



Handheld Bar Code Scanner

Models SR, HD, LR and XLR



User's Guide

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NOTES

Unpacking and Inspecting Your Scanner

After unpacking your new scanner, check the contents of the shipping carton to ensure all the items you ordered are included:

- PowerScan™ handheld scanner
- Interface Cable
- Power Supply (if you ordered one)
- User's Guide (this manual)
- Programming Guide
- Optional Accessories that you ordered. (The PowerScan handheld bar code scanner can be purchased with or without accessory kits.)

If your package contains wrong or missing components, contact your place of purchase. If there are damaged components, immediately file a claim with the carrier. You may want to save your packing material in case you need to ship the scanner at some later time.



NOTE

Manuals for the PowerScan scanner are available on our website. See the back cover for our web address.

Installation

Refer to Figure 1 and follow these steps to install the scanner:

Consult your host terminal manual to determine if power must be turned off before connecting peripheral devices such as the scanner.

1. Should you need to disconnect the interface (I/F) cable from the scanner, loosen the Phillips head screw at the bottom of the handle and rotate the cable restraint clip away from the cable to release it. Reverse this procedure to connect the cable.



Do not attempt to pull the End Cap off, as this may damage the scanner.

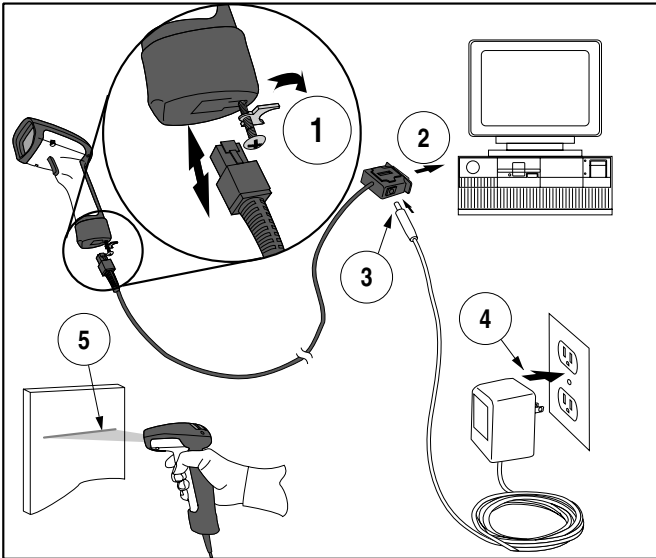
CAUTION

2. Connect the I/F cable to the proper port on the host terminal.
3. If your system requires an AC/DC adapter to power the scanner, connect the adapter's power cord at the I/F connector. (Note: In most cases, the scanner uses Power Off the Terminal [P.O.T.], and does not require this step.) Contact your PSC dealer if you're not sure if an AC/DC adapter should be used with your system.
4. Connect the AC/DC adapter at the wall outlet. (P.O.T. units skip this step.)
5. Verify operation—point at a flat surface and pull the trigger. A red beam should be visible. Scan a sample bar code and confirm that the scanner reads the bar code by beeping and/or sending the data to the host terminal.

Power Supply

The scanner requires either a Listed Class 2 or Listed LPS power source which supplies power directly to the scanner.

Figure 1. Installing the Scanner

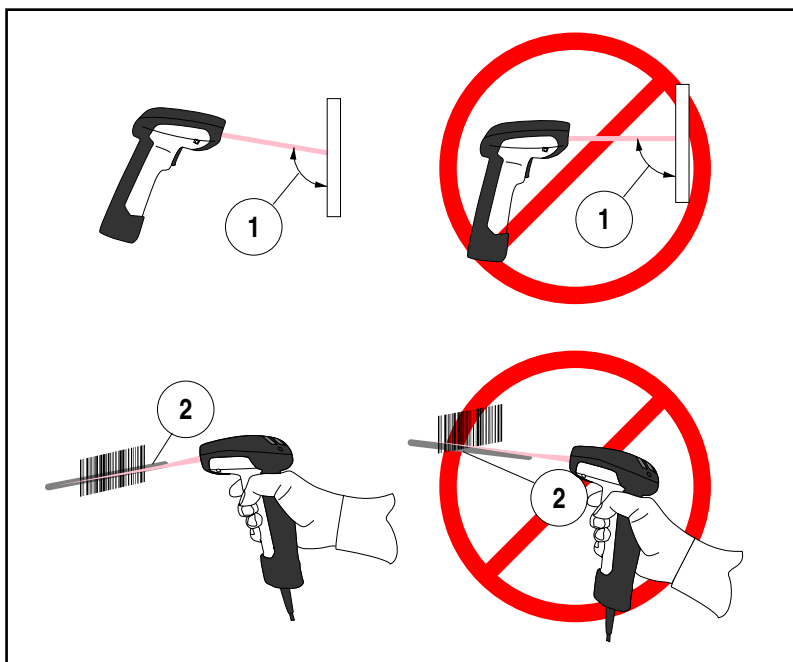


How to Scan

Figure 2 illustrates some tips to help get the best scanning results:

1. The scanner must be pointed at a slight angle to the bar code. Do not hold the scanner perpendicular to the bar code.
2. The laser beam must cross the entire bar code. The scanner cannot correctly read if the entire bar code is not scanned.

Figure 2. Scanning Tips



Scanning Range

There are currently four different model types for this scanner. Depending upon the model type of your scanner, you'll need to hold the unit at a given distance from the bar code to achieve optimum scanning results. The following diagrams provide range of field information for each of the models when scanning grade A, Code 39 bar codes: Standard Range (SR), High Density (HD), Long Range (LR) and Extra Long Range (XLR).

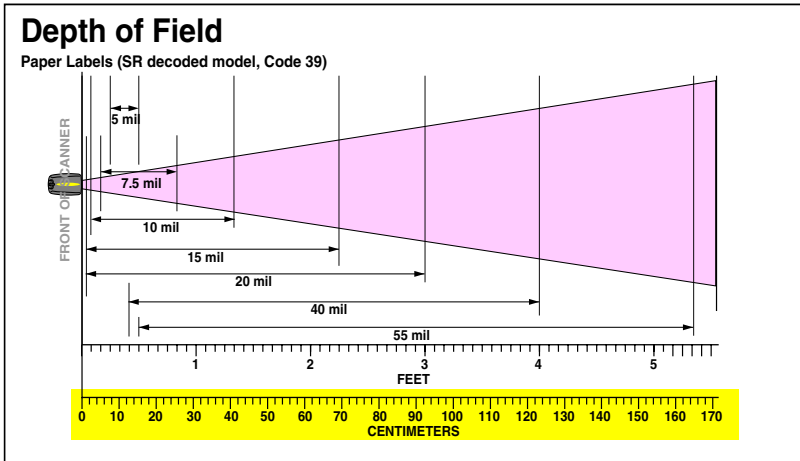


NOTE

In the context of the illustration below, a "mil" represents the minimum bar code element width. Measurements are based on SR models set with the standard 28° scan width (as opposed to the Half Angle setting of 14°). Reference the PowerScan Programming Manual (P/N R44-1840) for more information about the Half Angle feature.

Specifications are subject to change without notice.

Figure 3. Depth of Field (SR)



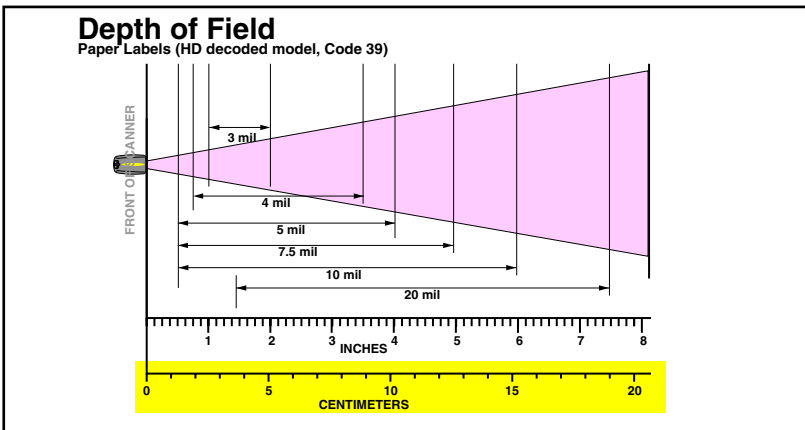


NOTE

In the context of the illustration below, a "mil" represents the minimum bar code element width. Measurements are based on HD models set with the standard 28° scan width (as opposed to the Half Angle setting of 14°). Reference the PowerScan Programming Manual (P/N R44-1840) for more information about the Half Angle feature.

Specifications are subject to change without notice.

Figure 4. Depth of Field (HD)



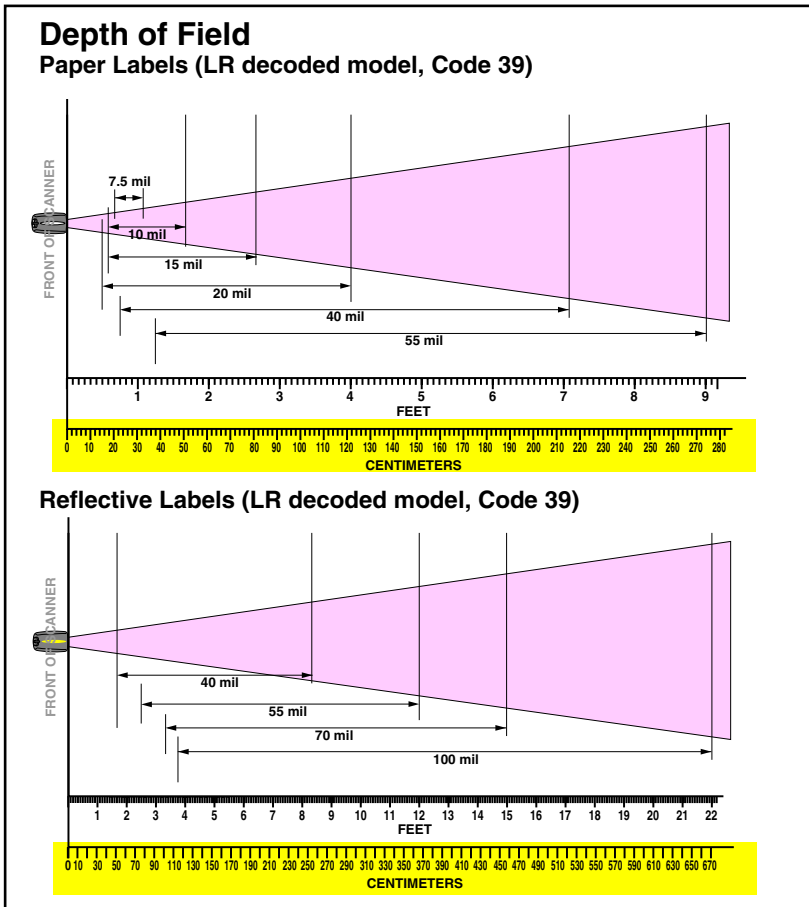


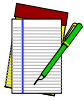
NOTE

In the context of the illustration below, a "mil" represents the minimum bar code element width. Measurements are based on LR models set with the a 14° scan width (as opposed to the alternate Full Angle setting of 28°). Reference the PowerScan Programming Manual (P/N R44-1840) for more information about the Half Angle feature.

Specifications are subject to change without notice.

Figure 5. Depth of Field (LR)





NOTE

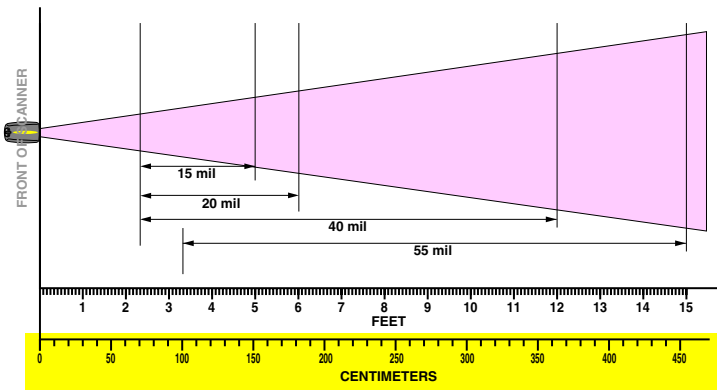
In the context of the illustration below, a "mil" represents the minimum bar code element width. Measurements are based on XLR models set with a 10° scan angle width.

Specifications are subject to change without notice.

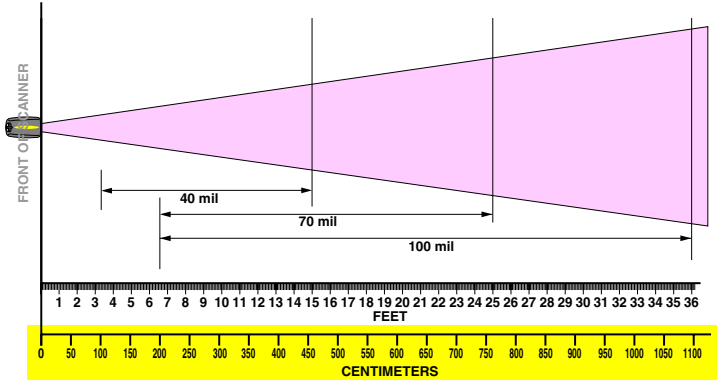
Figure 6. Depth of Field (XLR)

Depth of Field

Paper Labels (XLR decoded model, Code 39)



Reflective Labels (XLR decoded model, Code 39)



Active Symbologies

The active (enabled) bar code symbologies in the factory defaults are:

- Code 39 (C39)
- Code 128 (C128)
- Interleaved 2 of 5 (I 2 of 5)

Your scanner should be pre-programmed with these standard factory default settings, unless...

...it was shipped to you programmed with unique, customer configuration settings.

...you or another user have made changes to scanner programming.

Enhanced Scanning for Hard-to-Read Bar Codes

Decoded scanners can be programmed to decode extremely poor quality bar codes by activating advanced **Quadralogic™** Decoding. To select this feature, see the **PowerScan™** Scanner Programming Guide (P/N R44-1840) available from your dealer, or you can download the manual from our website.

Scanner programming can also be performed using your PC and the **Configurator Express™** On-Screen Programming tool also available from your dealer.

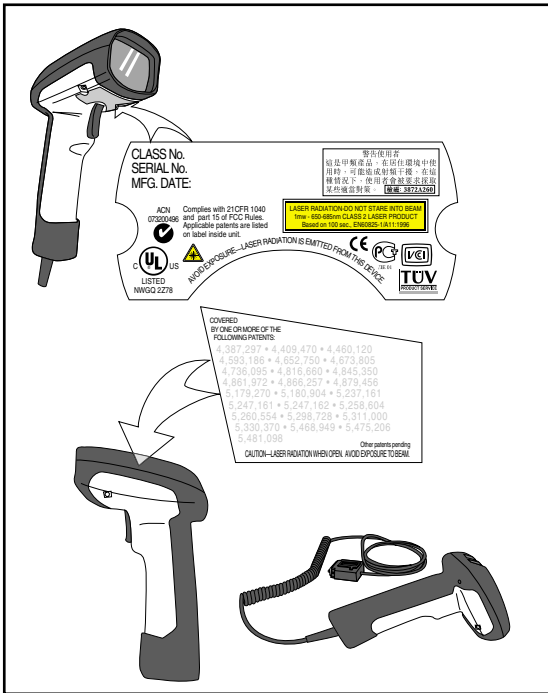
Test Your Scanner

The bar code below (Figure 7) is provided to test your scanner's ability to read a typical Code 39 label.

Figure 7. Code 39 Bar Code Sample



Figure 8. Scanner Labeling



NOTE

Figure 8 above shows label placement ONLY. For actual regulatory, patent and other applicable information, view the labels on the product itself, or call your nearest sales or service representative.

Laser Cautions

The PowerScan bar code scanner is certified in the U.S. to conform to the requirements of *DHHS/CDRH 21CFR Subchapter J for Class II laser products*. Class II products are not considered to be hazardous. The scanner contains a Visible Laser Diode (VLD) at a *wavelength of 650-670 nanometers* and is designed so that there can be no human access to harmful levels of laser light during normal operation, user maintenance, or during prescribed service operations.



CAUTION

If the scan pattern is a single dot when depressing the trigger, discontinue operation and return the unit to the factory. Exception: When using Marker Beam Mode a single aiming dot is projected momentarily.



CAUTION

Do not attempt to open or otherwise service any components in the optics cavity. Opening or servicing any part of the optics cavity by unauthorized personnel may violate laser safety regulations.

Radio Frequency Interference

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 Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

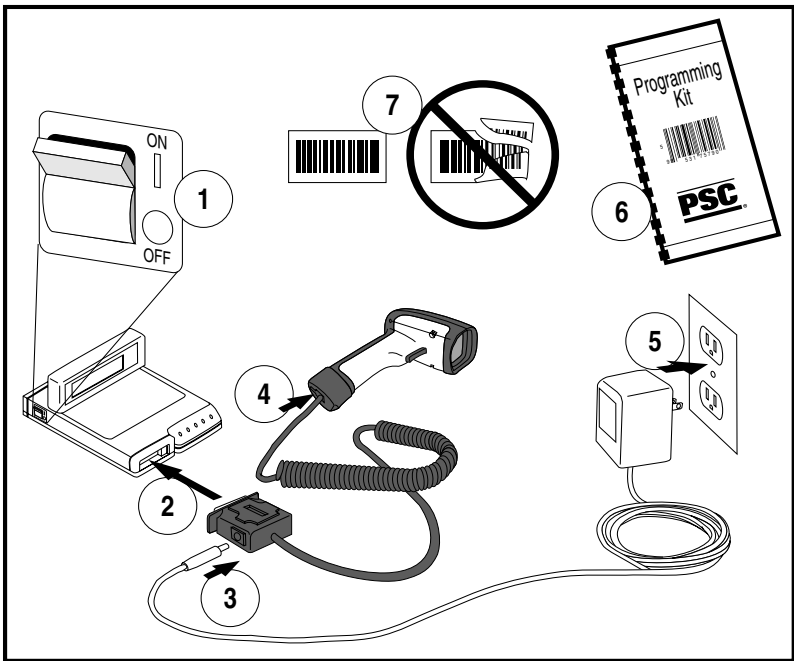
Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Troubleshooting

You can isolate problems with your scanning system by performing these checks (refer to Figure 9):

1. If your scanner's cable is designed to receive Power Off the Terminal (P.O.T.), it will not operate unless it is connected to a working host terminal that is powered on.
2. Ensure that the interface cable is securely attached to the host. Consult your technical support manager or refer to your host system manual to identify the proper connection for the scanner.
3. If an external power supply is used, verify that it is securely connected to the interface cable and AC outlet. Also ensure that the power supply is the correct voltage rating for your area.
4. Check to see that the interface cable is securely connected at the scanner handle. Push the connector in to assure that it is firmly seated. Use a Phillips head screwdriver to ensure that the screw at the bottom of the scanner is fully tightened (but do not overtighten).
5. If, after checking all connections, the scanner still fails to function properly, exchange the power supply with a known good power supply.
6. Ensure that the scanner's interface type is compatible with the host terminal by consulting your POS system manual and/or the PowerScan Scanner Programming Guide (P/N R44-1840).
7. Verify that the bar codes you are scanning are of satisfactory quality. Bar code label verifiers are available from your dealer if you need precise reporting of bar code details. Bar codes that are damaged (wrinkled, smudged, or torn) may cause the scanner to read poorly or not at all. If bar code quality seems to be the problem, check to see if the scanner will read a known good bar code (see Figure 7). You may also want to modify the programmable setting for advanced Quadralogic™ decoding (see the section in this manual titled, *Enhanced Scanning for Hard-to-Read Bar Codes*).

Figure 9. Troubleshooting the Scanner



NOTES

DECLARATION OF CONFORMITY

PSC hereby declares that the Equipment specified below has been tested and found compliant to the following Directives and Standards:

Directives: EMC 89/336/EEC
Low Voltage 73/23/EEC

Standards: EN55022-B EN60825
EN50082-1 EN60950

Equipment

Type: Bar Code Scanning Equipment

Product: PowerScan™ Bar Code Scanner
PowerScan™ LR Bar Code Scanner
PowerScan™ XLR Bar Code Scanner



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