

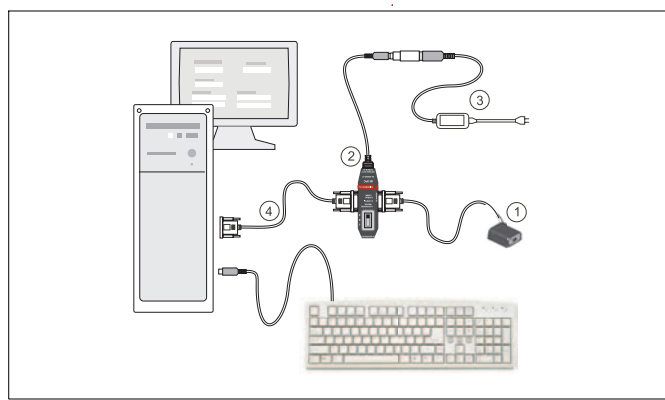
Quick Start Guide MS-4 Imager



MICROSCAN

P/N 83-200004 Rev B

Step 1 — Check Hardware



Hardware Required

Caution: Be sure that all cables are connected **BEFORE** applying power to the system. Always power down **BEFORE** disconnecting any cables.

Item	Description	Part Number
1	MS-4 Imager	FIS-0004-XXXXG
2	IB-3PC	FIS-0001-0030G
3	Power Supply	97-000002-01 (90-264 VAC, +5VDC) 97-100004-15 (24VDC; other protocols)
4	Comm. Cable	61-000010-02

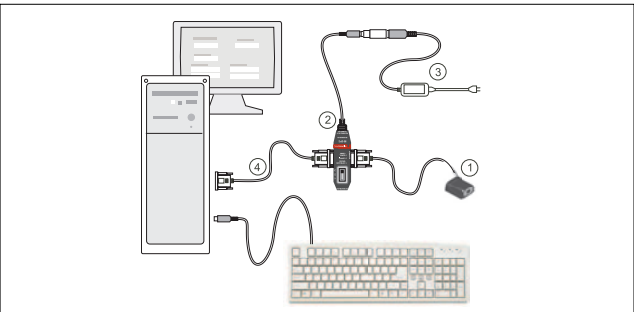
Step 2 — Connect the System

Connecting by RS-232 / RS-422

- Connect the Imager (1) to the IB-3PC interface (2).
- Connect the comm. cable (4) to the host (5) and to the host connector on the IB-3PC (2).
- Connect power supply (3) to the IB-3PC (2).
- Apply power to the Imager.

Connecting by USB

- Plug the MS-4 Imager's USB cable into a host USB port.
- Apply power to the Imager.

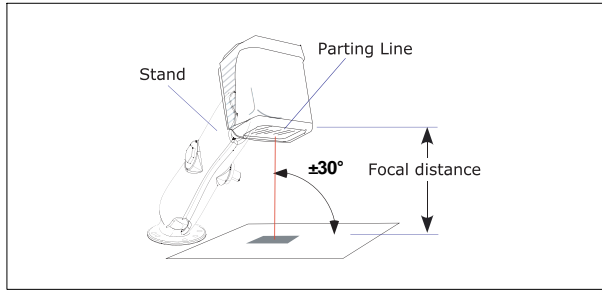


Hardware Configuration

Caution: Be sure that all cables are connected **BEFORE** applying power to the system. Always power down **BEFORE** disconnecting any cables.

Step 3 — Position Imager

- Position the Imager at a distance from the symbol that matches the factory pre-set focal distance. For example, if your Imager is pre-set at 4", position the parting line 4" from the symbol.
- Tip the Imager relative to the symbol to avoid the glare of direct (specular) reflection. The case parting line should be perpendicular to the plane of the symbol by either pitching the symbol or the Imager as shown.
- Position the Imager in a place with as little ambient light as possible.
- Symbols can be rotated (tilted) at any angle; however, for best results symbols should be aligned with the FOV (field of view).
- In the case of linear symbols, aligning the bars in the direction of their movement ("ladder" orientation) will minimize the chances of blurring, and will produce better reads.
- Avoid excessive skew or pitch. Maximum skew is $\pm 30^\circ$; maximum pitch is $\pm 30^\circ$.



Imager / Symbol Positioning

Note: For instant setup and validation, the MS-4 can be hand-held or placed on its side. For accuracy, however, Microscan's mounting arm adapter kit (P/N 98-000048-01) is recommended.

Step 4 — Install ESP

(ESP stands for *Easy Setup Program*.)

ESP is Microscan's proprietary reader setup and testing software. It is *not* meant to be a tool for a real-time production environment; the purpose of ESP is to provide a quick and easy way to set up and configure your reader. With your Imager connected to a host computer (Windows 98 or higher), you can use ESP for configuration and Imager control.

If installing from a Microscan Installation and Support CD:

1. Insert your Microscan Installation and Support CD in your computer's CD drive.
2. Choose **ESP Software** from the main menu.
3. Launch **Setup.exe** under **ESP** and follow the prompts.

If downloading from the web:

1. Go to <http://www.microscan.com/downloadcenter/>
2. Create a new "myMicroscan" member account or, if you are already a member, enter your user name and password.
3. Click the **Download Software** link and extract the latest version of **ESP** to a directory of your choice. *Note where your ESP.exe file is stored on your hard drive.*
4. At the end of the installation process, the following icon will appear on your desktop:



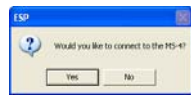
5. Click the **ESP** icon to start the program.

Step 5 — Select Model

When you start **ESP**, this menu will appear:



- Select the MS-4 from the menu and click **OK**. If you do not want to make this selection every time you start **ESP**, uncheck "Show This Window at Startup".
- Click **Yes** when this dialog appears:



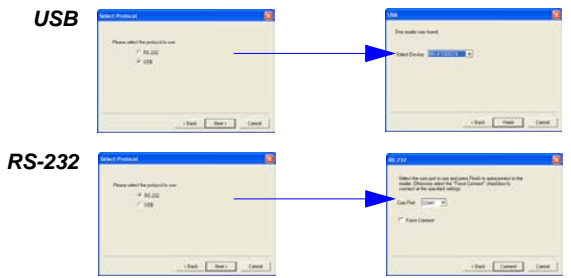
Note: If you need to select another reader model later, click the **Switch Model** button near the top of the screen.



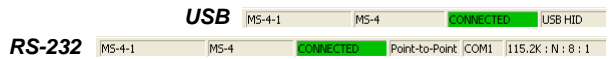
Step 6 — Select Communications Protocol

Important: The Imager is in **Continuous Read Mode** by default. For best connection results, be sure that no symbols are within the Imager's field of view while attempting to connect.

- When the **Select Protocol** dialog appears, choose your connection protocol and click **Next**.



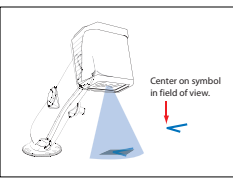
When you are connected, you will see the green connection indicator in the status bar at the bottom right of your screen.



- If you are using an RS-232 interface and your connection attempt fails, click the **Autoconnect** button, select a different communications port, and try again.

Step 7 — Locate the Symbol

Move the symbol or the Imager so that the blue target pattern is centered over the symbol. At 2 to 3 inches, the pattern resembles an **X**. At 3 to 6 inches, the pattern resembles a **V**. It is important for the whole symbol to fall within the field of view (FOV) of the Imager. The field of view is what appears in **ESP's Locate/Calibrate** window.



Locate by EZ Button

If you are not connected to a host computer, the EZ button will allow you to locate a symbol in the Imager's FOV.

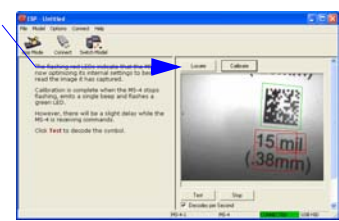


- Hold down the **EZ** button for about one second and release when you hear one short beep. You will see the blue target pattern.
- Center the target pattern on the symbol.

Note: To end all EZ button functions, press the **EZ** button once and quickly release.

Locate by ESP

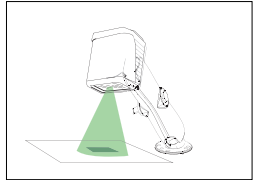
In **ESP's EZ Mode**, click the **Locate** button to enable the target pattern. You will see the blue target pattern projected from the front of the Imager.



- Center the target pattern over the symbol you wish to read.
- Click the **Stop** button to end the **Locate** function.

Step 8 — Calibrate Settings

The Imager can be optimized by the **EZ** button, **ESP**, or **serial command**. During calibration, the Imager will flash its LEDs while determining the best configuration for decoding symbol data. Upon successful completion, a **green** LED pattern will flash brightly and illuminate the symbol. If unsuccessful, the Imager will emit 5 short beeps and stop searching.



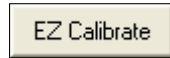
Calibrate by EZ Button

- Hold down the **EZ** button for about two seconds and release when you hear **two short beeps**.
- The Imager will search through various camera and IP settings to determine the best configuration for decoding symbol data.

Note: To end all EZ button functions, press the **EZ** button once and quickly release.

Calibrate by ESP

- Click the **EZ Calibrate** button in **EZ Mode**.



- The Imager will search through various camera and IP settings to determine the best configuration for decoding symbol data.

A successful calibration will display a green frame around the symbol, and the following message will appear: "Uploading all reader parameters." After a moment the symbol's data and related features will be presented under the "Symbol Information" box below the image display window.

Calibrate by Serial Command

Send **<@CAL>** to the Imager to begin the calibration routine.

Step 9 — Test Read Rate

This test will let you know the percent of good reads per images captured.

Testing by EZ Button

- To start the read rate test, hold down the **EZ** button about three seconds until you hear **three short beeps**.



20%, 40%, 60%, 80%, 100%. These LEDs represent the percentage of good reads per images captured.

- While the symbol is being decoded, the read rate LEDs will indicate the corresponding read rate percentage on the back of the unit.
- To end the read rate test, press the **EZ** button and quickly release.

Testing by ESP

- Click the **Test** button to start the read rate test and **Stop** to end it.



If your symbol has been successfully decoded, its data and related features will be presented under "Symbol Information." Also, while the symbol is being decoded, the read rate LEDs will indicate the corresponding read rate percentage on the back of the unit.

- To end the test, click the **Stop** button.

Testing by Serial Command

You can also start a test with the **<C>** or **<Cp>** command and end it with the **<J>** command.

Step 10 — Configure the Imager Using ESP

To make setup changes to the MS-4, click the **App Mode** button.

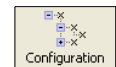


The following modes are accessible by clicking the buttons in the first row of **App Mode** icons:



- Establish communications between **ESP** and the Imager by clicking the **Connect** button.
- Send or receive commands by clicking the **Send/Recv** button.
- Make changes to Camera options by clicking the **Camera** button.
- Access the Terminal window, where you can see symbol data and enter serial commands, by clicking the **Terminal** button.
- Review status settings or make changes to operational commands by clicking the **Utilities** button.
- Format data for output by clicking the **Data Output Format** button.

Click the **Configuration** button to display the second row of **ESP** icons.



From here you can make changes in the configuration trees that can be accessed by clicking the buttons on the second row of icons in the **ESP** window.

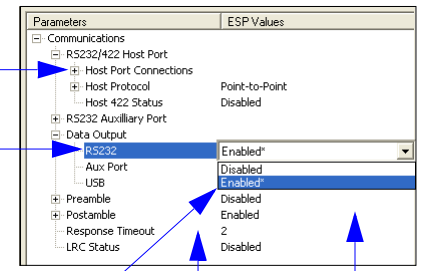


For further details, see **ESP Help** in the pulldown Help menu.

Step 11 — Make Menu Changes and Save in ESP

To make changes to a configuration setting:

- Left click** on the **+** to expand the desired tree.
- Double click** on the desired parameter and click once in the selection box to view options.
- Place your cursor in the selection box, scroll down to the setting you want to change, and **click** once on the setting.
- Left click** again on the open screen to complete your selection.
- Right click** on the open screen and select **Save to Reader** to implement the command in the Imager.



Saving Options

- Send, No Save.** Changes will be lost when power is re-applied to the Imager.
- Send and Save.** This activates all changes in current memory *and* saves to the Imager for power-on.