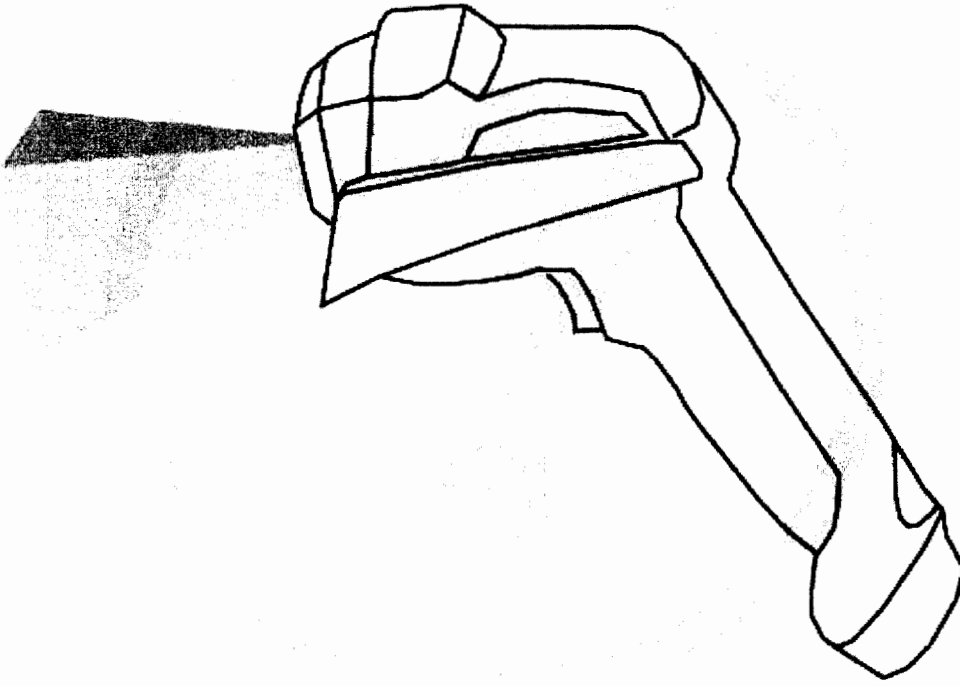# Connecting

▼ Why does the setup tool fail to connect to my reader?

If you cannot connect, verify the following:

- Make sure that the reader is not in sleep mode (squeeze the trigger to wake it up).

- Make sure that you have scanned the configuration code (**USB Serial** or **RS-232 Serial**) that matches the type of physical connection.

- Make sure that the **Port:** popup menu is set to the port to which your reader is connected.

  Click **Scan Ports** to determine which ports have readers connected to them. **Scan Ports** automatically selects the first port upon which a reader is detected.

  Note: Clicking the **Scan Ports** sends a query string on all COM ports. The reader must be awake in order to respond to the query. You can squeeze the trigger to wake up the reader.

- Make sure that you are not using the keyboard wedge: you must use **USB Serial** or **RS-232 Serial** to connect the setup tool to the reader.

- Make sure that your handset is linked to the base station connected to your PC. To make sure, scan the **Unlink** configuration code printed in the Quick Reference Guide, unplug both the power and communication cables from the base station, reconnect the cables, then replace the handset in the base station. Wait until the handset indicates that it is linked (with an audible signal) before attempting to connect again.

You can use a terminal emulation program such as HyperTerminal to determine whether the reader is sending any data.

▼ What port do I use for a USB Connection?

If you connect the reader or base station using the USB port, make sure to scan the **USB Serial** configuration code from the Quick Reference guide. Then click **Scan Ports** and select the port that is identified as connected to the reader.

Note: Clicking the **Scan Ports** sends a query string on all COM ports. The reader must be awake in order to respond to the query. You can squeeze the trigger to wake up the reader.

▼ How do I select a different baud rate?

When you connect to a reader using the setup tool, the base station serial port is automatically set to match the setup tool (115,200 Baud, 8 data bits, 1 stop bit, and no parity).

If you need to connect the reader or base station to a device with a specific baud rate or other serial port settings, scan the appropriate codes from the **Configuration Codes** document (available through the Windows **Start** menu).

The serial port settings that you scan from the **Configuration Codes** are stored in non-volatile memory on the base station. When connect using the setup tool, the new serial port settings are stored in volatile (temporary) memory on the base station. You can return to the serial port settings stored in non-volatile memory by power-cycling the base station, or you can rescan the specific codes.

▼ How can I associate a handset with a different base station?

If the base station with which you wish to associate the handset is already associated with another handset, you must break that link by scanning the **Unlink base station** code. To link the handset to a new base station, simply place the new reader in the base station. This automatically creates the link.

▼ How can I reset the USB connection to the base station?

If you have difficulty establishing or maintaining a USB connection between a base station and your PC, follow these steps to reset the USB connection:

1. Disconnect both the USB cable *and* the power cable from the base station.

2. Reconnect both the USB cable and the power cable to the base station.

3. Place the reader in the handset.

4. Remove the reader from the handset and scan the **USB Serial** configuration code.

▼ Can I connect a wireless reader using my own Bluetooth transceiver?

No.

Results Display

▼ I'm having trouble reading codes on my parts. What should I do?

- Make sure that you press *and hold* the trigger. When you release the trigger before the read is complete, the reader abandons its read attempt.

- Make sure that the reader is within the working distance specified for the code size and type, as listed in the Quick Reference guide.

- Make sure that you have the code centered within the reader's image area; make sure the code is centered within the green aiming light before you pull the trigger.

- Click on **UltraLight Settings**, then adjust the lighting settings.

- Click on **Symbology Settings** and make sure that the symbology type you are using is enabled.

▼ How can I speed up image transfer?

If the **Transfer and display image** checkbox is checked, the setup tool transfers the acquired image each time a read succeeds, or when you release the trigger if the read fails. If you press the trigger again while the previous image is transferring, the reader will discard the partially transferred image and start transferring the new image.

The image download speed depends on the amount of image compression performed by the reader. You can control the image compression value by entering Advanced mode and selecting the **Displayed Image Quality** sub-node. Lowering the quality speeds the transfer.

▼ Why can't I see all of my decoded data?

If the decoded data does not fit in the display area in the **Selected Read Result** area, it is truncated and three dots ('...') are displayed, and the entire string shown in a tool tip when the mouse is placed over the data. You can also copy and paste the decoded string from the setup tool to another application to view it.

▼ I checked 'Transfer and display image'. Why don't I see an image?

If you interrupt the image transfer by clicking the trigger, then no image is transferred. Also, older images in the **Read History** grid may not include images.

▼ Can I save an acquired image to a file?

Yes. Select **File->Save Image** or click the Save Image button in the tool bar.

UltraLight Settings

▼ What is the UltraLight?

The UltraLight system provides two independently controllable lighting sources:

- Four individually controllable quadrants of shallow-angle off-axis LEDs that provide dark field lighting, which can help image scribed or etched marks on reflective surfaces.

- A single, highly diffuse on-axis light source that provides bright field lighting, which is appropriate for reading low and high contrast codes on many types of surfaces.

▼ Which UltraLight settings does the reader use?

You can configure four different lighting setups using the four tabs in this control. When you attempt to read a code, the reader uses each *enabled* setup in turn to try to read the code. To enable a setup, click on that setup's tab and check the **Enabled** checkbox. Enabled setups have green check marks next to their names.

When you start a new scan, the reader always starts with the most recently used setup, if multiple setups are enabled.

▼ Why isn't the top quadrant of the UltraLight turned on?

In most cases, operators tend to hold the reader at an angle to the surface being read. By disabling the top lighting quadrant, reflections and glare are minimized.

The reader is shipped with default values for each of the four setups, but only the first setup, **General Purpose** is enabled. The General Purpose setup enables the West, South, and East low-angle lights only. You can modify this setup to enable all of the off-axis light segments.

▼ What setup should I use for peened marks?

If your peened marks are on a highly reflective surface, use the **Mirrored Surface** setup. Otherwise, the **General Purpose** setup should read most peened codes.

▼ Which setup should I use?

The **General Purpose** setup will read most codes. The additional setups can handle specific, hard-to-read types of marked codes.

- **Curved Surface** is appropriate for marks on convex, reflective and partially reflective objects.

- **Under Marked** can help read peened codes where the peen marks are small or poorly formed.

- **Mirrored Surface** is appropriate for highly reflective surfaces where non-diffuse lighting can cause reflections.

▼ Is it OK to enable all the setups?

You should enable only the setups that are appropriate for your part and marks. Keep in mind that the reader cycles through *all* the enabled setups when you attempt to read a code. The more setups that are enabled, the longer the reader may take to read a code.

▼ Can I change which setup is enabled without running the setup tool?

Yes. The printed Quick Reference manual includes four codes that you can scan at any time to enable a single setup (and disable the other 3). When you scan these code while running the setup tool, the setup tool will not reflect the change automatically. Quit the setup tool and restart it to see the effect of the code.

▼ Can I change the number of decode attempts?

Enter Advanced mode, then use the **Decode tries** control. You can set the number of decode tries for each setup separately.

▼ Can I adjust the image exposure?

Enter Advanced mode, then click on **Camera Control**. You can specify a target image brightness and the reader will automatically adjust its exposure to obtain that image brightness, or you can manually specify the exposure settings.

▼ Can I change the size or location of the image?

Enter Advanced mode, then click on **Image Size (Region of Interest)**. You can specify the exact region of the image to specify for acquisition and decoding.

Symbology Settings

▼ Does the reader auto-discriminate different symbology types?

Yes. The reader automatically detects, identifies, and decodes symbols encoded using any of the symbologies enabled in the setup tool.

▼ Can I speed up the reader by reducing the number of enabled symbologies?

Yes. For best performance, only enable those symbology types that you expect to encounter.

▼ How do I adjust advanced symbology settings?

Enter Advanced mode, then click on the symbology you wish to modify in the tree control.

Communication Settings

▼ How do I change the reader or base station's serial port settings?

When you scan the **RS-232 Serial** configuration code from the Quick Reference Guide, the reader and base station are automatically configured to use the same baud rate (and other serial port settings) that the setup tool uses.

If you need to connect the reader or base station to a device with a specific baud rate or other serial port settings, scan the appropriate codes from the **Configuration Codes** document (available through the Windows **Start** menu). Note that you will need to re-scan the **RS-232 Serial** or **USB Serial** code to connect using the setup tool.

▼ How do I connect a wireless reader using my own Bluetooth transceiver?

This functionality is not supported.

Data Formatting

▼ What data is sent if Data Formatting is not enabled?

By default, the reader transmits the entire decoded string followed by a carriage return/line feed pair.

▼ How can I send just the decoded data without a carriage return/line feed pair?

Enable formatting, add **Full string** to the output string, and make sure that the **CR/LF** check box is not checked.

▼ How does data formatting work?

You use the Data Formatting pane to construct a customized output string using pre-defined building blocks:

- The output string starts with whatever text you enter in the **Leading Text** field.

- Select items from the list in the **General** tab, then click **Add** to add them to the output string. To add a specific range of characters from the decoded data, click **Set sub-string range**, then enter the range of characters to add (such as **1-3,5,8,10-**), then click on **Sub-string** in the list and click the **Add** button.

- The output string also includes any text that you add to the **Trailing Text** field.

- To terminate the entire string with a carriage return/line feed pair, check the **CR/LF** checkbox.

▼ Why doesn't data formatting work when I switch to a different type of code?

You specify data formatting separately for Data Matrix codes, QR codes, and 1D codes. The **Symbology** popup menu determines which symbology's data formatting parameters are displayed.

▼ Can I specify characters using hexadecimal or octal ASCII codes?

In the **Leading Text** and **Trailing Text** fields, you can specify characters as **\nnn** where *nnn* is the octal ASCII code. You can specify characters in hexadecimal by entering **\xnn** where *nn* is the hexadecimal ASCII code.

▼ How can I test my data formatting?

Read a code. The formatted result is displayed in the status bar. You can also select the **Results Display** pane, then read a code. The results display shows the results of the formatting that you have specified.

▼ Can I perform arbitrary substitution of text?

Enter Advanced mode, then click on **Perl-style Regular Expression Data Formatting**. Click **Use regular expression formatting**, then enter a Perl-style regular expression.

Once you have specified a Perl-style expression, you cannot use the basic data formatting pane until you re-enable basic data formatting.

▼ Where can I get more information about Perl-style regular expressions?

Here.

System Settings

▼ What system settings can I change?

The System Settings pane lets you control what the reader does when it reads a code, and what it does when it cannot read a code.

- **Sound level** controls the pitch of the signal tone.

- **Number of tones** controls how many times the signal is sounded.

- **LED color** sets the color displayed by the reader's status indicator (mounted on the back of the reader).

▼ How do I update reader firmware?

Select **System->Update Firmware...**, then select the firmware file

Note: Firmware files are supplied as compressed archives. The firmware must be uploaded in its compressed form; do not attempt to uncompress a firmware file before uploading it.

▼ How can I reset my reader?

Scan the **Soft Reset** command printed on the back of the Quick Reference Guide to perform a soft reset. The reader's nonvolatile memory is not cleared, but the reader is shut down and restarted.

Scan the **Hard Reset** command to return the reader to its factory-default state.

▼ How can I reset the USB connection to the base station?

If you have difficulty establishing or maintaining a USB connection between a base station and your PC, follow these steps to reset the USB connection:

1. Disconnect both the USB cable *and* the power cable from the base station.

2. Reconnect both the USB cable and the power cable to the base station.

3. Place the reader in the handset.

4. Remove the reader from the handset and scan the **USB Serial** configuration code.

▼ How do I enter advanced mode?

Select **View->Advanced**. Advanced mode lets you configure additional reader settings. To return to Basic mode, select **View->Basic**.

▼ Can I replace the battery in my reader?

Yes. The battery is located inside the reader handle. **Only replace the battery with the correct type.** For information on obtaining a replacement battery and on disposing of a used battery, contact product support using the information listed in the Quick Reference guide.