WLR 8900/8905 Programming Guide

STOP **Please Read**

Note:

The Wasp WLR 8900/8905 Scanner is ready to scan the most popular bar codes out of the box. ***This manual should only be used to make changes in the configuration of the scanner for specific applications.*** This scanner does not require software or drivers to operate. The scanner enters data as keyboard data. Please review this manual before scanning any of the programming bar codes in this manual.

Tech Tip

If you are unsure of the scanner configuration or have scanned the incorrect codes, please scan the default bar code on page 6. This will reset the scanner to its factory settings.

Check Version

Table of Contents

Introduction

Bar coding is the most common Automated Data Collection (ADC) technology providing timely, error-free information that can be used to increase productivity, accuracy, and efficiency in the workplace. Virtually every type of industry is using bar codes to replace keyboard data entry. Studies have shown that a proficient data entry operator will make one error for every 300 characters that are manually entered. The error rate using bar codes is almost negligible and can be error-free using bar code symbologies with the check digit enabled.

The Wasp Charged Coupled Device (CCD) technology is a technique whereby a bar code is photographed, digitized, and electronically sampled by built-in photodetectors. The detectors process the measurement of every bar and space using the number of adjacent photodetectors which contrast a black mark and a white space. Wasp WLR 8900 series scanners extremely rugged since they have no moving parts. Wasp WLR 8900 series scanners are support PS/2 or USB keyboard interfaces and easily wedges between the computer and keyboard. Bar code data is passed directly into the keyboard buffer as if it had been typed in by hand by a data entry operator.

Of all the hand held bar code scanning devices on the market, the CCD reader is the easiest to use and most cost effective for the typical business user. The Wasp WLR 8900 series scanners are extended distance scanners with a depth of reading of up to one foot depending on the mil size of the bar code. To activate the scanner, the user simply points the scanning aperture towards the bar code, pulls the trigger, and aims the red LED beam across the bar code.
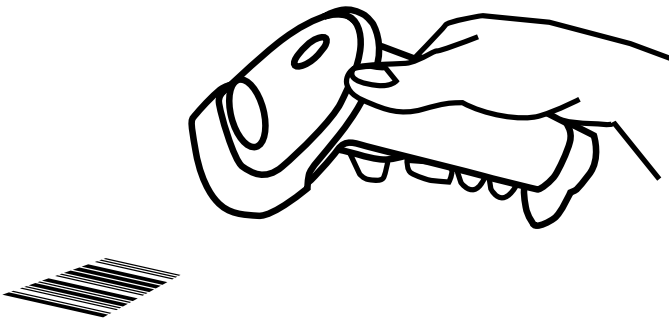
Bar Code Symbologies

Bar codes are symbols consisting of a series of bars and spaces which can be applied to packages, cartons, bottles, and other commercial products. The bars and spaces in each symbol are grouped in such a way to represent a specific ASCII character or function. The interpretation of these groups is based on a particular set of rules called symbologies. Various symbologies have been developed for particular applications. Some examples are shipping and receiving, manufacturing, retail, healthcare, transportation, document processing and tracking, and libraries.

The resolution of a bar code is dependent on the narrowest element of a bar code (X dimension), and can vary from high density (nominally less than 0.009 in./0.23 mm), medium density (between 0.009 in./0.23 mm and 0.020 in./0.50 mm), and low density (greater than 0.020 in./0.50 mm). Medium and low densities are the most common since these are the easiest to read (scan) with nearly all scanning devices. Wasp WLR 8900/8905 Scanners can read bar codes with X-dimensions as low as 5 mils (0.005 in/0.13mm).

Wasp WLR 8900/8905 Scanners can read the most popular bar code symbologies including Code 39, Code 93, Code 128, Interleaved 2 of 5, UPC-A, UPC-E, EAN/JAN-8, EAN/JAN-13, Codabar, and MSI/Plessey.

Please see test chart on pages 28-30.

Installation

WLR 8900 PS2 Scanner

Trigger

Scanning Aperture

Din-6M

Din-6F
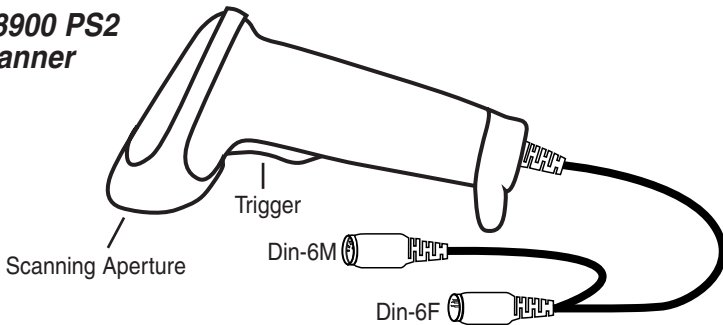
1. Turn off your computer.
2. Unplug your PC keyboard cable and plug the male end (Din 6) of the WLR 8900 Scanner directly into your PC keyboard port. Plug your keyboard cable into the other end (female Din 6) of the the scanner.
3. Turn your computer on.

WLR 8905 USB Scanner

Trigger

Scanning Aperture
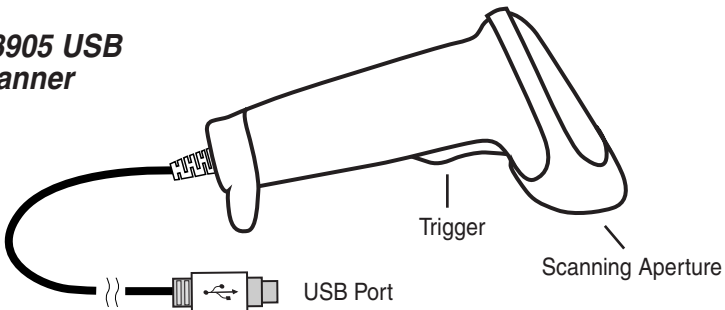
USB Port

1. Plug the USB of the WLR 8905 Scanner directly into your PC's USB port.

Quick Start

Your Wasp WLR 8900/8905 Scanners are ready for use. The default settings of the scanners have been pre-programmed for the most common bar code configurations. Use the "WLR 8900/8905 Setup & Configuration" sections only to customize the scanners settings. Please review the "Enable Bar Code Symbologies" configuration beginning on page 14 to see the list of bar codes symbologies which are enabled by default.

Tip:
- Use the pre-printed "Bar Code Test Symbols" in Appendix A on pages 28-30 as a test chart to practice scanning.
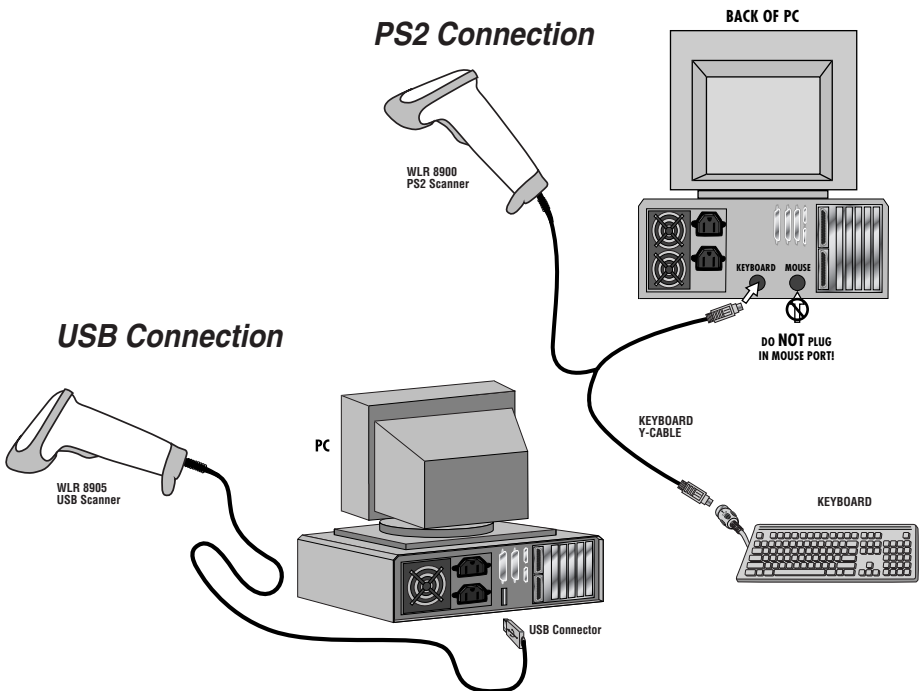
Setup & Configuration

In order to configure Wasp WLR 8900/8905 Scanners, you must familiarize yourself with the setup procedures on the following pages. The default settings of the Wasp WLR 8900/8905 Scanners are identified on each page and clearly marked using an asterisk (*). **The default settings have been preprogrammed for the most common bar code configurations. Use the Setup & Configuration only to customize the Wasp WLR 8900/8905 Scanners settings.** If you need to configure the scanner, the default settings will be overwritten. All the programmed settings are stored permanently in non-volatile memory; therefore, your configuration will be maintained even if the keyboard power to Wasp WLR 8900/8905 Scanners is removed by turning off your PC.

In order to configure Wasp WLR 8900/8905 Scanners, two basic steps need to be followed:

(1) Locate the group that contains the options to be changed.
(2) Scan the bar code representing the option to be changed. The scanner will sound two beeps.

To change Minimum/Maximum Length:

(1) Scan the Minimum or Maximum Length bar code.
(2) Scan a 2 digit value from the ASCII table on pages 31-34
(3) Scan the Minimum or Maximum Length bar code again.

Example: *To have a minimum length bar code of 1, you must scan a 0 then 1, then scan the minimum bar code again. To have a maximum length bar code of 10, you must scan a 1 then 0, then scan the maximum bar code again.*

Factory Default

Use the **Factory Default** bar code to reset the scanner to the Default settings.

Factory Default

Autosense Stand Mode

Scan this Autosense Stand Mode bar code to enable the hands-free autosense feature of the WLR 8900/8905 Scanners. If you desire to turn this mode "off," please scan the default bar code above.

Autosense Flash Mode
Enable

Keyboard Connection

The Keyboard Connection is used to program the Wasp WLR 8900/8905 Scanners for the type of computer it is attached.

PC - AT (PS/2) *

PC - XT

Notebook

*Default

The 'Beep and Delay' configuration supports the general control options for the Wasp WLR 8900/8905 Scanners. These options include the volume, intercharacter delay, and interblock delay.

Interblock delay is the minimum time interval between two adjacent scans. If the processing speed of your host device is slower than your scanning speed, a longer interblock delay may ensure the data integrity.

Intercharacter delay is the time period that the scanner will wait before transmitting the next character. If data sent by the scanner has incorrect or missing characters, a longer intercharacter delay may solve the problem. The intercharacter delay should be changed only if the transfer rate cannot be maintained between the scanner and the keyboard buffer of the computer.

Note: The default for the intercharacter delay is set to '140us' and is the most common configuration; however, your PC may be different. When you scan a bar code, if some stray or scrambled characters appear, increase the intercharacter delay to slow down the transfer rate.

Beep Settings

Beep Off

Beep Hi

Beep Medium *

Beep Low to High

Beep High to Low

Beep Low

*Default

Interblock Delay

||||||||||||||||||||
0ms *

||||||||||||||||||||
10ms

||||||||||||||||||||
50ms

||||||||||||||||||||
100ms

||||||||||||||||||||
200ms

||||||||||||||||||||
500ms

Intercharacter Delay

||||||||||||||||||||
140µs *

||||||||||||||||||||
500µs

||||||||||||||||||||
1ms

||||||||||||||||||||
4ms

||||||||||||||||||||
16ms

*Default

- Caps Lock Auto (For PC XT/AT only):
    In Auto Trace mode, the scanner will keep track of the Caps Lock status automatically. For some PCs, the scanning performance may be compromised because of the auto tracing. If the scanning performance is poor (or cannot scan) or the scanner cannot output the upper/lower case characters correctly, try to select one of the next two choices instead of auto tracing.
- Caps Lock Off:
    When the keyboard is in the unshifted state (Caps Lock is not pressed), select "Lower Case."
- Caps Lock On:
    When the keyboard is in the shifted state (Caps Lock is on), select "Upper Case."

Caps Lock On

Caps Lock Off *

Caps Lock Auto

*Default

9

Chapter 5

Keyboard Language

The 'Keyboard Language' setting controls the key codes for your keyboard's language.

||||||||||||||||||||||||||||

U.S. *

||||||||||||||||||||||||||||

German

||||||||||||||||||||||||||||

French

||||||||||||||||||||||||||||

Spanish

||||||||||||||||||||||||||||

Italian

*Default

10

The 'Preamble/Postamble' configuration is used to add a prefix or suffix set of characters to the bar code value. Up to 8 characters may be added for each option separately. Preamble and postamble characters can function concurrently, but need to be configured separately.

To add preamble or postamble characters, follow the steps below:
1) Scan the 'Clear Pre/Postamble' bar code on this page.
2) Scan the 'Preamble' or 'Postamble' bar code.
3) Use Appendix B on pages 31-34 to locate the characters you want to add as preamble or postamble characters. Make sure that you scan the bar code associated with each letter before preceding to the next character. For example, to add the letter "A," scan the bar code corresponding to the letter "A" on page 33. The letter "A" will always appear in your data as prefix or suffix to the bar code value.
4) Scan the corresponding 'Pre/Postamble' bar code on this page to exit this setting.

Clear Pre/Postamble

Preamble

Postamble

Terminator

The 'Terminator' option is used to specify the end-of-text message and is primarily used to denote the end of the bar code value.

|||||||||||||||||||||||||
CR *

|||||||||||||||||||||||||
Tab

|||||||||||||||||||||||||
None

|||||||||||||||||||||||||
Space

|||||||||||||||||||||||||
LF

|||||||||||||||||||||||||
ESC

|||||||||||||||||||||||||
CR + LF

Code ID

The 'Code ID' option sends a specific value when a particular bar code symbology is scanned. For example, if 'Code ID' is enabled and Code 39 is scanned, an "M" will appear in the data stream in front of the bar code value.

|||||||||||||||||||||||||
Code ID On

|||||||||||||||||||||||||
Code ID Off *

O - MSI/Plessey   T - EAN 128

S - EAN 8   K - Code 128

E - UPC E   N - Codabar

A - UPC A   D - Full ASCII Code 39

F - EAN 13   M - Std. Code 39

L - Code 93   I - Interleaved 2 of 5

*Default

12

Enable   *Disable*

Enable All   Disable All

MSI Plessey   MSI Plessey *

Interleaved 2 of 5 *   Interleaved 2 of 5

Code 128 *   Code 128

Codabar *   Codabar

Code 39 *   Code 39

*Default

Chapter 5

Enable/Disable Bar Code Symbologies

Enable

||||||||||||||||||||||||||
UPC A *

||||||||||||||||||||||||||
UPC E *

||||||||||||||||||||||||||
EAN 8 *

||||||||||||||||||||||||||
EAN 13 *

||||||||||||||||||||||||||
Code 93

Disable

||||||||||||||||||||||||||
UPC A

||||||||||||||||||||||||||
UPC E

||||||||||||||||||||||||||
EAN 8

||||||||||||||||||||||||||
EAN 13

||||||||||||||||||||||||||
Code 93 *

*Default

Code 39 is variable length and is the most frequently used symbology in industrial bar code systems today. It is extensively used within the Department of Defense (DOD). The principal feature is to encode messages using the full alphanumeric character set. Standard Code 39 contains only 43 characters (0-9, A-Z, $, /, %, +, -, ., SPACE) and can be extended to a 128 character symbology (full ASCII) by combining one of the special characters (S, /, %, +) with a letter (A-Z) to form the characters that are not present in the standard Code 39 symbology.

See page 5 for information on setting the minimum and maximum lengths.

Enable Code 39 *

Disable Code 39

Enable Code 39
Full ASCII *

Disable Code 39
Full ASCII

Check Digit Do
Not Calculate *

Check Digit Calculate
And Send

Check Digit Calculate
But Do Not Send *

Minimum Length (1 *)

Maximum Length (48 *)

*Default

15

Chapter 5

Interleaved 2 of 5 and Code 93 Settings

Interleaved 2 of 5 is a variable length, even numbered, numeric bar code. It is typically used in industrial and master carton labeling and also in the automobile industry. The symbology uses bars to represent the first digit of a pair and the interleaved (white) spaces to represent the second digit of a character pair. See page 5 for information on setting the minimum and maximum lengths.

Enable Interleaved
2 of 5 *

Disable Interleaved
2 of 5

Check Digit Do
Not Calculate *

Check Digit Calculate
And Send

Check Digit Calculate
But Do Not Send

Minimum Length (6 *)

Maximum Length (48 *)

Code 93 encodes the full 128 ASCII character set using 9 modules arranged into 3 bars with adjacent spaces. Two of the characters are check characters. Code 93 is similar to Code 39 but encodes more characters per inch.

Enable Code 93

Disable Code 93 *

Minimum Length (6 *)

Maximum Length (48 *)

*Default

16

Code 128 is the most flexible of all the common linear symbologies. It supports alpha and numeric characters easily, has the highest number of characters per inch, and is variable length.

See page 5 for information on setting the minimum and maximum lengths.

Enable Code 128 *	Minimum Length (5 *)
Disable Code 128	Maximum Length (48 *)
UCC/EAN 128 Enable *	UCC/EAN 128 Disable
UCC/EAN 128 Code ID Enable	UCC/EAN 128 Code ID Disable *
Function 1 Character Send	Function 1 Character Do Not Send *

Define UCC/EAN 128 Group Separator

To Define UCC/EAN 128 Group Separator:

1. Scan Define UCC/EAN 128 Group Separator
2. Scan ASCII code from pages 31-34
3. Scan Define UCC/EAN 128 Group Separator

Note: Default Group Separator is GS

*Default

Chapter 5

MSI Plessey Settings

MSI Plessey is a variable length numeric symbology and is primarily used in marking retail shelves. Each character consists of four bars with intervening spaces for each encoded digit, one or two symbol check digits, and a reverse start code.

See page 5 for information on setting the minimum and maximum lengths.

Enable

Disable *

Check Digit Verify
And Send *

Check Digit Verify
And Do Not Send

Check Digit Double
MOD 10

Check Digit Double
11 Plus MOD 10

Check Digit Single
MOD 10

Minimum Length (6 *)

Maximum Length (48 *)

*Default

18

Codabar is a variable length symbology capable of encoding six special alphanumeric characters, capital letters A through D, T, N, *, E, and all numeric digits. Codabar is one of the oldest bar code symbologies and is still used in some library applications. It should not be considered for new applications except under unusual circumstances.

See page 5 for information on setting the minimum and maximum lengths.

Codabar Enable *

Codabar Disable

Send Start/Stop *

Do Not Send Start/Stop

Check Digit Do Not Verify *

Check Digit Verify And Send

Check Digit Verify And Do Not Send

Minimum Length (6 *)

Maximum Length (48 *)

*Default

Chapter 5

UPC-A Settings

UPC-A (Universal Product Code-A) is fixed length and is the most common UPC bar code for retail product labeling. It is seen in most grocery stores across the United States. The symbology encodes a 12-digit number. The first six digits are assigned from the Uniform Code Council (UCC). The next five digits are assigned by the manufacturer, and the final digit is a modulo 10 check digit. The nominal height for the UPC-A bar code is one inch. The reduced size is 80% of the nominal size.

UPC-A Enable *

UPC-A Disable

Send Leading Digit *

Do Not Send
Leading Digit

Send Check Digit *

Do Not Send
Check Digit

This option enables the two and five digit supplements for the UPC and EAN/JAN bar code symbologies.

5 Digit Supplement
Enable

5 Digit Supplement
Disable *

2 Digit Supplement
Enable

2 Digit Supplement
Disable *

Transmit if Present

Must Be Present *

This option expands the UPC-A bar code to EAN-13.

UPC-A to EAN-13
Enable

UPC-A to EAN-13
Disable *

*Default

21

Chapter 5

UPC-E Settings

UPC-E (Universal Product Code-E) is fixed length and is a compressed six digit code used for marking small packages, including magazines and paperback books. UPC-E symbols are UPC-A symbols that have been zero suppressed (i.e. consecutive zeros are not included in the symbol). The printed value of the UPC-E code is a twelve digit code. The nominal height for the UPC-E bar code is one inch. The reduced size is 80% of the nominal size.

UPC-E Enable *

UPC-E Disable

Send Leading Digit *

Do Not Send
Leading Digit

Send Check Digit *

Do Not Send
Check Digit

Zero Digit Expansion
On

Zero Digit Expansion
Off *

*Default

This option enables the two and five digit supplements for the UPC and EAN/JAN bar code symbologies.

5 Digit Supplement
Enable

5 Digit Supplement
Disable *

2 Digit Supplement
Enable

2 Digit Supplement
Disable *

Transmit if Present

Must Be Present *

*Default

Chapter 5

EAN-8 Settings

The EAN/JAN-8 is fixed length and is similar to the UPC-E code, but includes two more digits for the country code. The nominal height for the EAN/JAN-8 bar code is one inch. The reduced size is 80% of the nominal size.

EAN-8 Enable *

EAN-8 Disable

Send Leading Digit *

Do Not Send
Leading Digit

Send Check Digit *

Do Not Send
Check Digit

*Default

24

This option enables the two and five digit supplements for the UPC and EAN/JAN bar code symbologies.

5 Digit Supplement Enable	5 Digit Supplement Disable *
2 Digit Supplement Enable	2 Digit Supplement Disable *
Transmit if Present	Must Be Present *

*Default

Chapter 5

EAN-13 Settings

The EAN/JAN-13 (European Article Number/Japanese Article Number) is fixed length and is similar to the UPC-A symbology, but encodes a 13th digit. The nominal height for the EAN/JAN-8 bar code is one inch. The reduced size is 80% of the nominal size.

EAN-13 Enable *

EAN-13 Disable

Send Leading Digit *

Do Not Send
Leading Digit

Send Check Digit *

Do Not Send
Check Digit

ISBN Enable

ISBN Disable *

ISSN Enable

ISSN Disable *

This option enables the two and five digit supplements for the UPC and EAN/JAN bar code symbologies.

5 Digit Supplement
Enable

5 Digit Supplement
Disable *

2 Digit Supplement
Enable

2 Digit Supplement
Disable *

Transmit if Present

Must Be Present *

*Default

Appendix A

Bar Code Test Symbols

Note: Make sure that the appropriate bar code symbology is configured properly and enabled before trying to scan. Use the 'Bar Code Symbologies' configuration beginning on page 18 to enable specific symbologies.

Code 39*

||||||||||||||||||||||||||||||
1234

Code 93

|||||||||||||||||||||
123456

Interleaved 2 of 5 *

|||||||||||||||
123456

Codabar *

||||||||||||||||||
123456

Code 128*

|||||||||||||||
12345

MSI/Plessey

||||||||||||||||||||||||
123456

*Default

UPC-A*

1 23456 78901 2

UPC-A
w/5 digit supplement

1 23456 78901 2   12345

UPC-A
w/2 digit supplement

1 23456 78901 2   12

UPC-E*

0 123456 5

UPC-E
w/5 digit supplement

0 123456 5   12345

UPC-E
w/2 digit supplement

0 123456 5   12

*Default

29

EAN/JAN-13*

1 234567 890128

EAN/JAN-13
w/5 digit supplement

12345

1 234567 890128

EAN/JAN-13
w/2 digit supplement

12

1 234567 890128

EAN/JAN-8*

1234 5670

EAN/JAN-8
w/5 digit supplement

12345

1234 5670

EAN/JAN-8
w/2 digit supplement

12

1234 5670

*Default

Use this ASCII Table to add preamble and postamble characters to your bar code value. Please refer to the appropriate configuration section for the number of characters that can be configured.

ASCII Character

NUL	LF	DC4
SOH	VT	NAK
STX	FF	SYN
ETX	CR	ETB
EOT	SO	CAN
ENQ	SI	EM
ACK	DLE	SUB
BEL	DC1	ESC
BS	DC2	FS
HT	DC3	GS

ASCII Character

‖‖‖ RS	‖‖‖)	‖‖‖ 4
‖‖‖ US	‖‖‖ *	‖‖‖ 5
‖‖‖ SP	‖‖‖ +	‖‖‖ 6
‖‖‖ !	‖‖‖ ,	‖‖‖ 7
‖‖‖ "	‖‖‖ -	‖‖‖ 8
‖‖‖ #	‖‖‖ .	‖‖‖ 9
‖‖‖ $	‖‖‖ /	‖‖‖ :
‖‖‖ %	‖‖‖ 0	‖‖‖ ;
‖‖‖ &	‖‖‖ 1	‖‖‖ <
‖‖‖ '	‖‖‖ 2	‖‖‖ =
‖‖‖ (	‖‖‖ 3	‖‖‖ >

ASCII Character

?	J	U
@	K	V
A	L	W
B	M	X
C	N	Y
D	O	Z
E	P	[
F	Q	\
G	R	]
H	S	^
I	T	_

33

Appendix B

ASCII Table

ASCII Character

```
‖‖‖‖‖‖‖‖‖
      `
```

```
‖‖‖‖‖‖‖‖‖
      k
```

```
‖‖‖‖‖‖‖‖‖
      v
```

```
‖‖‖‖‖‖‖‖‖
      a
```

```
‖‖‖‖‖‖‖‖‖
      l
```

```
‖‖‖‖‖‖‖‖‖
      w
```

```
‖‖‖‖‖‖‖‖‖
      b
```

```
‖‖‖‖‖‖‖‖‖
      m
```

```
‖‖‖‖‖‖‖‖‖
      x
```

```
‖‖‖‖‖‖‖‖‖
      c
```

```
‖‖‖‖‖‖‖‖‖
      n
```

```
‖‖‖‖‖‖‖‖‖
      y
```

```
‖‖‖‖‖‖‖‖‖
      d
```

```
‖‖‖‖‖‖‖‖‖
      o
```

```
‖‖‖‖‖‖‖‖‖
      z
```

```
‖‖‖‖‖‖‖‖‖
      e
```

```
‖‖‖‖‖‖‖‖‖
      p
```

```
‖‖‖‖‖‖‖‖‖
      {
```

```
‖‖‖‖‖‖‖‖‖
      f
```

```
‖‖‖‖‖‖‖‖‖
      q
```

```
‖‖‖‖‖‖‖‖‖
      l
```

```
‖‖‖‖‖‖‖‖‖
      g
```

```
‖‖‖‖‖‖‖‖‖
      r
```

```
‖‖‖‖‖‖‖‖‖
      }
```

```
‖‖‖‖‖‖‖‖‖
      h
```

```
‖‖‖‖‖‖‖‖‖
      s
```

```
‖‖‖‖‖‖‖‖‖
      ~
```

```
‖‖‖‖‖‖‖‖‖
      i
```

```
‖‖‖‖‖‖‖‖‖
      t
```

```
‖‖‖‖‖‖‖‖‖
     DEL
```

```
‖‖‖‖‖‖‖‖‖
      j
```

```
‖‖‖‖‖‖‖‖‖
      u
```

‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖
F1	F10	Cursor Right
‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖
F2	F11	Cursor Up
‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖
F3	F12	Cursor Left
‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖
F4	Tab	Cursor Down
‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖
F5	Back Tab	Page Up
‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖
F6	Esc	Page Down
‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖
F7	End	Ins
‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖
F8	Home	Enter
‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖	‖‖‖‖‖‖‖‖‖‖
F9	Back Space	Del

Appendix D

Technical Specifications

MODEL	WLR890X
PERFORMANCE	
Sensor	2660 pixels CCD linear imager sensor
Depth of Field	30mm to 330mm (40 mil) ± 20mm
Best Resolution	0.127mm (5mil).
Scan Rate	45 scan / sec
Decoding Rate	100 scan / sec (10m / sec)
Scanning Width	120mm (1 mm barcode)
Sunlight	5000 Lux / Max (Flourescent Light)
MECHANICAL	
Dimensions	106 (L) x 62 (W) x 160 (H) mm
Weight	Approximately 160g (without cable)
Cable	210 cm in length (Interchangeable cable)
ELECTRICAL	
Operating Voltage	+ 5 VDC ± 10%

POWER CONSUMPTION	**STANDBY**	**WORKING**	**SURGE**
	<100mA	<220mA	<1000mA

ENVIRONMENTAL	
Operating Temperature	0˚C to 50˚C
Storage Temperature	-20˚C to 60˚C
Relative Humidity	0% to 95% non-condensing
Mechancial Shock	1.5m drop onto concrete
Conformance	FCC class A and CE approval in progress
SYMBOLOGIES	UPC-E, UPC-A, EAN-8, EAN13, UCC/EAN128 JAN, ISBN, ISSN, Code 39, Code 93, Code 128 Interleave 2 of 5, Industrial 2 of 5, Matrix 2 of 5 IATA 2 of 5, China Post Code (Toshiba Code), MSI, Codabar, ABC Codabar, CX Codabar, Code 11, UK Plessey, Telepen, Code 128, **RSS**

SCANNING RANGE

36

OUTER DIMENSIONS
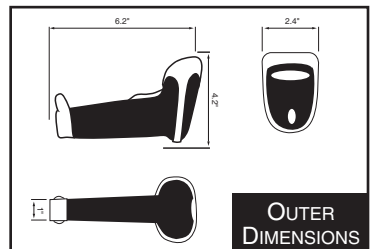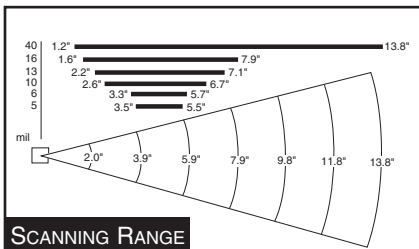
Product Support

If you experience any problems with Wasp WLR 8900/8905 Scanners that you are unable to resolve, call for technical assistance at (214) 547-4100, Monday through Friday, 8:00 AM - 5:00 PM Central Standard Time. Our web site is

www.waspbarcode.com

You may also contact us in writing at:

Wasp Technologies
1400 10th Street
Plano, TX 75074
(214) 547-4100
(214) 547-4101 Fax

Warranty Information

Wasp Technologies products are warranted against defects in workmanship and materials for a period of one year from the date of shipment, provided that the product remains unmodified and is operated under normal and proper conditions.

This warranty is limited to repair or replacement at Wasp Technologies option, with reasonable promptness after being notified. These provisions do not prolong the original warranty term for any product which has been repaired or replaced by Wasp Technologies.

This warranty applies to the original owner and does not extend to any product which has been subject to *misuse, neglect, accidental damage, unauthorized repair, or tampering*.

No other express warranty is given. The replacement or repair of a product is your exclusive remedy. Any other implied warranty of merchantability or fitness is limited to the duration of this written warranty. Some states, provinces, and countries do not allow limits on how long an implied warranty lasts, so the above limitation may not apply to you.

In no event shall Wasp Technologies be liable for consequential damages. Some states, provinces, and countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you.

Frequently Asked Questions

Q: How do I configure the scanner for a notebook (or laptop) computer?
A: Scan the "Notebook" bar code on page 6.

Q: How do I change the terminator to a Tab?
A: Scan the "Tab" bar code on page 12.

Q: How do I remove the terminator?
A: Scan the "None" bar code on page 12.

Q: How do I enable the Full ASCII character set for the Code 39
    bar code symbology?
A: Scan the following "Enable Code 39 Full ASCII" bar code on page 15.