

User's Guide

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Introduction

Components

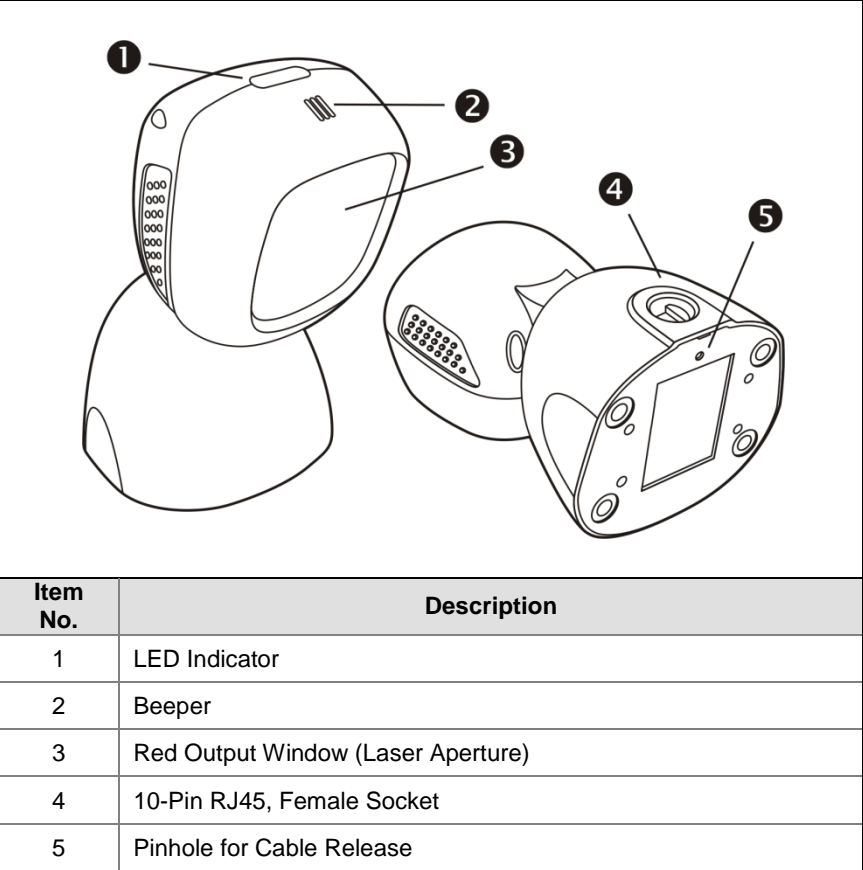


Figure 1. Scanner Components

Caution and Serial Number Labels

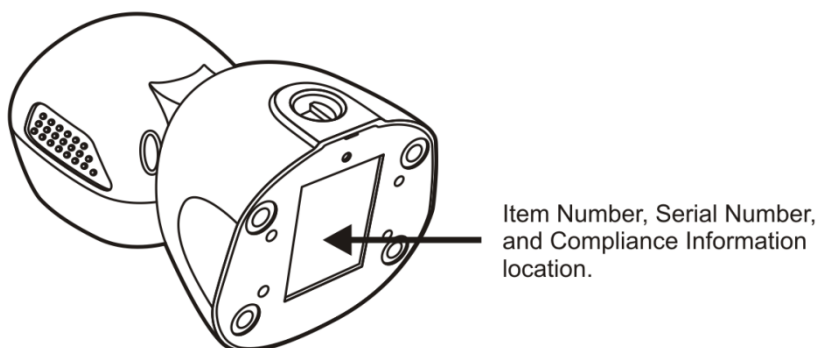


Figure 2. Label Location on the Back of the Scanner

Caution: To maintain compliance with applicable standards, all circuits connected to the imager must meet the requirements for SELV (Safety Extra Low Voltage) according to EN/IEC 60950-1.



To maintain compliance with standard EN/IEC 60950-1, the power source should meet applicable performance requirements for a limited power source.

Product rating is 5V/500mA.

Maintenance

Smudges and dirt on the unit's window can interfere with the unit's performance. If the window requires cleaning, use only a mild glass cleaner containing no ammonia. When cleaning the window, spray the cleaner onto a lint free, non-abrasive cleaning cloth then gently wipe the window clean.

If the unit's housing requires cleaning, use a mild cleaning agent that does not contain strong oxidizing chemicals. Strong cleaning agents may discolor or damage the unit's exterior.

Cable Installation and Removal

Installation

1. Insert the cable's modular connector into the socket on the scanner.
2. Pull gently on the cable strain relief to ensure the cable is installed.

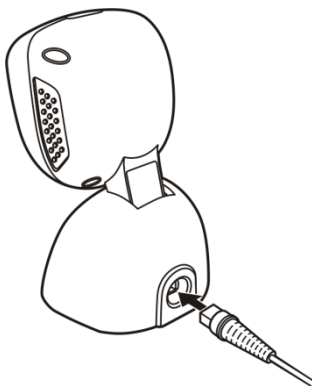


Figure 3

Removal

Turn off power to the host system before removing the cable from the scanner.

1. Locate the small pinhole on the bottom of the scanner near the cable.
2. Bend an ordinary paper clip into the shape shown.
3. Insert the paper clip (or other small metallic pin) into the small pinhole. There will be a faint 'click' when the connector's lock releases.
4. Pull gently on the cable's strain relief to remove the cable.

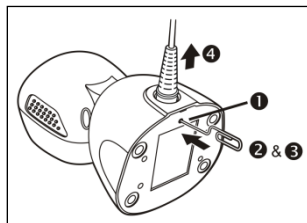


Figure 4



Change the Scanner Angle

The scanner head can be tilted back 10 degrees or down 20 degrees.

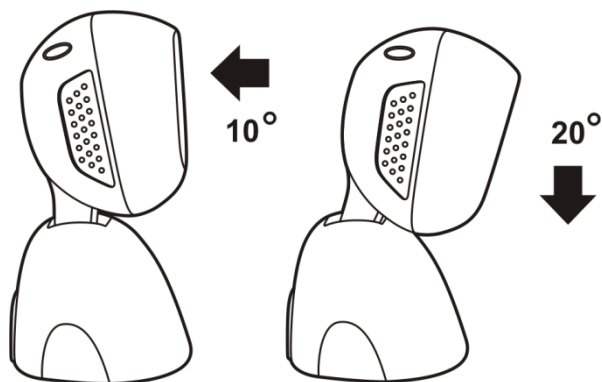


Figure 5

Scanner Operation

Default Primary Scan Pattern

The primary default scan pattern is omnidirectional and is active when the scanner starts.

Audible Indicators

When the scanner is operational, the scanner provides audible feedback to indicate the status of the scanner and the last scan. Eight settings are available for the tone of the beep (normal, six alternate tones and no tone).

One Beep – On Power Up

When the unit powers up, the green LED turns on, then the red LED flashes and the scanner beeps once. The red LED will remain on for the duration of the beep. The scanner is now ready to scan.

When the scanner successfully reads a bar code, the red LED will flash and the scanner will emit a beep (if configured to do so.) If the scanner does not beep once and the red LED does not flash, then the bar code has not been successfully read.

Three Beeps – During Operation

When placing the scanner in configuration mode, the red LED will flash while the scanner simultaneously beeps three times. The red and green LEDs will continue to flash until the unit exits configuration mode. Upon exiting configuration mode, the scanner will beep three times and the red LED will stop flashing.

When configured, three beeps can also indicate a communications timeout during normal scanning mode.

When using one-code-configuring, the scanner will beep three times: the current selected tone, followed by a short pause, a high tone, and a low tone. The single configuration bar code has successfully configured the scanner.

Razzberry Tone

This is a failure indicator. Refer to *Failure Modes* on page 7.

Three Beeps – On Power Up

This is a failure indicator. Refer to *Failure Modes* on page 7.

Visual Indicators

The scanner is equipped with a red LED and green LED, which indicate the scanner's state and the status of the current scan respectively when the unit is in operation.

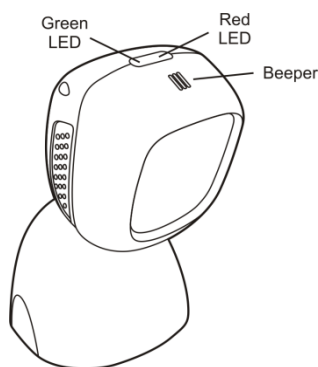


Figure 6. LED Location

Green and Red LEDs Are Off

The LEDs will not be illuminated if the scanner is not receiving power from the host or transformer.

Steady Green

Steady green indicates the laser is active.

Green Off and Single Red Flash

When the scanner successfully reads a bar code, the red LED will flash and the scanner will beep once. If the red LED does not flash and the scanner does not beep once, the bar code has not been successfully read.

Steady Green and Steady Red

After a successful read, the scanner transmits the data to the host device. Some communication modes require that the host inform the scanner when data is ready to be received. If the host is not ready to accept the information, the scanner's red LED will remain on until the data can be transmitted.

Alternating Green and Red Flashes

The scanner is in configuration mode. A razzberry tone indicates an invalid bar code has been scanned in this mode.

Steady Red

This indicates the scanner may be waiting for communication from the host.

Failure Modes

Flashing Green and One Razzberry Tone

This indicates the scanner has experienced a laser subsystem failure. Return the unit for repair to an Authorized Service Center.

Flashing Green and Red with Two Razzberry Tones

This indicates the scanner has experienced a motor failure. Return the unit for repair to an Authorized Service Center.

Continuous Razzberry Tone with no LEDs

If, upon power up, the scanner emits a continuous razzberry tone, then the scanner has an experienced an electronic failure. Return the unit for repair to an Authorized Service Center.

Three Beeps – On Power Up

If the scanner beeps three times on power up, then the non-volatile memory (NovRAM) that holds the scanner configuration has failed. You must return the unit for repair to an Authorized Service Center.

Normal Depth of Field by Bar Code Element Width

Bar Code Element Width		Depth of Field	
		Start (From Scanner Face)	End (From Scanner Face)
0.13 mm	5 mil	50 mm (2.0")	100 mm (3.9")
0.19 mm	7.5 mil	40 mm (1.6")	185 mm (7.3")
0.26 mm	10.4 mil	20 mm (0.8")	260 mm (10.2")
0.33 mm	13 mil	20 mm (0.8")	310 mm (12.2")

IR Activation Range*

The default power save mode is *Laser OFF*. This power save mode turns the laser off after a configured period of non-use. Any movement detected by the IR in the activation area will cause the scanner to exit power save mode. The laser will automatically turn back on preparing the scanner for bar code recognition, decoding and transmission.

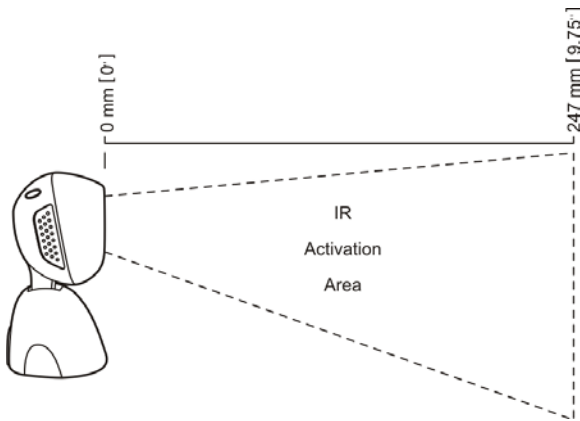


Figure 7. Normal IR Activation Range

* All specifications are subject to change without notice.

Troubleshooting Guide

The following guide is for reference purposes only. Contact a customer service representative to preserve the limited warranty terms.

Symptoms	Possible Causes	Solution
<i>All Interfaces</i>		
The unit has no LEDs, beep or motor spin.	No power is being supplied to the unit.	Check the transformer, the outlet and power strip. Make sure the cable is plugged into the unit.
The unit has no LEDs and/or beeper.	No power is being supplied to the unit from host.	Some host systems cannot supply enough current to power the scanner. A power supply may be needed.
At power up the unit beeps three times.	There is a non-volatile RAM failure.	Contact a customer service representative.
At power up there is a continuous razz tone.	There has been a diagnostic failure.	
At power up there is a razz tone and the green LED flashes.	There is a VLD failure.	
At power up the unit razzes twice and both LEDs flash.	There is a scanning mechanism failure.	
There are multiple scans upon presentation of code.	The same symbol timeout is set too short.	Adjust the same symbol timeout for a longer time increment.
The unit scans a bar code, but locks up after the first scan (the red LED stays on.)	The scanner is configured to support some form of host handshaking but is not receiving the signal.	If the scanner is setup to support ACK/NAK, RTS/CTS, XON/XOFF, or D/E, verify the host cable and host are supporting the handshaking properly.
The unit powers up, but does not beep.	The beeper may be disabled or no tone has been selected.	Enable beeper and select a tone.

Symptoms	Possible Causes	Solution
The unit scans but the data transmitted to the host is incorrect.	The scanner's data format does not match the host system requirements.	Verify the scanner's data format matches the format required by the host. Make sure the scanner is connected to the proper host port.
Scanner beeps at some bar codes and NOT for others of the same bar code symbology.	The bar code may have been printed incorrectly.	Check if it is a check digit, character, or border problem.
	The scanner is not configured correctly for the type of bar code.	Check if check digits are set properly.
	The minimum symbol length setting does not work with the bar code.	Check if the correct minimum symbol length is set.
The unit powers up, but does not scan and/or beep.	The unit is trying to scan a particular symbology that is not enabled.	UPC/EAN, Code 39, interleaved 2 of 5, Code 93, Code 128 and Codabar are enabled by default. Verify the type of bar code being read has been selected.
	The bar code being scanned does not satisfy the configured criteria for character length lock or minimum length.	Verify the bar code being scanned falls into the configured criteria. <i>The scanner defaults to a minimum of four-character bar code.</i>

Symptoms	Possible Causes	Solution
<i>RS232 Only</i>		
The unit powers up OK and scans OK but does not communicate properly to the host.	The com port at the host is not working or is not configured properly.	Check to make sure the baud rate and parity of the scanner and the communication port match and that the program is looking for RS232 data.
	The cable is not connected to the proper com port.	
	The com port is not operating properly.	
The host is receiving data but the data does not look correct.	The scanner and host may not be configured for the same interface.	Check that the scanner and the host are configured for the same interface.
Characters are being dropped.	The intercharacter delay needs to be added to the transmitted output.	Add some intercharacter delay to the transmitted output by scanning an Intercharacter bar code on page 23.

Design Specifications

Operational

Normal Depth of Field:		20 mm – 310 mm (0.8" – 12.2")	0.33 mm (13 mil) Bar Code
Omni Scan			
	Scan Speed:	1650 scan lines per second	
	Scan Pattern:	20	
Motor Speed:		5000 RPM	
Minimum Bar Width:		0.127 mm (5 mil)	
Decode Capability:		Reads standard 1D and GS1 DataBar symbologies.	
System Interfaces:		USB, RS232	
Print Contrast:		35% minimum reflectance difference	
No. Characters Read:		Up to 80 data characters. The maximum number will vary based on symbology and density.	
Beeper Operation:		7 tones or no beep	
Indicators (LED):		Red = good read, decoding	
		Green = laser on, ready to scan	
Embedded Laser			
Max Optical Power:		10 mW	
Wavelength:		640 – 660 nm	
Min Beam Divergence:		6°	

Specifications subject to change without notice.

Mechanical

Width:	87 mm (3.4")
Depth:	98 mm (3.8")
Height:	169 mm (6.6")
Weight:	382 g (13.5 oz)

Electrical

Input Voltage:	5VDC \pm 0.5V	
Power:	Operating:	2 W
	Standby:	1.25 W
Current:	Operating:	400 mA average @ 5VDC
	Standby:	250 mA average @ 5VDC
DC Transformers:	Class II; 5.2VDC @ 1A	

Environmental

Temperature:	Operating:	-20°C to 40°C (-4°F to 104°F)
	Storage:	-40°C to 60°C (-40°F to 140°F)
Humidity:	5% to 95% relative humidity, non-condensing	
Ventilation:	None required	

Adapter

Input:	100-240VAC, 50-60Hz, 0.3A
Output:	5VDC, 1A
Model:	3A-052WP05

Scanner Pinout Connections

The scanner interfaces terminate to a 10-pin modular socket.

USB Serial, Limited RS232		RS232C and Light Pen Emulation	
Pin	Function	Pin	Function
1	Ground	1	Ground
2	RS232 Transmit Output	2	RS232 Transmit Output
3	RS232 Receive Input	3	RS232 Receive Input
4	RTS Output	4	RTS Output
5	CTS Input	5	CTS Input
6	USB D+	6	DTR Input/LTPN Source
7	V USB	7	Reserved
8	USB D-	8	LTPN Data
9	+5VDC	9	+5VDC
10	Shield Ground	10	Shield Ground

Configuration Introduction

Your new scanner has been factory configured with a set of default parameters. Since many host systems have unique formats and protocol requirements, a wide range of configurable features that may be selected using this bar code based configuration tool are provided. Once the configuration is completed, the scanner stores the settings in nonvolatile memory (NOVRAM). NOVRAM saves the settings when the power is off.

*Note: Bar code descriptions marked with an asterisk (*) define a feature that is a factory default.*

Bar Code Configuration Methods

All features can be enabled or disabled using the Multi-Code Method.

Multi-Code Method

1. Power up the scanner.
2. Scan the *Enter/Exit Configuration Mode* bar code (3 beeps).
3. Scan the bar code for the desired feature (1 beep). Multiple features can be enabled/disabled before scanning the enter/exit configuration mode bar code.
4. Scan the *Enter/Exit Configuration Mode* bar code (3 beeps) and save the new configuration. To abort a configuration change, power off the scanner before scanning the *Enter/Exit* code.

Enter/Exit Configuration Mode



Returning to Factory Defaults

Scan the *Recall Defaults* bar code to erase all previous settings and return the scanner to its factory default communication protocol.

Recall Defaults

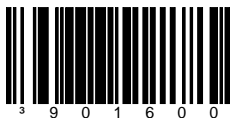


Code Types and Decode Rules

Bar code descriptions marked with an asterisk (*) define a feature that is a factory default.

2 of 5 Codes

ITF Symbol Length Lock 1



To specify a first ITF symbol length lock, scan this bar code and the appropriate code byte sequence located on page 34.

ITF Symbol Length Lock 2



To specify a second ITF symbol length lock, scan this bar code and the appropriate code byte sequence located on page 34.

ITF Minimum Symbol Length



To specify a minimum number of ITF characters to be decoded, scan the appropriate code byte sequence located on page 34.

Code 39

* Normal C39
Aggressiveness



Increased C39
Aggressiveness



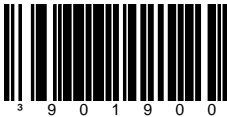
Additional Decode Features

Minimum Symbol Length



Single-line default is 3.
Combine this code with
the proper code bytes (on
page 34), to specify the
minimum number of
characters in all non-
UPC/EAN bar codes.

Symbol Length Lock



Combine this code with
the proper code bytes, to
lock the bar code's length
into place.

Supplements

Enable Bookland (979)
Supplement Required



* Disable Bookland (979)
Supplement Required



Enable Bookland (978)
Supplement Required



* Disable Bookland (978)
Supplement Required



Enable 977 (2 Digit)
Supplement Required



* Disable 977 (2 Digit)
Supplement Required



The scanner will require a
2 digit supplement to be
scanned when an EAN-13
code begins with 977.

Enable ISBN Check Digit
Transmission



Disable ISBN Check Digit
Transmission



Enable Bookland to ISBN
Conversion



* Disable Bookland to
ISBN Conversion



Scanner Operation

Redundant Scans

* 0 Redundant Scans



Requires 1 good decode for a *good scan*.

1 Redundant Scan



Requires 2 consecutive decodes of the same bar code data for a *good scan*.

Data Transmission Delays

Use these codes to select the amount of delay between sending data characters from the scanner to the host. This helps prevent the scanner from overflowing host-input buffers.

* 1 msec Intercharacter

Delay



10 msec Intercharacter

Delay



25 msec Intercharacter
Delay



Variable msec
Intercharacter Delay



Scan this bar code and a
sequence of code bytes
on page 34 to set the
delay between characters
sent to the host system
(range from 1 to 255
msecs.).

Beeper Tone

Scan a Beeper Tone bar code to change the beeper tone from the default Normal Tone.

* Normal Tone



No Beep



Optional Tone 1



Optional Tone 2



Optional Tone 3



Optional Tone 4



Optional Tone 5



Optional Tone 6



Prefixes/Suffixes

Scan the Enter Configuration Mode bar code before trying to set these features (see the Multi-Code Method on page 17.)

User Configurable Prefixes, All Data

Configurable Prefix
Character #1



A prefix ID can be added and assigned for data transmission. Use this code with a code byte sequence, on page 34, which represents the desired character.

Configurable Prefix
Character #2



Assigns a second configurable prefix character.

Standard Prefix Characters

Enable STX Prefix



* Disable STX Prefix



Standard Suffix Characters

* Enable CR Suffix



The scanner transmits a carriage return after each bar code.

Disable CR Suffix



* Enable LF Suffix



The scanner transmits a line feed after each bar code. *Disabled when keyboard wedge defaults are loaded.*

Disable LF Suffix



Enable Tab Suffix



The scanner will transmit a TAB (ASCII 09H) after each bar code.

* Disable Tab Suffix



Enable ETX Suffix



The scanner will transmit
End of TeXt (ASCII 03H)
after the bar code date.

* Disable ETX Suffix



Enable UPC Suffix ID



The scanner will transmit a
suffix after any UPC/EAN
bar code. The suffixes are
A (UPC-A), E (UPC-E), F
(EAN-13) and F (EAN-8).

* Disable UPC Suffix ID



Enable NCR Suffix Character



User Configurable Suffixes, All Data

Note: Scan the Enter/Exit Configuration mode code before trying to set this feature. Refer to Multi-Code Method on page 17.

Configurable Suffix
Character #1



A suffix ID can be added and assigned for data transmission. Use this code with a 3 code byte sequence, on page 34, which represents the desired character.

Configurable Suffix
Character #2



Assigns a second configurable suffix character.

Code Formatting

UPC/EAN Formatting

* Transmit UPC-A Check

Digit



Do Not Transmit UPC-A

Check Digit



Transmit UPC-E Check

Digit



* Do Not Transmit UPC-E

Check Digit



Expand UPC-E to 12

Digits



* Do Not Expand UPC-E

to 12 Digits



Expand UPC-E bar codes
to the 12 digit equivalent,
UPC-A bar codes.

* Send Number System on
Expanded UPC E



Do Not Send Number
System on Expanded
UPC E



Enable GTIN Formatting



* Disable GTIN Formatting



Convert UPC-A to EAN-13



* Do Not Convert UPC-A
to EAN-13



The scanner converts
UPC-A to EAN-13 by
transmitting a leading zero
before the bar code.

Transmit Lead Zero on
UPC-E



This option will transmit a
zero before each UPC-E
bar code.

Do Not Transmit Lead
Zero on UPC-E



Convert EAN-8 to EAN-13



The scanner will transmit
five zeros before the bar
code to convert EAN-8 to
EAN-13.

* Do Not Convert EAN-8 to
EAN-13



ASCII (HEX)	ASCII Control	Extended Key
00H	Null	Numeric Keypad + (Plus)
01H	SOH	Num Lock
02H	STX	Down Arrow
03H	ETX	Numeric Keypad - (Minus)
04H	EOT	Insert
05h	ENQ	Delete
06H	ACK	System Request
07H	BEL	➔ (Right Arrow)
08H	BS	➜ (Left Arrow)
09H	TAB	Tab
0AH	LF	Caps Lock
0BH	VT	Shift Tab
0CH	FF	Left Alt
0DH	CR	Enter
0EH	SO	Left Control
0FH	SI	Up Arrow
10H	DLE	F1
11H	DC1	F2
12H	DC2	F3
13H	DC3	F4
14H	DC4	F5
15H	NAK	F6
16H	SYN	F7
17H	ETB	F8
18H	CAN	F9
19H	EM	F10
1AH	SUB	Home
1BH	ESC	Esc
1CH	FS	Page Up
1DH	GS	Page Down
1EH	RS	Print Screen
1FH	US	End

Code Bytes Usage

The scanner must be in Configuration Mode for the features requiring code bytes for configuration. The Enter/Exit Configuration Mode bar code must be scanned before starting the configuration cycle. User configurable prefix/suffix characters can then be saved by scanning the 3 digit decimal equivalent of the ASCII character into the appropriate character location with the code byte bar codes.

Example: To add an asterisk (*) as a Prefix, scan the bar codes.

1. *Enter/Exit Configuration Mode* (3 beeps)
2. Configurable Prefix #1 (1 beep)
3. Code Byte 0 (1 beep)
4. Code Byte 4 (2 beeps)
5. Code Byte 2 (3 beeps)
6. *Enter/Exit Configuration Mode* (3 beeps)

Code Bytes 0–9

Code Byte 0



Code Byte 1



Code Byte 2



Code Byte 3



Code Byte 4



Code Byte 5



Code Byte 6



Code Byte 7



Code Byte 8



Code Byte 9



Reserved Codes

Enable Reserved Code



Disable Reserved Code



Code Type Table

Code Byte	Code Types
004	UPC-A
002	UPC-E
003	EAN-8
005	EAN-13
080	Code 39
081	Codabar
082	Interleaved 2 of 5
083	Code 128
084	Code 93
091	MSI Plessey
092	Code 11
093	Airline 2 of 5 (15 digits)
094	Matrix 2 of 5
095	Telepen
096	UK Plessey
099	TRI-OPTIC
098	Standard 2 of 5
097	Airline (13 digits)

ASCII Reference Table

HEX Value	Decimal Value/ Code Byte Value	Character	Control Keyboard Eqv
00	000	NUL	@
01	001	SOH	A
02	002	STX	B
03	003	ETX	C
04	004	EOT	D
05	005	ENQ	E
06	006	ACK	F
07	007	BEL	G
08	008	BS	H
09	009	HT	I
0A	010	LF	J
0B	011	VT	K
0C	012	FF	L
0D	013	CR	M
0E	014	SO	N
0F	015	SI	O
10	016	DLE	P
11	017	DC1	Q
12	018	DC2	R
13	019	DC3	S
14	020	DC4	T
15	021	NAK	U
16	022	SYN	V
17	023	ETB	W
18	024	CAN	X
19	025	EM	Y
1A	026	SUB	Z
1B	027	ESC	[
1C	028	FS	\

HEX Value	Decimal Value/ Code Byte Value	Character	Control Keyboard Eqv
1D	029	GS	^
1E	030	RS	_
1F	031	US	space,blank
20	032	SP	
21	033	!	
22	034	"	
23	035	#	
24	036	\$	
25	037	%	
26	038	&	
27	039	'	apostrophe
28	040	(
29	041)	
2A	042	*	
2B	043	+	
2C	044	,	comma
2D	045	-	minus
2E	046	.	period
2F	047	/	
30	048	0	number zero
31	049	1	number one
32	050	2	
33	051	3	
34	052	4	
35	053	5	
36	054	6	
37	055	7	
38	056	8	
39	057	9	
3A	058	:	
3B	059	;	

HEX Value	Decimal Value/ Code Byte Value	Character	Control Keyboard Eqv
3C	060	<	less than
3D	061	=	
3E	062	>	greater than
3F	063	?	
40	064	@	shift P
41	065	A	
42	066	B	
43	067	C	
44	068	D	
45	069	E	
46	070	F	
47	071	G	
48	072	H	
49	073	I	letter I
4A	074	J	
4B	075	K	
4C	076	L	
4D	077	M	
4E	078	N	
4F	079	O	letter O
50	080	P	
51	081	Q	
52	082	R	
53	083	S	
54	084	T	
55	085	U	
56	086	V	
57	087	W	
58	088	X	
59	089	Y	

HEX Value	Decimal Value/ Code Byte Value	Character	Control Keyboard Eqv
5A	090	Z	
5B	091	[shift K
5C	092	\	shift L
5D	093]	shift M
5E	094	^	à,shift N
5F	095	_	♣, shift O, underscore
60	096	`	accent grave
61	097	a	
62	098	b	
63	099	c	
64	100	d	
65	101	e	
66	102	f	
67	103	g	
68	104	h	
69	105	i	
6A	106	j	
6B	107	k	
6C	108	l	
6D	109	m	
6E	110	n	
6F	111	o	
70	112	p	
71	113	q	
72	114	r	
73	115	s	
74	116	t	
75	117	u	
76	118	v	
77	119	w	
78	120	x	

HEX Value	Decimal Value/ Code Byte Value	Character	Control Keyboard Eqv
79	121	y	
7A	122	z	
7B	123	{	
7C	124		vertical slash
7D	125	}	alt mode
7E	126	~	(alt mode)
7F	127	DEL	delete, rubout

Extended Key Code Reference Table

Key	At Scan Code	PS2 Scan Code	3151	Prefix/Suffix Value Hex = Decimal
↑	75H	48H	63H	80H = 128
↓	72H	50H	60H	81H = 129
→	74H	4DH	6AH	82H = 130
←	6BH	4BH	61H	83H = 131
Insert	70H	52H	67H	84H = 132
Delete	71H	53H	64H	85H = 133
Home	6CH	47H	6EH	86H = 134
End	69H	4FH	00H	87H = 135
Page Up	7DH	49H	00H	88H = 136
Page Down	7AH	51H	00H	89H = 137
Right Alt	11H	38H	00H	8AH = 138
Right Ctrl	14H	1DH	39H	8BH = 139
Reserved	00H	00H	00H	8CH = 140
Reserved	00H	00H	00H	8DH = 141
Numeric Keypad Enter	5AH	1CH	79H	8EH = 142
Numeric Keypad/	4AH	35H	00H	8FH = 143
F1	05H	3BH	07H	90H = 144
F2	06H	3CH	0FH	91H = 145
F3	04H	3DH	17H	92H = 146
F4	0CH	3EH	1FH	93H = 147
F5	03H	3FH	27H	94H = 148
F6	0BH	40H	2FH	95H = 149
F7	83H	41H	37H	96H = 150

Key	At Scan Code	PS2 Scan Code	3151	Prefix/Suffix Value Hex = Decimal
F8	0AH	42H	3FH	97H = 151
F9	01H	43H	47H	98H = 152
F10	09H	44H	4FH	99H = 153
F11	78H	57H	56H	9AH = 154
F12	07H	58H	5EH	9BH = 155
Numeric +	79H	4EH	00H	9CH = 156
Numeric -	7BH	4AH	7CH	9DH = 157
Numeric *	7CH	37H	00H	9EH = 158
Caps Lock	58H	3AH	14H	9FH = 159
Num Lock	77H	45H	00H	A0H = 160
Left alt	11H	38H	00H	A1H = 161
Left Ctrl	14H	1DH	11H	A2H = 162
Left Shift	12H	2AH	12H	A3H = 163
Right Shift	59H	36H	59H	A4H = 164
Print Screen	Multiple	00H	00H	A5H = 165
Tab	ODH	OFH	0DH	A6H = 166
Shift Tab	8DH	8FH	65H	A7H = 167
Enter	5AH	1CH	5AH	A8H = 168
ESC	76H	01H	08H	A9H = 169
Left ALT Make	11H	36H	00H	AAH = 170
Left ALT Break	11H	B6H	00H	ABH = 171
Left CTRL Make	14H	1DH	00H	ACH = 172
Left CTRL Break	14H	9DH	00H	ADH = 173
*Left ALT + 1 character	11H	36H	00H	AEH = 174
*Left Ctrl + 1 character	14H	1DH	00H	AFH = 175
*Send			58H	C0H = 192
Clear			6FH	C1H = 193
Jump			76H	C2H = 194
Send Line			7EH	C3H = 195
Erase EOF			6DH	C4H = 196
Send - Make Only			58H	C5H = 197

* Example:

1st Configurable Prefix = 174

2nd Configurable Prefix = 065

Scanner will transmit <left ALT Make> "A" <Left ALT Break>



Technical Assistance

Contact information for technical support, product service, and repair can be found at www.youjjeaidc.com.

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