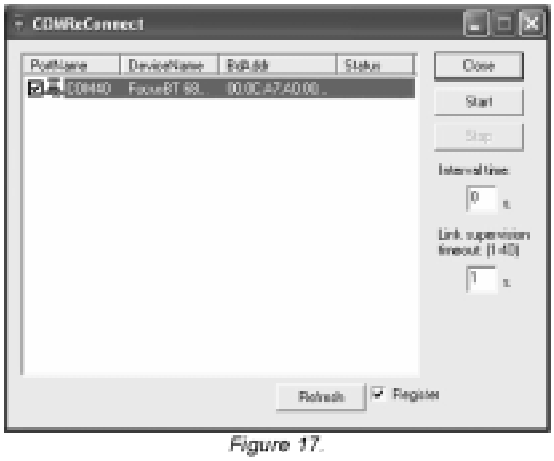

Figure 17.

3. While the reconnect program is in use it should look like the screen capture below. **Please note: the program must be left open or minimized in order to function.**

   Clicking the "X" in the corner of the window or clicking on the close button will disable the auto-reconnect feature.

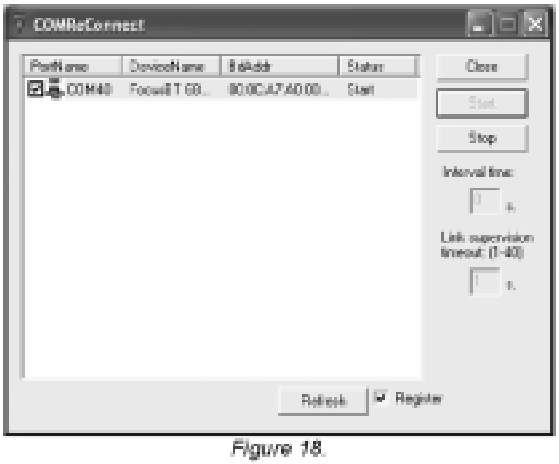

Figure 18.

ESTABLISHING BLUETOOTH COMMUNICATION

Bluetooth communication must be established between the Focus*BT* and the host device before the Focus*BT* can be used for normal operation.
In a Bluetooth network, the Focus*BT* can operate as a server (service-provide mode), or as a client.

When Focus*BT* Acts as a Server to Other Bluetooth Devices

FocusBT's default is to act as a server to other Bluetooth devices. In this mode, other Bluetooth-enabled devices can initiate a connection to the scanner.

Focus*BT* can be configured to always accept incoming connection requests and not require a valid Bluetooth PIN. Alternatively, Focus*BT* can be configured to require a valid Bluetooth PIN. In this case, the PIN used by a remote device while establishing connection to the Focus*BT*, must match the one previously *stored* in Focus*BT*.

***Bluetooth PIN Not Required**

* 1 2 4 3 0 6

Bluetooth PIN Required

* 1 2 4 3 1 6

To store a Bluetooth PIN

The Focus*BT* can be configured to store a Bluetooth PIN so that any remote device trying to establish a connection with the scanner, must match the stored PIN before a connection will made. The stored Bluetooth PIN must be numeric and be between 4 to 16 digits long. A PIN that does not satisfy the criteria will not be stored.

After scanning the following bar code, the next barcode scanned will be stored and used as the Bluetooth PIN. This feature is used in conjunction with the Bluetooth PIN required feature.

Next barcode is Bluetooth PIN

* 9 9 9 9 1 8

Scanning the *Recall Defaults* barcode resets the PIN to the default value of *0000*.

When Focus*BT* Acts as a Client to Other Bluetooth Devices

In the client device mode of operation, the Focus*BT* initiates the Bluetooth connection. The Bluetooth address of the remote device is required to establish a connection. The remote device must also be configured to accept incoming connections and must support the Bluetooth Serial Port (SPP) profile.

- **If the Bluetooth address of the remote device is headed with FNC3** and consists of a 12-digit hex value (e.g. ^{3}000CA7000118), scan the address bar code to establish the communication.

Sample of a 12-digit Bluetooth Address with FNC3

- **If the Bluetooth address of the remote device is not headed with FNC3** but is just a common 12-digit hex value (e.g. 000CA7000118), first scan the *Get Bluetooth Address* barcode then scan the remote device's Bluetooth address bar code.

Get Bluetooth Address

- **If the Bluetooth address code of the remote device is set to 000CA7000000**, FocusBT will automatically go into *server mode* and will not attempt to establish an outgoing Bluetooth connection.

To return to *service mode*:
Scan the bar code below to change Focus*BT* from *client mode* to *service mode*.

*Provide Bluetooth Service

When Focus*BT* is Used with an MS9535 Cradle

Focus*BT* can be configured to communicate with an MS9535 cradle but it will require the Focus*BT* to be configured to use a special communication protocol used by the MS9535 cradle. Scan the ***Enable MS9535 Cradle Protocol*** bar code below to enable the special communication protocol.

> The Focus*BT* cannot be configured or flash-upgraded via an MS9535 cradle. Communication settings of the cradle cannot be changed by scanning configuration barcodes with the Focus*BT*. Support for the MS9535 cradle is limited to barcode transmission.
>
> Do not forget to disable the MS9535 cradle protocol when the cradle is no longer in use.

Enable MS9535 cradle protocol"

"Disable MS9535 cradle protocol

RangeGate® Mode

The operation range of the Bluetooth communication is at least 10 meters between the scanner and host system. When FocusBT is out of Bluetooth operation range, the communication link will break and the blue LED will start to flash on the scanner.

Focus*BT* can be configured to store scanned barcodes into the non-volatile memory when the Bluetooth connection is inactive. The scanner will transmit the barcodes and erase them from memory once the Bluetooth connection is re-established. The size of the non-volatile memory is 32768 bytes.

Scan the following Barcodes to enable or disable Range Gate Mode.

Enable Range Gate

***Disable Range Gate**

Inventory Mode

In Inventory mode, there is a quantity field associated with each barcode. Similar to RangeGate mode, the data is stored in the scanner's non-volatile memory. However, in inventory mode, the data is always stored independent of whether the Bluetooth connection is active or not, and is not uploaded automatically until a special barcode is scanned.

For the bar codes associated with this mode, please consult the FocusBT Supplemental Configuration Guide (MLPN 00-02281A).

Range Gate and Inventory modes are mutually-exclusive. If both are enabled, Inventory mode takes priority.

STAND COMPONENTS, MLPN 46-00147

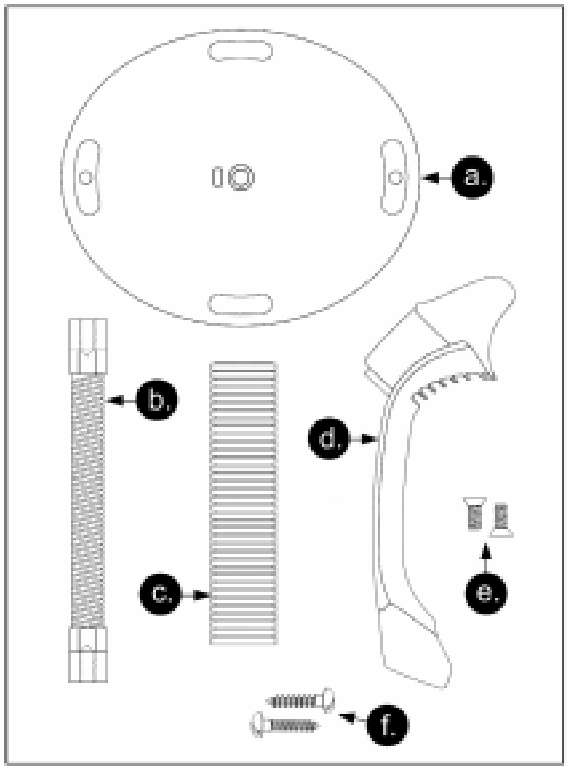

Figure 19. Stand Components

Item	Description	Qty.
a.	Stand Base	Qty. 1
b.	Flexible Shaft	Qty. 1
c.	Flexible Shaft Cover	Qty. 1
d.	Scanner Cradle	Qty. 1
e.	¼" – 20 x 3/8" Flat Head Phillips, 82° Undercut	Qty. 2
f.	#8 Round Head Wood Screw	Qty. 2

HARD MOUNTING THE STAND (OPTIONAL)

Metrologic provides two #8 wood screws for securing the stand base to the counter top. The following figure provides the pilot hole dimensions for securing the stand base.

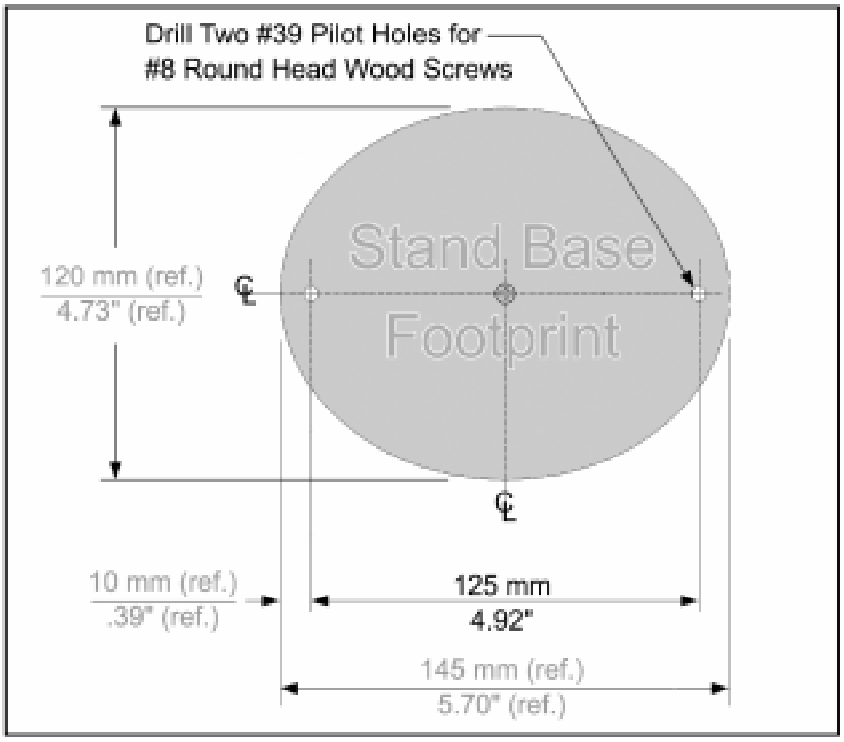

Figure 20. Stand Base Hole Pattern (Not to Scale)

ASSEMBLING THE STAND

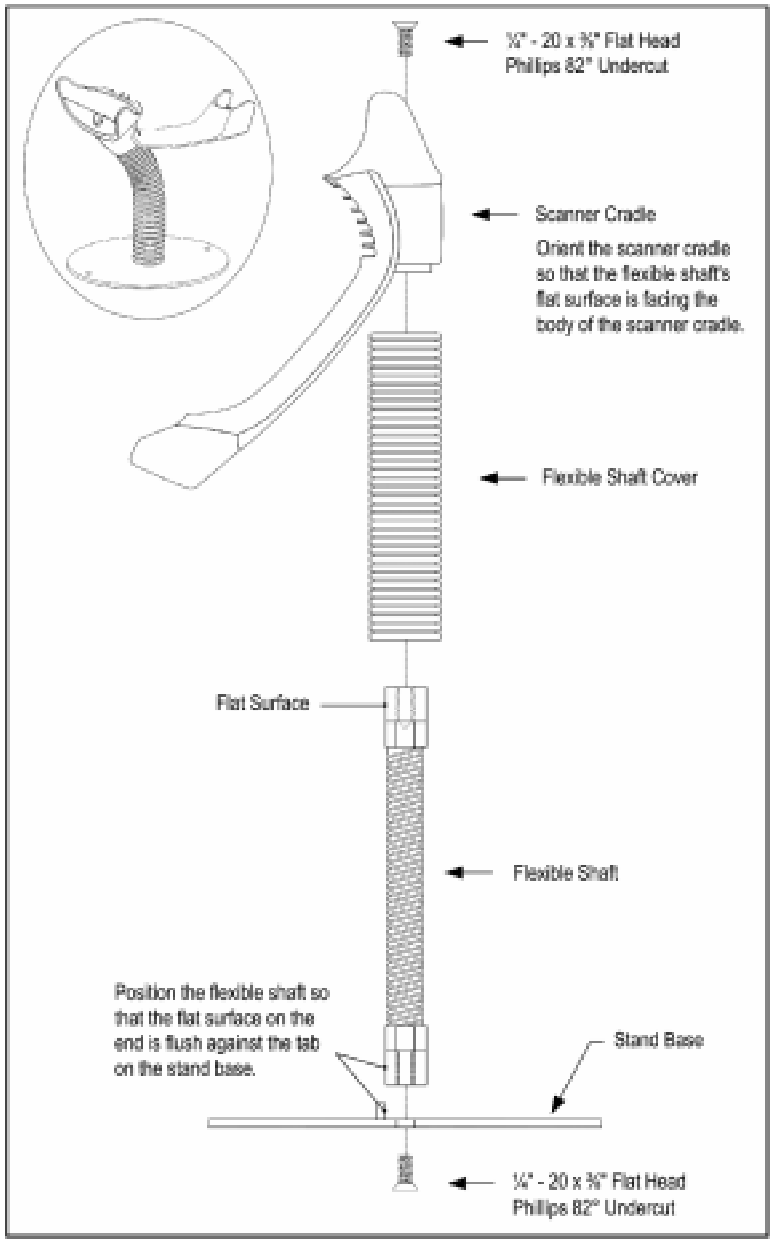

Figure 21. Assembling the Stand