POSX
POINT OF SALE SIMPLIFIED

EVO Omni

2D Presentation Scanner

Configuration Guide

V1.3

Table of Contents

Chapter 1　　　General Description

Thank you for purchasing this barcode scanner with an advanced and versatile decoder. The decoder works with variety of barcode types, reading devices, and computer interfaces. It discriminates over twenty different symbologies automatically.

This menu provides an easy way to configure the decoding options and interface selections by scanning bar codes listed in the menu.

FCC Approval
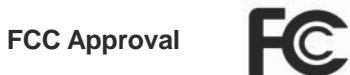
This device had been tested in accordance with the procedures and in compliance with Part 15 Subpart B of FCC Rules and keeps all requirements, according ANSI C63.4 & FCC Part 15 B Regulation and CISPR22 Class B.

CE Standards

The CE mark as shown here indicates this product had been tested in accordance with the procedures given in European Council Directive 2004/108/EC and confirmed to comply with the Europe Standard EN55022:2006:Class B, EN 55024:1998+A1:2001 +A2:2003,IEC61000-3-2:2006,IEC61000-3-3:1995 +A1:2005,IEC61000-4-2:2001,IEC61000-4-:2006,IEC61000-4-4:2004,IEC61000-4-5: 2006,IEC61000-4-6:2001,IEC61000-4-8:2001,IEC61000-4-11:2004.

LEGISLATION AND WEEE SYMBOL

This marking shown on the product or its literature, indicates that it should not be disposed with other households wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable re-use of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase.

Chapter 2   Introduction

This document provides an easy way to program the decoding options and interface selections by scanning bar codes listed in this guide.

Important Notice

1. This document is in A5 size. Please check your printing setting before printing it out.
2. When printing barcodes for programming, the use of a high-resolution laser printer is strongly suggested for the best scan result.
3. The settings shall be updated periodically without prior notice. For the latest version, please contact your authorized distributor.

Factory Default Setting

The factory default settings are shown with **< >** and bold in the following sections. You can make your own settings by scanning a series of selected barcode patches in this manual to affect setup and programming of your handheld 2D Image Reader.
By scanning "Set All Defaults" barcode, the settings will go back to the factory default settings.

Settings and Programming

Scan a series of selected barcode patches in this manual to affect setup and programming of your handheld 2D Image Reader. Decoding options and interface protocols can be tailored to a specific application.
Setup parameters are stored in non-volatile memory in the scanner and are retained even when power is off. Setup parameters change only when you reset them.
You may need to hide adjacent code patches with your hand when doing programming scanning.

Default Factory Device Settings

User Preferences		
Parameter		**Default**
Set Default Parameter		All Defaults
Parameter Scanning		Enable
Beeper Tone		High
Beeper Volume		High
Beeper Duration		Long
Trigger Mode	Handheld/Hands-free Scanner	Level
	Scan Module	Presentation
Power Mode	Handheld/Hands-free Scanner	Low Power
	Scan Module	Low Power
Time Delay to Low Power Mode		NA
Decode Session Timeout		9.9 Sec
Timeout Between Decodes, Same Symbol		0.4 Sec
Beep After Good Decode		Enable
Presentation Mode Session Timeout		2 Seconds

Chapter 3　　User Preference

RETURN TO DEFAULT　(HID Keyboard Emulation)

Report Version
Scan the barcode below to report the version of software currently installed in the decoder.

Report Software Version

PARAMETER SCANNING

To disable decoding of parameter bar codes, including the **Set All Defaults** parameter barcode, scan the Disable Parameter Scanning barcode below. To enable decoding of parameter bar codes, scan **Enable Parameter Scanning**.

< Enable Parameter Scanning >

Disable Parameter Scanning

BEEPER TONE

To select a decode beep frequency (tone); scan the Low Frequency, Medium Frequency, or High Frequency barcode.

Low Frequency

Medium Frequency

< High Frequency >

BEEPER VOLUME

To select a beeper volume, scan the Low Volume, Medium Volume, or High Volume barcode.

Low Volume

Medium Volume

< High Volume >

BEEPER DURATION

To select the duration for the beeper, scan one of the following bar codes.

Short

Medium

< Long >

TRIGGER MODES

- Presentation Mode - When the device detects an object in its field of view it triggers and attempts to decode. The range of object detection does not vary under normal lighting conditions. This applies to decode mode only. In this mode the unit does not enter its sleep state.

< Presentation Mode >

Mobile Phone/Display Mode

This mode improves barcode reading performance with target bar codes displayed on mobile phones and electronic displays.

**< Disable Mobile Phone/
Display Mode >**

**< Enable Mobile Phone/Display
Mode >**

Chapter 4   Serial Interface

NOTE: The EVO-PS1-ADU is a USB interface barcode scanner. The settings in the following chapter only apply to scanners using a serial interface.

Introduction
This chapter describes how to set up the decoder with a serial host. The serial interface is used to connect the decoder to point-of sale devices, host computers, or other devices with an available serial port (e.g. com port).

Note: The decoder uses TTL signal levels, which interface with most system architectures. System architectures that use RS-232C signal levels require a conversion circuitry.

The serial host type requires proper configuration of the sysconfig lines, and typically require scanning barcode menus as part of initial configuration.

Most computer monitors allow scanning the bar codes directly on the screen. When scanning from the screen be sure to set the document magnification to a level where the barcode can be seen clearly, and bars and/or spaces are not merging.

SERIAL PARAMETER DEFAULTS

The table below lists the defaults for serial host parameters. To change any option, scan the appropriate barcode(s) provided in the Serial Host Parameters section.

Note: See *Appendix A, Standard Default Parameters* for all user preferences, hosts, symbologies, and miscellaneous default parameters.

Serial Host Default Table

Serial Host Parameters	
Parameter	**Default**
Serial Host Types	Standard
Baud Rate	9600
Parity Type	None
Stop Bit Select	1 Stop Bit
Data Bits	8-Bit
Check Receive Errors	Enable
Hardware Handshaking	None
Software Handshaking	None
Host Serial Response Time-out	2 Sec
RTS Line State	Low RTS
Beep on <BEL>	Disable
Intercharacter Delay	0 msec
Nixdorf Beep/LED Options	Normal Operation
Ignore Unknown Characters	Send Bar Code

SERIAL HOST TYPES

To select a serial host interface, scan one of the following bar codes. This barcode is only applicable for scanners with a physical serial connection. If your scanner has a USB connection, follow the directions on page 32 to setup a virtual serial connection.

Enable Serial Host (Standard RS232)

*Scanning Enable Serial Host (No Variant) activates the serial driver, but does not change port settings (e.g., parity, data bits, handshaking). Selecting another serial host type barcode changes these settings.

OPOS/JPOS

BAUD RATE

Baud rate is the number of bits of data transmitted per second. Set the decoder's baud rate to match the baud rate setting of the host device. Otherwise, data may not reach the host device or may reach it in distorted form.

< Baud Rate 9600>

Baud Rate 38,400

Baud Rate 57,600

Baud Rate 115,200

PARITY

A parity check bit is the most significant bit of each ASCII coded character.

Select the parity type according to host device requirements.

Select *Odd parity* and the parity bit value is set to 0 or 1, based on data, to ensure that an odd number of 1 bits are contained in the coded character.

Select *Even parity* and the parity bit value is set to 0 or 1, based on data, to ensure that an even number of 1 bits are contained in the coded character.

Select *None* when no parity bit is required.

Odd

Even

< None >

STOP BIT SELECT

The stop bit(s) at the end of each transmitted character marks the end of transmission of one character and prepares the receiving device for the next character in the serial data stream. The number of stop bits selected (one or two) depends on the number the receiving terminal is programmed to accommodate. Set the number of stop bits to match host device requirements.

< 1 Stop Bit >

2 Stop Bits

DATA BITS

This parameter allows the decoder to interface with devices requiring a 7-bit or 8-bit ASCII protocol.

7-Bit

< 8-Bit >

CHECK RECEIVE ERRORS

Select whether or not the parity, framing, and overrun of received characters are checked. The parity value of received characters is verified against the parity parameter selected above.

||||||| ||||| ||||||||| |||||||||||
< Check For Received Errors >

||| ||||| || ||| | |||| ||| ||||| ||||||||
Do Not Check For Received Errors

HARDWARE HANDSHAKING

The data interface consists of a serial port designed to operate either with or without the hardware handshaking lines, *Request to Send* (RTS), and *Clear to Send* (CTS).

If Standard RTS/CTS handshaking is not selected, scan data is transmitted as it becomes available. If Standard RTS/CTS handshaking is selected, scan data is transmitted according to the following sequence:

- The decoder reads the CTS line for activity. If CTS is asserted, the decoder waits up to Host Serial Response Time-out for the host to de-assert the CTS line. If, after Host Serial Response Time-out (default), the CTS line is still asserted, the decoder sounds a transmit error, and any scanned data is lost.
- When the CTS line is de-asserted, the decoder asserts the RTS line and waits up to Host Serial Response Time-out for the host to assert CTS. When the host asserts CTS, data is transmitted. If, after Host Serial Response Time-out (default), the CTS line is not asserted, the decoder sounds a transmit error, and discards the data.
- When data transmission is complete, the decoder de-asserts RTS 10 msec after sending the last character.
- The host should respond by negating CTS. The decoder checks for a de-asserted CTS upon the next transmission of data.

During the transmission of data, the CTS line should be asserted. If CTS is deasserted for more than 50 ms between characters, the transmission is aborted, the decoder sounds a transmission error, and the data is discarded. If the above communication sequence fails, the decoder issues an error indication. In this case, the data is lost and must be rescanned. If Hardware Handshaking and Software Handshaking are both enabled, Hardware Handshaking takes precedence.

Note: The DTR signal is jumpered to the active state.

- None: Scan the barcode below if no Hardware Handshaking is desired.
- Standard RTS/CTS: Scan the barcode below to select Standard RTS/CTS Hardware Handshaking.
- RTS/CTS Option 1: When RTS/CTS Option 1 is selected, the decoder asserts RTS before transmitting and ignores the state of CTS. The decoder de-asserts RTS when the transmission is complete.
- RTS/CTS Option 2: When Option 2 is selected, RTS is always high or low (user-programmed logic level). However, the decoder waits for CTS to be asserted before transmitting data. If CTS is not asserted within Host Serial Response Time-out (default), the

decoder issues an error indication and discards the data.
- RTS/CTS Option 3: When Option 3 is selected, the decoder asserts RTS prior to any data transmission, regardless of the state of CTS. The decoder waits up to Host Serial Response Time-out (default) for CTS to be asserted. If CTS is not asserted during this time, the decoder issues an error indication and discards the data. The decoder de-asserts RTS when transmission is complete.

< None >

Standard RTS/CTS

RTS/CTS Option 1

RTS/CTS Option 2

RTS/CTS Option 3

SOFTWARE HANDSHAKING

This parameter offers control of the data transmission process in addition to, or instead of, that offered by hardware handshaking. There are five options.
If Software Handshaking and Hardware Handshaking are both enabled, Hardware Handshaking takes precedence.

- None: When this option is selected, data is transmitted immediately. No response is expected from host.
- ACK/NAK: When this option is selected, after transmitting data, the decoder expects either an ACK or NAK response from the host. When a NAK is received, the decoder transmits the same data again and waits for either an ACK or NAK. After three unsuccessful attempts to send data when NAKs are received, the decoder issues an error indication and discards the data.
- The decoder waits up to the programmable Host Serial Response Time-out to receive an ACK or NAK. If the decoder does not get a response in this time, it issues an error indication and discards the data. There are no retries when a time-out occurs.
- ENQ: When this option is selected, the decoder waits for an ENQ character from the host before transmitting data. If an ENQ is not received within the Host Serial Response Time-out, the decoder issues an error indication and discards the data. The host must transmit an ENQ character at least every Host Serial Response Time-out to prevent transmission errors.
- ACK/NAK with ENQ: This combines the two previous options. For re-transmissions of data, due to a NAK from the host, an additional ENQ is not required.
- XON/XOFF: An XOFF character turns the decoder transmission off until the decoder receives an XON character. There are two situations for XON/XOFF:
- XOFF is received before the decoder has data to send. When the decoder has data to send, it waits up to Host Serial Response Time-out for an XON character before transmission. If the XON is not received within this time, the decoder issues an error indication and discards the data.
- XOFF is received during a transmission. Data transmission then stops after sending the current byte. When the decoder receives an XON character, it sends the rest of the data message. The decoder waits indefinitely for the XON.

< None >

ACK/NAK

ENQ

ACK/NAK with ENQ

XON/XOFF

HOST SERIAL RESPONSE TIME-OUT

This parameter specifies how long the decoder waits for an ACK, NAK, or CTS before determining that a transmission error has occurred. This only applies when in one of the ACK/NAK Software Handshaking modes, or RTS/CTS Hardware Handshaking option.

< Minimum: 2 Sec >

Low: 2.5 Sec

Medium: 5 Sec

High: 7.5 Sec

Maximum: 9.9 Sec

RTS LINE STATE

This parameter sets the idle state of the Serial Host RTS line. Scan a barcode below to select Low RTS or High RTS line state.

< Host: Low RTS >

Host: High RTS

BEEP ON <BEL>

When this parameter is enabled, the decoder issues a beep when a <BEL> character is detected on the serial line. <BEL> is issued to gain a user's attention to an illegal entry or other important event.

Beep On <BEL> Character
(Enable)

< Do Not Beep On <BEL> Character >
(Disable)

Note: A NULL character must be sent to the decoder before BEL to ensure the BEL character is processed correctly.

INTERCHARACTER DELAY

This parameter specifies the intercharacter delay inserted between character transmissions.

< Minimum: 0 msec >

Low: 25 msec

Medium: 50 msec

High: 75 msec

Maximum: 99 msec

IGNORE UNKNOWN CHARACTERS

Unknown characters are characters the host does not recognize. When Send Bar Codes with Unknown Characters is selected, all barcode data is sent except for unknown characters, and no error beeps sound on the decoder.

When Do Not Send Bar Codes With Unknown Characters is selected, barcode data is sent up to the first unknown character and then an error beep will sound on the decoder.

< Send Bar Codes (with unknown characters) >

Do Not Send Bar Codes (with unknown characters)

ASCII CHARACTER SET FOR SERIAL HOSTS

The values in the table below can be assigned as prefixes or suffixes for
ASCII character data transmission.

<u>Prefix/Suffix Values</u>

Prefix/Suffix Value	Full ASCII Code 39 Encode Character	ASCII Character
1000	%U	NUL
1001	$A	SOH
1002	$B	STX
1003	$C	ETX
1004	$D	EOT
1005	$E	ENQ
1006	$F	ACK
1007	$G	BELL
1008	$H	BCKSPC
1009	$I	HORIZ TAB
1010	$J	LF/NW LN
1011	$K	VT
1012	$L	FF
1013	$M	CR/ENTER
1014	$N	SO
1015	$O	SI
1016	$P	DLE
1017	$Q	DC1/XON
1018	$R	DC2
1019	$S	DC3/XOFF
1020	$T	DC4

1021	$U	NAK
1022	$V	SYN
1023	$W	ETB
1024	$X	CAN
1025	$Y	EM
1026	$Z	SUB
1027	%A	ESC
1028	%B	FS
1029	%C	GS
1030	%D	RS
1031	%E	US
1032	Space	Space
1033	/A	!
1034	/B	"
1035	/C	#
1036	/D	$
1037	/E	%
1038	/F	&
1039	/G	'
1040	/H	(
1041	/I	)
1042	/J	*
1043	/K	+
1044	/L	,
1045	-	-
1046	.	.
1047	/O	/
1048	0	0
1049	1	1

1050	2	2
1051	3	3
1052	4	4
1053	5	5
1054	6	6
1055	7	7
1056	8	8
1057	9	9
1058	/Z	:
1059	%F	;
1060	%G	<
1061	%H	=
1062	%I	>
1063	%J	?
1064	%V	@
1065	A	A
1066	B	B
1067	C	C
1068	D	D
1069	E	E
1070	F	F
1071	G	G
1072	H	H
1073	I	I
1074	J	J
1075	K	K
1076	L	L
1077	M	M
1078	N	N

1079	O	O
1080	P	P
1081	Q	Q
1082	R	R
1083	S	S
1084	T	T
1085	U	U
1086	V	V
1087	W	W
1088	X	X
1089	Y	Y
1090	Z	Z
1091	%K	[
1092	%L	\
1093	%M	]
1094	%N	^
1095	%O	_
1096	%W	`
1097	+A	a
1098	+B	b
1099	+C	c
1100	+D	d
1101	+E	e
1102	+F	f
1103	+G	g
1104	+H	h
1105	+I	i
1106	+J	j
1107	+K	k

1108	+L	l
1109	+M	m
1110	+N	n
1111	+O	o
1112	+P	p
1113	+Q	q
1114	+R	r
1115	+S	s
1116	+T	t
1117	+U	u
1118	+V	v
1119	+W	w
1120	+X	x
1121	+Y	y
1122	+Z	z
1123	%P	{
1124	%Q	|
1125	%R	}
1126	%S	~
1127		Undefined
7013		ENTER

Chapter 5   USB Interface

Introduction
This chapter describes how to set up the decoder with a USB host. The decoder connects directly to a USB host, or a powered USB hub, and is powered by it. No additional power supply is required.

Note: Most computer monitors allow scanning the bar codes directly on the screen. When scanning from the screen, be sure to set the document magnification to a level where the barcode can be seen clearly, and bars and/ or spaces are not merging.

USB Parameter Defaults
Table below lists the defaults for USB host parameters. To change any option, scan the appropriate barcode(s) provided in the Parameter Descriptions section.
Note: See *Appendix A, Standard Default Parameters* for all user preferences, hosts, symbologies, and miscellaneous default parameters.

USB Host Parameters	
Parameters	**Default**
USB Device Type	HID Keyboard Emulation
Native API (SNAPI) Status Handshaking	Enable SNAPI Status Handshaking
USB Country Keyboard Types (Country Codes)	North American
USB Keystroke Delay	No Delay
USB CAPS Lock Override	Disable
USB Ignore Unknown Characters	Enable
Emulate Keypad	Disable
USB FN1 Substitution	Disable
Function Key Mapping	Disable
Simulated Caps Lock	Disable
Convert Case	No Case Conversion

USB HOST PARAMETERS

USB Device Type
Select the desired USB device type.
Note: When changing USB Device Types, the decoder automatically resets.
The decoder issues the standard startup beep sequences.

||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
< HID Keyboard Emulation >

||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
USB virtual COM port emulation;
(requiring driver)

||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
USB OPOS

Virtual COM Installation Steps

1. Download and install the driver from www.pos-x.com.
2. Connect the scanner USB cable to the host computer. The scanner will give a "Do Re Mi" melody when powered on.
3. Read the "CDC COM Port Emulation" barcode to set up the interface.
4. On the computer, check Device Manager to see if the computer successfully detects the scanner as "barcode Scanner." The COM
   port number would vary depending on different hardware environment.
5. If you can't directly install the driver follow the Found New Hardware Wizard to locate and install the driver.
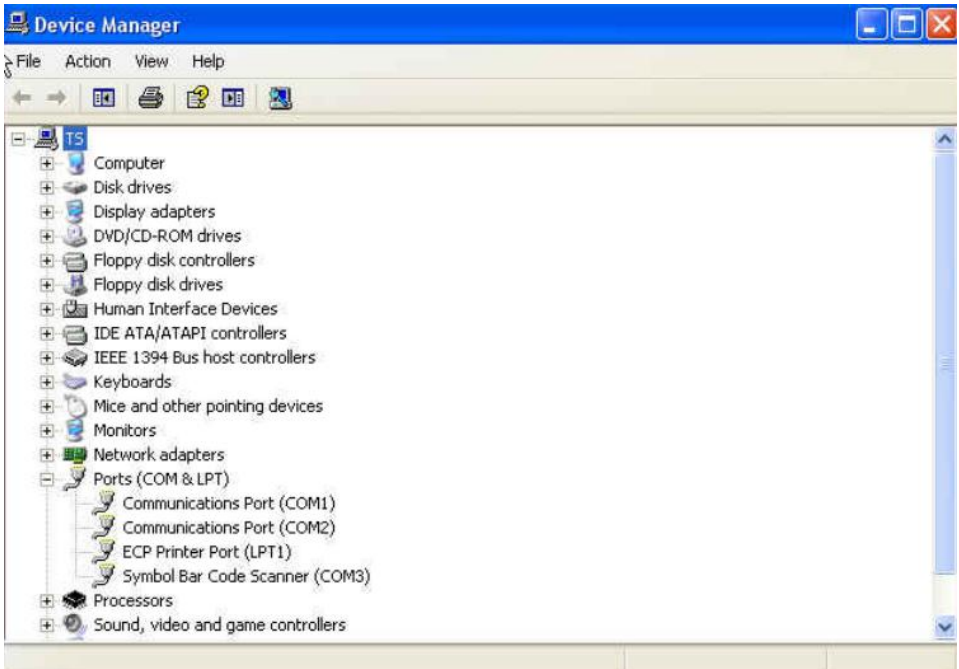
USB COUNTRY KEYBOARD TYPES (COUNTRY CODES)

Scan the barcode corresponding to the keyboard type. This setting applies only to the USB HID Keyboard Emulation device.

Note: When changing USB country keyboard types the decoder automatically resets. The decoder issues the standard startup beep sequences.

< North American Standard USB Keyboard >

German Windows

French Windows

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French Canadian Windows 2000/XP

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French Canadian Windows 95/98

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Spanish Windows

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Italian Windows

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Swedish Window

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UK English Windows

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Japanese Windows (ASCII)

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Portuguese-Brazilian Windows

USB KEYSTROKE DELAY

This parameter sets the delay, in milliseconds, between emulated keystrokes. Scan a barcode below to increase the delay when hosts require a slower transmission of data.

< No Delay >

Medium Delay (20 msec)

Long Delay (40 msec)

USB CAPS LOCK OVERRIDE

This option applies only to the HID Keyboard Emulation device. When enabled, the case of the data is preserved regardless of the state of the caps lock key. This setting is always enabled for the Japanese, Windows (ASCII) keyboard type and can not be disabled.

Override Caps Lock Key(Enable)

< Do Not Override Caps Lock Key >
(Disable)

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USB IGNORE UNKNOWN CHARACTERS

This option applies only to the HID Keyboard Emulation device. Unknown characters are characters the host does not recognize. When Send Bar Codes With Unknown Characters is selected, all barcode data is sent except for unknown characters, and no error beeps sound. When Do Not Send Bar Codes With Unknown Characters is selected, bar codes containing at least one unknown character are not sent to the host, and an error beep sounds. For HID Keyboard Emulation devices, the barcode characters up to the unknown character are sent, and an error beep sounds.

< Send Bar Codes with Unknown Characters (Transmit) >

Do Not Send Bar Codes with
Unknown Characters (Disable)

EMULATE KEYPAD

When enabled, all characters are sent as ASCII sequences over the numeric keypad. For example ASCII A would be sent as "ALT make" 0 6 5 "ALT Break". This allows support for other country variants.

< Disable Keypad Emulation >

Enable Keypad Emulation

USB KEYBOARD FN 1 SUBSTITUTION

This option applies only to the USB HID Keyboard Emulation device. When enabled, this allows replacement of any FN 1 characters in an EAN 128 barcode with a Key Category and value chosen by the user.

Enable

< Disable >

FUNCTION KEY MAPPING

ASCII values under 32 are normally sent as a control-key sequence. When this parameter is enabled, the keys in bold are sent in place of the standard key mapping. Table entries that do not have a bold entry remain the same whether or not this parameter is enabled.

< Disable Function Key Mapping >

Enable Function Key Mapping

SIMULATED CAPS LOCK

When enabled, the decoder inverts upper and lower case characters on the barcode as if the Caps Lock state is enabled on the keyboard. This inversion is done regardless of the current state of the keyboard's Caps Lock state.

< Disable Simulated Caps Lock >

Enable Simulated Caps Lock

CONVERT CASE

When enabled, the decoder converts all barcode data to the selected case.

< No Case Conversion >

Convert All to Upper Case

Convert All to Lower Case

ASCII CHARACTER SET FOR USB

USB Prefix/Suffix Values

Prefix/ Suffix Value	Full ASCII Code 39 Encode Character	Keystroke
1000	%U	CTRL 2
1001	$A	CTRL A
1002	$B	CTRL B
1003	$C	CTRL C
1004	$D	CTRL D
1005	$E	CTRL E
1006	$F	CTRL F
1007	$G	CTRL G
1008	$H	CTRL H/**BACKSPACE**[1]
1009	$I	CTRL I/**HORIZONTAL TAB**[1]
1010	$J	CTRL J
1011	$K	CTRL K
1012	$L	CTRL L
1013	$M	CTRL M/**ENTER**[1]
1014	$N	CTRL N
1015	$O	CTRL O
1016	$P	CTRL P
1017	$Q	CTRL Q
1018	$R	CTRL R
1019	$S	CTRL S
1020	$T	CTRL T
1021	$U	CTRL U
1022	$V	CTRL V

1023	$W	CTRL W
1024	$X	CTRL X
1025	$Y	CTRL Y
1026	$Z	CTRL Z
1027	%A	CTRL [/**ESC**[1]
1028	%B	CTRL \
1029	%C	CTRL]
1030	%D	CTRL 6
1031	%E	CTRL
1032	Space	Space
1033	/A	!
1034	/B	"
1035	/C	#
1036	/D	$
1037	/E	%
1038	/F	&
1039	/G	'
1040	/H	(
1041	/I	)
1042	/J	*
1043	/K	+
1044	/L	,
1045	-	-
1046	.	.
1047	/O	/
1048	0	0
1049	1	1
1050	2	2
1051	3	3

1052	4	4
1053	5	5
1054	6	6
1055	7	7
1056	8	8
1057	9	9
1058	/Z	:
1059	%F	;
1060	%G	<
1061	%H	=
1062	%I	>
1063	%J	?
1064	%V	@
1065	A	A
1066	B	B
1067	C	C
1068	D	D
1069	E	E
1070	F	F
1071	G	G
1072	H	H
1073	I	I
1074	J	J
1075	K	K
1076	L	L
1077	M	M
1078	N	N
1079	O	O
1080	P	P

1081	Q	Q
1082	R	R
1083	S	S
1084	T	T
1085	U	U
1086	V	V
1087	W	W
1088	X	X
1089	Y	Y
1090	Z	Z
1091	%K	[
1092	%L	\
1093	%M	]
1094	%N	^
1095	%O	_
1096	%W	`
1097	+A	a
1098	+B	b
1099	+C	c
1100	+D	d
1101	+E	e
1102	+F	f
1103	+G	g
1104	+H	h
1105	+I	i
1106	+J	j
1107	+K	k
1108	+L	l
1109	+M	m

1110	+N	n
1111	+O	o
1112	+P	p
1113	+Q	q
1114	+R	r
1115	+S	s
1116	+T	t
1117	+U	u
1118	+V	v
1119	+W	w
1120	+X	x
1121	+Y	y
1122	+Z	z
1123	%P	{
1124	%Q	|
1125	%R	}
1126	%S	~
The keystroke in bold is sent only if the "Function Key Mapping" is enabled. Otherwise, the unbolded keystroke is sent.		

USB ALT Key Character Set

ALT Keys	Keystroke
2064	ALT 2
2065	ALT A
2066	ALT B
2067	ALT C
2068	ALT D
2069	ALT E
2070	ALT F
2071	ALT G
2072	ALT H
2073	ALT I
2074	ALT J
2075	ALT K
2076	ALT L
2077	ALT M
2078	ALT N
2079	ALT O
2080	ALT P
2081	ALT Q
2082	ALT R
2083	ALT S
2084	ALT T
2085	ALT U
2086	ALT V
2087	ALT W
2088	ALT X
2089	ALT Y
2090	ALT Z

USB GUI Key Character Set

GUI Key	Keystroke
3000	Right Control Key
3048	GUI 0
3049	GUI 1
3050	GUI 2
3051	GUI 3
3052	GUI 4
3053	GUI 5
3054	GUI 6
3055	GUI 7
3056	GUI 8
3057	GUI 9
3065	GUI A
3066	GUI B
3067	GUI C
3068	GUI D
3069	GUI E
3070	GUI F
3071	GUI G
3072	GUI H
3073	GUI I
3074	GUI J
3075	GUI K
3076	GUI L
3077	GUI M
3078	GUI N
3079	GUI O
3080	GUI P

3081	GUI Q
3082	GUI R
3083	GUI S
3084	GUI T
3085	GUI U
3086	GUI V
3087	GUI W
3088	GUI X
3089	GUI Y
3090	GUI Z
Note: GUI Shift Keys - The Apple™ iMac keyboard has an apple key on either side of the space bar. Windows-based systems have a GUI key to the left of the left ALT key, and to the right of the right ALT key.	

USB F Key Character Set

F Keys	Keystroke
5001	F1
5002	F2
5003	F3
5004	F4
5005	F5
5006	F6
5007	F7
5008	F8
5009	F9
5010	F10
5011	F11
5012	F12
5013	F13
5014	F14
5015	F15
5016	F16
5017	F17
5018	F18
5019	F19
5020	F20
5021	F21
5022	F22
5023	F23
5024	F24

USB Numeric Keypad Character Set

Numeric Keypad	Keystroke
6042	*
6043	+
6044	undefined
6045	-
6046	.
6047	/
6048	0
6049	1
6050	2
6051	3
6052	4
6053	5
6054	6
6055	7
6056	8
6057	9
6058	Enter
6059	Num Lock

USB Extended Keypad Character Set

Extended Keypad	Keystroke
7001	Break
7002	Delete
7003	PgUp
7004	End
7005	Pg Dn
7006	Pause
7007	Scroll Lock
7008	Backspace
7009	Tab
7010	Print Screen
7011	Insert
7012	Home
7013	Enter
7014	Escape
7015	Up Arrow
7016	Down Arrow
7017	Left Arrow
7018	Right Arrow

Chapter 6   Symbologies

Introduction
This chapter describes symbology features and provides the programming bar codes for selecting these features.

The device is shipped with the settings shown in the Symbology Default Table If the default values suit requirements, programming is not necessary.

Note: Most computer monitors allow scanning the bar codes directly on the screen. When scanning from the screen, be sure to set the document magnification to a level where the barcode can be seen clearly, and bars and/ or spaces are not merging.

To return all features to default values, scan the *Set Default Parameter* barcode.

SYMBOLOGY PARAMETER DEFAULTS

Table below lists the defaults for all symbologies parameters. To change any option, scan the appropriate barcode(s) provided in the Symbologies Parameters section.

Note: See *Appendix A, Standard Default Parameters* for all user preferences, hosts, and miscellaneous default parameters.

Symbology Default Table

Parameter	Default
UPC/EAN	
UPC-A	Enable
UPC-E	Enable
UPC-E1	Disable
EAN-8/JAN 8	Enable
EAN-13/JAN 13	Enable
Bookland EAN	Disable
Decode UPC/EAN/JAN Supplementals (2 and 5 digits)	Ignore
UPC/EAN/JAN Supplemental Redundancy	10
Transmit UPC-A Check Digit	Enable
Transmit UPC-E Check Digit	Enable
Transmit UPC-E1 Check Digit	Enable
UPC-A Preamble	System Character
UPC-E Preamble	System Character
UPC-E1 Preamble	System Character
Convert UPC-E to A	Disable
Convert UPC-E1 to A	Disable

EAN-8/JAN-8 Extend	Disable
UCC Coupon Extended Code	Disable
Code 128	
Code 128	Enable
UCC/EAN-128	Enable
ISBT 128	Enable
Code 39	
Code 39	Enable
Trioptic Code 39	Disable
Convert Code 39 to Code 32 (Italian Pharmacy Code)	Disable
Code 32 Prefix	Disable
Set Length(s) for Code 39	2 to 55
Code 39 Check Digit Verification	Disable
Transmit Code 39 Check Digit	Disable
Code 39 Full ASCII Conversion	Disable
Buffer Code 39	Disable
Code 93	
Code 93	Disable
Set Length(s) for Code 93	4 to 55
Code 11	
Code 11	Disable
Set Lengths for Code 11	4 to 55
Code 11 Check Digit Verification	Disable

Transmit Code 11 Check Digit(s)	Disable
Interleaved 2 of 5 (ITF)	
Interleaved 2 of 5 (ITF)	Enable
Set Lengths for I 2 of 5	14
I 2 of 5 Check Digit Verification	Disable
Transmit I 2 of 5 Check Digit	Disable
Convert I 2 of 5 to EAN 13	Disable
Discrete 2 of 5 (DTF)	
Discrete 2 of 5	Disable
Set Length(s) for D 2 of 5	12
Codabar (NW - 7)	
Codabar	Disable
Set Lengths for Codabar	5 to 55
CLSI Editing	Disable
NOTIS Editing	Disable
MSI	
MSI	Disable
Set Length(s) for MSI	4 to 55
MSI Check Digits	One
Transmit MSI Check Digit	Disable
MSI Check Digit Algorithm	Mod 10/Mod 10
Postal Codes	
US Postnet	Enable
US Planet	Enable

UK Postal	Enable
Transmit UK Postal Check Digit	Enable
Japan Postal	Enable
Australian Postal	Enable
Dutch Postal	Enable
Transmit US Postal Check Digit	Enable
RSS (Reduced Space Symbology)	
RSS 14	Enable
RSS Limited	Enable
RSS Expanded	Enable
Convert RSS to UPC/EAN	Disable
Composite	
Composite CC-C	Disable
Composite CC-A/B	Disable
Composite TLC-39	Disable
UPC Composite Mode	Always Linked
Composite Beep Mode	Beep As Each Code Type is Decoded
UCC/EAN Code 128 Emulation Mode for UCC/EAN Composite Codes	Disable
2D Symbologies	
PDF417	Enable
MicroPDF417	Disable
Code 128 Emulation	Disable

Data Matrix	Enable
Maxicode	Enable
QR Code	Enable
Symbology-Specific Security Levels	
Redundancy Level	1
Security Level	1
Inter character Gap Size	Normal
Report Version	
Macro PDF	
Macro PDF Transmit/Decode Mode Symbols	Pass through Mode
Transmit Macro PDF Control Header	Disable
Escape Characters	None
Flush Macro PDF Buffer	
Abort Macro PDF Entry	

UPC/EAN

Enable/Disable UPC-A
To enable or disable UPC-A, scan the appropriate barcode below.

< Enable UPC-A >

Disable UPC-A

Enable/Disable UPC-E
To enable or disable UPC-E, scan the appropriate barcode below.

< Enable UPC-E >

Disable UPC-E

Enable/Disable UPC-E1

UPC-E1 is disabled by default. To enable or disable UPC-E1, scan the appropriate barcode below.

Note: UPC-E1 is not a UCC (Uniform Code Council) approved symbology.

Enable UPC-E1

< Disable UPC-E1 >

Enable/Disable EAN-8/JAN-8

To enable or disable EAN-8/JAN-8, scan the appropriate barcode below.

< Enable EAN-8/JAN-8 >

Disable EAN-8/JAN-8

Enable/Disable EAN-13/JAN-13

To enable or disable EAN-13/JAN-13, scan the appropriate barcode below.

< Enable EAN-13/JAN-13 >

Disable EAN-13/JAN-13

Enable/Disable Bookland EAN

To enable/disable Bookland EAN, scan the appropriate barcode below.

Enable Bookland EAN

Disable Bookland EAN

Decode UPC/EAN/JAN Supplementals
Supplemental are bar codes appended according to specific format conventions (e.g., UPC A+2, UPC E+2, EAN 13+2). Six options are available.

- If Decode UPC/EAN/JAN Only With Supplemental is selected, UPC/EAN/JAN symbols without supplemental are not decoded.
- If Ignore Supplemental is selected, and the decoder is presented with a UPC/EAN/JAN with a supplemental, the UPC/EAN/JAN is decoded and the supplemental barcode is ignored.
- An Auto discriminate Option is also available. If this option is selected, choose an appropriate *UPC/EAN/JAN Supplemental Redundancy* value from the next page. A value of 5 or more is recommended.
- Enable 378/379 Supplemental Mode to delay only EAN-13/JAN-13 bar codes starting with a '378' or '379' prefix by the supplemental search process. All other UPC/EAN/JAN bar codes are exempt from the search and are reported instantly upon decodes.
- Select Enable 978 Supplemental Mode to delay only EAN-13/JAN-13 bar codes starting with a '978' prefix by the supplemental search process. All other UPC/EAN/JAN bar codes are exempt from the search and are reported instantly upon decodes.
- Select Enable Smart Supplemental Mode to delay only EAN-13/JAN-13 bar codes starting with a '378', '379', or '978' prefix by the supplemental search process. All other UPC/EAN/JAN bar codes are exempt from the search and are reported instantly upon decodes.

Note: To minimize the risk of invalid data transmission, select either to decode or ignore supplemental characters.

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

Decode UPC/EAN/JAN Only
With Supplemental

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

< Ignore Supplemental >

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

Auto discriminate UPC/EAN/JAN
Supplemental

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

Enable 378/379 Supplemental Mode

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

Enable 978 Supplemental Mode

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

Enable Smart Supplemental Mode

UPC/EAN/JAN Supplemental Redundancy
With Auto discriminate UPC/EAN/JAN Supplemental selected, this option adjusts the number of times a symbol without supplemental is decoded before transmission. The range is from two to thirty times. Five or above is recommended when decoding a mix of UPC/EAN/JAN symbols with and without supplemental, and the auto discriminate option is selected. The default is set at 10.

Scan the barcode below to set a decode redundancy value. Next, scan two numeric bar codes in *Appendix D, Numeric Bar Codes*. Single digit numbers must have a leading zero. To correct an error or change a selection, scan Cancel.

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

UPC/EAN/JAN Supplemental Redundancy

Transmit UPC-A Check Digit
The check digit is the last character of the symbol used to verify the integrity of the data. Scan the appropriate barcode below to transmit the barcode data with or without the UPC-A check digit. It is always verified to guarantee the integrity of the data.

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

< Transmit UPC-A Check Digit >

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

Do Not Transmit UPC-A Check Digit

Transmit UPC-E Check Digit
The check digit is the last character of the symbol used to verify the integrity of the data. Scan the appropriate barcode below to transmit the barcode data with or without the UPC-E check digit. It is always verified to guarantee the integrity of the data.

< Transmit UPC-E Check Digit >

Do Not Transmit UPC-E Check Digit

Transmit UPC-E1 Check Digit
The check digit is the last character of the symbol used to verify the integrity of the data. Scan the appropriate barcode below to transmit the barcode data with or without the UPC-E1 check digit. It is always verified to guarantee the integrity of the data.

< Transmit UPC-E1 Check Digit >

Do Not Transmit UPC-E1 Check Digit

UPC-A Preamble

Preamble characters are part of the UPC symbol, and include Country Code and System Character. There are three options for transmitting a UPC-A preamble to the host device: transmit System Character only, transmit System Character and Country Code ("0" for USA), and transmit no preamble. Select the appropriate option to match the host system.

```
||| || ||||||||||||| || |||
```
No Preamble (<DATA>)

```
||| || ||||||||||||| || |||
```
< System Character >
(<SYSTEM CHARACTE>
<DATA>)

```
||| || ||||||||||||| |||
```
System Character & Country Code
(< COUNTRY CODE> <SYSTEM
CHARACTER> <DATA>)

UPC-E Preamble

Preamble characters are part of the UPC symbol, and include Country Code and System Character. There are three options for transmitting a UPC-E preamble to the host device: transmit System Character only, transmit System Character and Country Code ("0" for USA), and transmit no preamble. Select the appropriate option to match the host system.

No Preamble (<DATA>)

< System Character >
(<SYSTEM CHARACTE>
<DATA>)

System Character & Country Code(<
COUNTRY CODE> <SYSTEM
CHARACTER> <DATA>)

UPC-E1 Preamble

Preamble characters are part of the UPC symbol, and include Country Code and System Character. There are three options for transmitting a UPC-E1 preamble to the host device: transmit System Character only, transmit System Character and Country Code ("0" for USA), and transmit no preamble. Select the appropriate option to match the host system.

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

No Preamble (<DATA>)

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

< System Character >
(<SYSTEM CHARACTE>
<DATA>)

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

System Character & Country Code(<
COUNTRY CODE> <SYSTEM
CHARACTER> <DATA>)

Convert UPC-E to UPC-A

Enable this to convert UPC-E (zero suppressed) decoded data to UPC-A format before transmission. After conversion, the data follows UPC-A format and is affected by UPC-A programming selections (e.g., Preamble, Check Digit). When disabled, UPC-E decoded data is transmitted as UPC-E data, without conversion.

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

Convert UPC-E to UPC-A (Enable)

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

< Do Not Convert UPC-E to UPC-A >

(Disable)

Convert UPC-E1 to UPC-A
Enable this to convert UPC-E1 decoded data to UPC-A format before transmission. After conversion, the data follows UPC-A format and is affected by UPC-A programming selections (e.g., Preamble, Check Digit).

When disabled, UPC-E1 decoded data is transmitted as UPC-E1 data, without conversion.

Convert UPC-E1 to UPC-A (Enable)

< Do Not Convert UPC-E1 to UPC-A >
(Disable)

EAN-8/JAN-8 Extend
When enabled, this parameter adds five leading zeros to decoded EAN-8 symbols to make them compatible in format to EAN-13 symbols.
When disabled, EAN-8 symbols are transmitted as is.

Enable EAN/JAN Zero Extend

< Disable EAN/JAN Zero Extend >

CODE 128

Enable/Disable Code 128

To enable or disable Code 128, scan the appropriate barcode below.

< Enable Code 128 >

Disable Code 128

Enable/Disable UCC/EAN-128

To enable or disable UCC/EAN-128, scan the appropriate barcode below.

< Enable UCC/EAN-128 >

Disable UCC/EAN-128

Enable/Disable ISBT 128

ISBT 128 is a variant of Code 128 used in the blood bank industry. Scan a barcode below to enable or disable ISBT 128. If necessary, the host must perform concatenation of the ISBT data.

< Enable ISBT 128 >

Disable ISBT 128

CODE 39

Enable/Disable Code 39

To enable or disable Code 39, scan the appropriate barcode below.

< Enable Code 39 >

Disable Code 39

Enable/Disable Trioptic Code 39

Trioptic Code 39 is a variant of Code 39 used in the marking of computer tape cartridges. Trioptic Code 39 symbols always contain six characters. To enable or disable Trioptic Code 39, scan the appropriate barcode below.

Enable Trioptic Code 39

< Disable Trioptic Code 39 >

Note: Trioptic Code 39 and Code 39 Full ASCII cannot be enabled simultaneously.

Convert Code 39 to Code 32
Code 32 is a variant of Code 39 used by the Italian pharmaceutical industry.
Scan the appropriate barcode below to enable or disable converting Code 39
to Code 32.

Note: Code 39 must be enabled for this parameter to function.

Enable Convert Code 39 to Code 32

< Disable Convert Code 39 to Code 32 >

Code 32 Prefix
Scan the appropriate barcode below to enable or disable adding the prefix
character "A" to all Code 32 bar codes.

Note: Convert Code 39 to Code 32 must be enabled for this parameter to
function.

Enable Code 32 Prefix

< Disable Code 32 Prefix >

Set Lengths for Code 39
The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Code 39 to any length, one or two discrete lengths, or lengths within a specific range. If Code 39 Full ASCII is enabled, Length within a Range or Any Length is the preferred options.

Note: When setting lengths for different barcode types by scanning single digit numbers, single digit numbers must always be preceded by a leading zero.

- One Discrete Length - Select this option to decode only Code 39 symbols containing a selected length. Select the length using the numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode only Code 39 symbols with 14 characters, scan Code 39 - One Discrete Length, then scan 1 followed by 4. To correct an error or change the selection, scan Cancel barcode.
- Two Discrete Lengths - Select this option to decode only Code 39 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode only those Code 39 symbols containing either 2 or 14 characters, select Code 39 - Two Discrete Lengths, then scan 0, 2, 1, and then 4. To correct an error or change the selection, scan Cancel barcode.
- Length Within Range - Select this option to decode a Code 39 symbol with a specific length range. Select lengths using numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode Code 39 symbols containing between 4 and 12 characters, first scan Code 39 - Length Within Range. Then scan 0, 4, 1, and 2 (single digit numbers must always be preceded by a leading zero). To correct an error or change the selection, scan Cancel barcode.
- Any Length - Select this option to decode Code 39 symbols containing any number of characters within the decoder capability.

Code 39 - One Discrete Length

Code 39 - Two Discrete Lengths

Code 39 - Length Within Range

Code 39 - Any Length

Code 39 Check Digit Verification
When this feature is enabled, the decoder checks the integrity of all Code 39 symbols to verify that the data complies with specified check digit algorithm. Only Code 39 symbols which include a modulo 43 check digit are decoded. Enable this feature if the Code 39 symbols contain a Modulo 43 check digit.

Enable Code 39 Check Digit

< Disable Code 39 Check Digit >

Transmit Code 39 Check Digit

Scan a barcode below to transmit Code 39 data with or without the check digit.

Transmit Code 39 Check Digit
(Enable)

< Do Not Code 39 Check Digit >
(Disable)

Note: Code 39 Check Digit Verification must be enabled for this parameter to function.

Code 39 Full ASCII Conversion

Code 39 Full ASCII is a variant of Code 39 which pairs characters to encode the full ASCII character set. To enable or disable Code 39 Full ASCII, scan the appropriate barcode below.

Enable Code 39 Full ASCII

< Disable Code 39 Full ASCII >

Note: Trioptic Code 39 and Code 39 Full ASCII cannot be enabled simultaneously.

Code 39 Full ASCII to Full ASCII Correlation is host-dependent, and is therefore described in the ASCII Character Set Table for the appropriate interface. See *Appendix C, ASCII Character Set*.

Code 39 Buffering (Scan & Store)
This feature allows the decoder to accumulate data from multiple Code 39 symbols.

Selecting the Scan and Store option (Buffer Code 39) temporarily buffers all Code 39 symbols having a leading space as a first character for later transmission. The leading space is not buffered.

Decode of a valid Code 39 symbol with no leading space causes transmission in sequence of all buffered data in a first-in first-out format, plus transmission of the "triggering" symbol. See the following pages for further details.

When the Do Not Buffer Code 39 option is selected, all decoded Code 39 symbols are transmitted immediately without being stored in the buffer.

This feature affects Code 39 only. If selecting Buffer Code 39, we recommend configuring the decoder to decode Code 39 symbology only.

Buffer Code 39 (Enable)

< Do Not Buffer Code 39 (Disable) >

While there is data in the transmission buffer, selecting Do Not Buffer Code 39 is not allowed. The buffer holds 200 bytes of information.

To disable Code 39 buffering when there is data in the transmission buffer, first force the buffer transmission or clear the buffer.

Buffer Data
To buffer data, Code 39 buffering must be enabled and a Code 39 symbol must be read with a space immediately following the start pattern.

- Unless the data overflows the transmission buffer, the decoder issues a lo/hi beep to indicate successful decode and buffering. (For overflow conditions, see *Overfilling Transmission Buffer*.)
- The decoder adds the decoded data excluding the leading space to the transmission buffer.
- No transmission occurs.

Clear Transmission Buffer
To clear the transmission buffer, scan the Clear Buffer barcode below, which contains only a start character, a dash (minus), and a stop character.

- The decoder issues a short hi/lo/hi beep.
- The decoder erases the transmission buffer.
- No transmission occurs.

Clear Buffer

Note: The Clear Buffer contains only the dash (minus) character. In order to scan this command, be sure Code 39 length is set to include length 1.

Transmit Buffer
There are two methods to transmit the Code 39 buffer.

1. Scan the Transmit Buffer barcode below. Only a start character, a plus (+), and a stop character.
- The decoder transmits and clears the buffer.
- The decoder issues a Lo/Hi beep.

Transmit Buffer

2. Scan a Code 39 barcode with a leading character other than a space.
- The decoder appends new decode data to buffered data.
- The decoder transmits and clears the buffer.
- The decoder signals that the buffer was transmitted with a lo/hi beep.
- The decoder transmits and clears the buffer.

Note: The Transmit Buffer contains only a plus (+) character. In order to scan this command, be sure Code 39 length is set to include length 1.

Overfilling Transmission Buffer
The Code 39 buffer holds 200 characters. If the symbol just read results in an overflow of the transmission buffer:
- The decoder indicates that the symbol was rejected by issuing three long, high beeps.
- No transmission occurs. The data in the buffer is not affected.

Attempt to Transmit an Empty Buffer
If the symbol just read was the Transmit Buffer symbol and the Code 39 buffer is empty:
- A short lo/hi/lo beep signals that the buffer is empty.
- No transmission occurs.
- The buffer remains empty.

CODE 93

Enable/Disable Code 93

To enable or disable Code 93, scan the appropriate barcode below.

Enable Code 93

< Disable Code 93 >

Set Lengths for Code 93

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Code 93 to any length, one or two discrete lengths, or lengths within a specific range.

- One Discrete Length - Select this option to decode only Code 93 symbols containing a selected length. Select the length using the numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode only Code 93 symbols with 14 characters, scan Code 93 - One Discrete Length, then scan 1 followed by 4. To correct an error or to change the selection, scan Cancel barcode.

- Two Discrete Lengths - Select this option to decode only Code 93 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode only those Code 93 symbols containing either 2 or 14 characters, select Code 93 - Two Discrete Lengths, then scan 0, 2, 1, and then 4. To correct an error or to change the selection, scan Cancel barcode.

- **Length Within Range** - Select this option to decode a Code 93 symbol with a specific length range. Select lengths using the numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode Code 93 symbols containing between 4 and 12 characters, first scan Code 93 - Length Within Range. Then scan 0, 4, 1, and 2 (single digit numbers must always be preceded by a leading zero). To correct an error or change the selection, scan Cancel barcode.

- **Any Length** - Scan this option to decode Code 93 symbols containing any number of characters within the decoder's capability.

Code 93 – One Discrete Length

Code 93 – Two Discrete Length

<Code 93 – Length Within Range>

Code 93 – Any Length

CODE 11

To enable or disable Code 11, scan the appropriate barcode below.

Enable Code 11

< Disable Code 11 >

Set Lengths for Code 11
The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Code 11 to any length, one or two discrete lengths, or lengths within a specific range.

- One Discrete Length - Select this option to decode only Code 11 symbols containing a selected length. Select the length using the numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode only Code 11 symbols with 14 characters, scan Code 11 - One Discrete Length, then scan 1 followed by 4. To correct an error or to change the selection, scan Cancel on barcode.

- Two Discrete Lengths - Select this option to decode only Code 11 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode only those Code 11 symbols containing either 2 or 14 characters, select Code 11 - Two Discrete Lengths, then scan 0, 2, 1, and then 4. To correct an error or to change the selection, scan Cancel barcode.

- Length Within Range - Select this option to decode a Code 11 symbol with a specific length range. Select lengths using numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode Code 11 symbols containing between 4 and 12 characters, first scan Code 11 - Length Within Range. Then scan 0, 4, 1, and 2 (single digit numbers must always be preceded by a leading zero). To correct an error or change the selection, scan Cancel barcode.

- Any Length - Scan this option to decode Code 11 symbols containing any number of characters within the decoder capability.

Code 11 - One Discrete Length

Code 11 - Two Discrete Lengths

Code 11 - Length Within Range

Code 11 - Any Length

Code 11 Check Digit Verification
This feature allows the decoder to check the integrity of all Code 11 symbols to verify that the data complies with the specified check digit algorithm. This selects the check digit mechanism for the decoded Code 11 barcode. The options are to check for one check digit, check for two check digits, or disable the feature.

To enable this feature, scan the barcode below corresponding to the number of check digits encoded in the Code 11 symbols.

< Disable >

One Check Digit

Two Check Digits

Transmit Code 11 Check Digits
Parameter # 2Fh
This feature selects whether or not to transmit the Code 11 check digit(s).

Transmit Code 11 Check Digit(s)
(Enable)

< Do Not Transmit Code11 Check Digit(s) (Disable) >

Note: Code 11 Check Digit Verification must be enabled for this parameter to function.

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INTERLEAVED 2 OF 5 (ITF)

Enable/Disable Interleaved 2 of 5

To enable or disable Interleaved 2 of 5, scan the appropriate barcode below, and select an Interleaved 2 of 5 length from the following pages.

< Enable Interleaved 2 of 5 >

Disable Interleaved 2 of 5

Set Lengths for Interleaved 2 of 5

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for I 2 of 5 to any length, one or two discrete lengths, or lengths within a specific range.

- One Discrete Length - Select this option to decode only I 2 of 5 symbols containing a selected length. Select the length using the numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode only I 2 of 5 symbols with 14 characters, scan I 2 of 5 - One Discrete Length, then scan 1 followed by 4. To correct an error or to change the selection, scan Cancel barcode.

- Two Discrete Lengths - Select this option to decode only I 2 of 5 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode only those I 2 of 5 symbols containing either 2 or 14 characters, select I 2 of 5 - Two Discrete Lengths, then scan 0, 2, 1, and then 4. To correct an error or to change the selection, scan Cancel barcode.

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first scan I 2 of 5 - Length Within Range. Then scan 0, 4, 1, and 2 (single digit numbers must always be preceded by a leading zero). To correct an error or change the selection, scan Cancel barcode.

- Any Length - Scan this option to decode I 2 of 5 symbols containing any number of characters within the decoder capability.

Note: Due to the construction of the I 2 of 5 symbology, it is possible for a scan line covering only a portion of the code to be interpreted as a complete scan, yielding less data than is encoded in the barcode. To prevent this, select specific lengths (I 2 of 5 - One Discrete Length - Two Discrete Lengths) for I 2 of 5 applications.

I 2 of 5 - One Discrete Length

I 2 of 5 - Two Discrete Lengths

I 2 of 5 - Length Within Range

I 2 of 5 - Any Length

I 2 of 5 Check Digit Verification

When this feature is enabled, the decoder checks the integrity of all I 2 of 5 symbols to verify the data complies with either the specified Uniform Symbology Specification (USS), or the Optical Product Code Council (OPCC) check digit algorithm.

< Disable >

USS Check Digit

OPCC Check Digit

Transmit I 2 of 5 Check Digit

Scan the appropriate barcode below to transmit I 2 of 5 data with or without the check digit.

Transmit I 2 of 5 Check Digit(Enable)

< Do Not Transmit I 2 of 5 Check Digit (Disable) >

Convert I 2 of 5 to EAN-13

Enable this parameter to convert 14-character I 2 of 5 codes to EAN-13, and transmit to the host as EAN-13. To accomplish this, the I 2 of 5 code must be enabled, and the code must have a leading zero and a valid EAN-13 check digit.

Convert I 2 of 5 to EAN-13 (Enable)

< Do Not Convert I 2 of 5 to EAN-13 >
(Disable)

DISCRETE 2 OF 5 (DTF)

Enable/Disable Discrete 2 of 5
To enable or disable Discrete 2 of 5, scan the appropriate barcode below.

Enable Discrete 2 of 5

< Disable Discrete 2 of 5 >

Set Lengths for Discrete 2 of 5
The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for D 2 of 5 to any length, one or two discrete lengths, or lengths within a specific range.

- One Discrete Length - Select this option to decode only D 2 of 5 symbols containing a selected length. Select the length using the numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode only D 2 of 5 symbols with 14 characters, scan D 2 of 5 - One Discrete Length, and then scan 1 followed by 4. To correct an error or to change the selection, scan Cancel barcode.

- Two Discrete Lengths - Select this option to decode only D 2 of 5 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in *Appendix D, Numeric Bar Codes.* For example, to decode only those D 2 of 5 symbols containing either 2 or 14 characters, select D 2 of 5 - Two Discrete Lengths, then scan 0, 2, 1, and then 4. To correct an error or to change the selection, scan Cancel barcode.

- Length Within Range - Select this option to decode a D 2 of 5 symbol with a specific length range. Select lengths using numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode D 2 of 5 symbols containing between 4 and 12 characters, first scan D 2 of 5 - Length Within Range. Then scan 0, 4, 1, and 2 (single digit numbers must always be preceded by a leading zero).

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To correct an error or change the selection, scan Cancel barcode.

- Any Length - Scan this option to decode D 2 of 5 symbols containing any number of characters within the decoder capability.

Note: Due to the construction of the D 2 of 5 symbology, it is possible for a scan line covering only a portion of the code to be interpreted as a complete scan, yielding less data than is encoded in the barcode. To prevent this, select specific lengths (D 2 of 5 - One Discrete Length - Two Discrete Lengths) for D 2 of 5 applications.

D 2 of 5 -One Discrete Length

D 2 of 5 -Two Discrete Lengths

D 2 of 5 – Lengths Within Range

D 2 of 5 -Any Length

CODABAR (NW-7)

Enable/Disable Codabar

To enable or disable Codabar, scan the appropriate barcode below.

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

Enable Codabar

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

< Disable Codabar >

Set Lengths for Codabar

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Codabar to any length, one or two discrete lengths, or lengths within a specific range.

- One Discrete Length - Select this option to decode only Codabar symbols containing a selected length. Select the length using the numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode only Codabar symbols with 14 characters, scan Codabar - One Discrete Length, then scan 1 followed by 4. To correct an error or to change the selection, scan Cancel barcode.

- Two Discrete Lengths - Select this option to decode only Codabar symbols containing either of two selected lengths. Select lengths using the numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode only Codabar symbols containing either 2 or 14 characters, select Codabar - Two Discrete Lengths, then scan 0, 2, 1, and then 4. To correct an error or to change the selection, scan Cancel barcode.

first scan Codabar - Length Within Range. Then scan 0, 4, 1, and 2 (single digit numbers must always be preceded by a leading zero). To correct an error or change the selection, scan Cancel barcode.

- Any Length - Scan this option to decode Codabar symbols containing any number of characters within the decoder capability.

Codabar - One Discrete Length

Codabar - Two Discrete Lengths

Codabar - Length Within Range

Codabar - Any Length

CLSI Editing

When enabled, this parameter strips the start and stops characters and inserts a space after the first, fifth, and tenth characters of a 14-character Codabar symbol. Enable this feature if the host system requires this data format.

Note: Symbol length does not include start and stop characters.

Enable CLSI Editing

< Disable CLSI Editing >

NOTIS Editing

When enabled, this parameter strips the start and stop characters from a decoded Codabar symbol. Enable this feature if the host system requires this data format.

Enable NOTIS Editing

< Disable NOTIS Editing >

MSI

Enable/Disable MSI

To enable or disable MSI, scan the appropriate barcode below.

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

Enable MSI

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

< Disable MSI >

Set Lengths for MSI

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for MSI to any length, one or two discrete lengths, or lengths within a specific range.

- One Discrete Length - Select this option to decode only MSI symbols containing a selected length. Select the length using the numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode only MSI symbols with 14 characters, scan MSI - One Discrete Length, then scan 1 followed by 4. To correct an error or to change the selection, scan Cancel barcode.

- Two Discrete Lengths - Select this option to decode only MSI symbols containing either of two selected lengths. Select lengths using the numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode only MSI symbols containing either 2 or 14 characters, select MSI - Two Discrete Lengths, then scan 0, 2, 1, and then 4. To correct an error or to change the selection, scan Cancel barcode.

- Length Within Range - Select this option to decode a MSI symbol with a specific length range. Select lengths using numeric bar codes in *Appendix D, Numeric Bar Codes*. For example, to decode MSI symbols containing between 4 and 12 characters, first scan MSI - Length Within Range. Then scan 0, 4, 1, and 2 (single digit numbers must always be preceded by a leading zero). To correct

- Any Length - Scan this option to decode MSI symbols containing any number of characters within the decoder capability.

Note: Due to the construction of the MSI symbology, it is possible for a scan line covering only a portion of the code to be interpreted as a complete scan, yielding less data than is encoded in the barcode. To prevent this, select specific lengths (MSI - One Discrete Length - Two Discrete Lengths) for MSI applications.

MSI - One Discrete Length

MSI - Two Discrete Lengths

MSI - Length Within Range

MSI - Any Length

MSI Check Digits

With MSI symbols, one check digit is mandatory and always verified by the reader. The second check digit is optional. If the MSI codes include two check digits, scan the Two MSI Check Digits barcode to enable verification of the second check digit.

See *MSI Check Digit Algorithm* for the selection of second digit algorithms.

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

< One MSI Check Digits >

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

Two MSI Check Digits

Transmit MSI Check Digit(s)
Parameter # 2Eh
Scan a barcode below to transmit MSI data with or without the check digit.

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

Transmit MSI Check Digit(s)
(Enable)

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

< Do Not Transmit MSI Check Digit(s) (Disable) >

MSI Check Digit Algorithm

Two algorithms are possible for the verification of the second MSI check digit. Select the barcode below corresponding to the algorithm used to encode the check digit.

MOD 10/MOD 11

< MOD 10/MOD 10 >

POSTAL CODES

US Postnet
To enable or disable US Postnet, scan the appropriate barcode below.

< Enable US Postnet >

Disable US Postnet

US Planet
To enable or disable US Planet, scan the appropriate barcode below.

< Enable US Planet >

Disable US Planet

UK Postal
To enable or disable UK Postal, scan the appropriate barcode below.

< Enable UK Postal >

<Disable UK Postal>

Transmit UK Postal Check Digit
Select whether to transmit UK Postal data with or without the check digit.

< Transmit UK Postal Check Digit >

Do Not Transmit UK Postal Check Digit

Japan Postal
To enable or disable Japan Postal, scan the appropriate barcode below.

Enable Japan Postal

<Disable Japan Postal >

Australian Postal
To enable or disable Australia Postal, scan the appropriate barcode below.

Enable Australian Postal

<Disable Australian Postal >

Transmit US Postal Check Digit

Select whether to transmit US Postal data with or without the check digit.

\<Transmit US Postal Check Digit\>

Do not Transmit US Postal Check Digit

GS1 DATABAR

GS1 DataBar types include
• GS1 DataBar Omnidirectional
• GS1 DataBar Truncated
• GS1 DataBar Stacked
• GS1 DataBar Stacked Omnidirectional
• GS1 DataBar Limited
• GS1 DataBar Expanded
• GS1 DataBar Expanded Stacked
Scan the appropriate bar codes to enable or disable each type of GS1 DataBar.

GS1 DataBar
Scan the appropriate barcode below to enable or disable the following code types:
• GS1 DataBar Omnidirectional
• GS1 DataBar Truncated
• GS1 DataBar Stacked
• GS1 DataBar Stacked Omnidirectional,

<Enable GS1 DataBar>

Disable GS1 DataBar

GS1 DataBar Limited

||| ||||||||||||||||| ||||
Enable GS1 DataBar Limited

||| ||||||||||||||||| ||||
<Disable GS1 DataBar Limited>

GS1 DataBar Limited Security Level

The decoder offers four levels of decode security for GS1 DataBar Limited bar codes. There is an inverse relationship between security and decoder aggressiveness. Increasing the level of security may result in reduced aggressiveness in scanning, so only choose the level of security necessary.

- Level 1 – No clear margin required. This complies with the original GS1 standard, yet might result in erroneous decoding of the DataBar Limited barcode when scanning some UPC symbols that start with the digits "9" and "7".
- Level 2 – Automatic risk detection. This level of security may result in erroneous decoding of DataBar Limited bar codes when scanning some UPC symbols. If a misdecode is detected, the decoder operates in Level 3 or Level 1.
- Level 3 – Security level reflects newly proposed GS1 standard that requires a 5X trailing clear margin.
- Level 4 – Security level extends beyond the standard required by GS1. This level of security requires a 5X leading and trailing clear margin.

Security Level 1

Security Level 2

<Security Level 3>

Security Level 4

GS1 DataBar Expanded

Scan the appropriate barcode below to enable or disable the following code types:

• GS1 DataBar Expanded
• GS1 DataBar Expanded Stacked.

<Enable GS1 DataBar Expanded>

Disable GS1 DataBar Expaneded

Convert GS1 DataBar to UPC/EAN

This parameter only applies to GS1 DataBar and GS1 DataBar Limited symbols not decoded as part of a Composite symbol. Enable this to strip the leading '010' from DataBar and DataBar Limited symbols encoding a single zero as the first digit, and report the barcode as EAN-13.

For bar codes beginning with two or more zeros but not six zeros, this parameter strips the leading '0100' and reports the barcode as UPC-A. The UPC-A Preamble parameter that transmits the system character and country code applies to converted bar codes. Note that neither the system character nor the check digit can be stripped.

Enable Convert GS1 DataBar to UPC/EAN

<Disable Convert GS1 DataBar to UPC/EAN>

COMPOSITE

Composite CC-C
Scan a barcode below to enable or disable Composite bar codes of type CC-C.

Enable CC-C

< Disable CC-C >

Composite CC-A/B
Scan a barcode below to enable or disable Composite bar codes of type CC-A/B.

Enable CC-A/B

< Disable CC-A/B >

Composite TLC-39

Scan a barcode below to enable or disable Composite bar codes of type TLC-39.

Enable TLC39

< Disable TLC39 >

UPC Composite Mode

UPC symbols can be "linked" with a 2D symbol during transmission as if they were one symbol. There are three options for these symbols:

- Select UPC Never Linked to transmit UPC bar codes regardless of whether a 2D symbol is detected.
- Select UPC Always Linked to transmit UPC bar codes and the 2D portion. If 2D is not present, the UPC barcode does not transmit. If
- Auto discriminate UPC Composites is selected, the device determines if there is a 2D portion, and then transmits the UPC, as well as the 2D portion if present.

UPC Never Linked

< UPC Always Linked >

Auto discriminate UPC Composites

Composite Beep Mode
To select the number of decode beeps when a composite barcode is decoded,
scan the appropriate barcode.

Single Beep after both are decoded

< Beep as each code type is decoded >

Double Beep after both are decoded

UCC/EAN Code 128 Emulation Mode for UCC/EAN Composite Codes

Select whether to enable or disable this mode.

Enable UCC/EAN Code 128
Emulation Mode for
UCC/EAN Composite Codes

**< Disable UCC/EAN Code 128
Emulation Mode for
UCC/EAN Composite Codes >**

2D SYMBOLOGIES

PDF417

Enable/Disable PDF417

To enable or disable PDF417, scan the appropriate barcode below.

< Enable PDF417 >

Disable PDF417

MICROPDF417

Enable/Disable MicroPDF417
To enable or disable MicroPDF417, scan the appropriate barcode below.

Enable MicroPDF417

< Disable MicroPDF417 >

Code 128 Emulation

When this parameter is enabled, the device transmits data from certain MicroPDF417 symbols as if it was encoded in Code 128 symbols. Transmit AIM Symbology Identifiers must be enabled for this parameter to work. If Code 128 Emulation is enabled, these MicroPDF417 symbols are transmitted with one of the following prefixes:

    ]C1   if the first codeword is 903-907, 912, 914, 915
    ]C2   if the first codeword is 908 or 909
    ]C0   if the first codeword is 910 or 911

If disabled, they are transmitted with one of the following prefixes:

    ]L3   if the first codeword is 903-907, 912, 914, 915
    ]L4   if the first codeword is 908 or 909
    ]L5   if the first codeword is 910 or 911

Scan a barcode below to enable or disable Code 128 Emulation.

Enable Code 128 Emulation

< Disable Code 128 Emulation >

DATA MATRIX

To enable or disable Data Matrix, scan the appropriate barcode below.

< Enable Data Matrix >

Disable Data Matrix

Inverse Autodetect

MAXICODE

To enable or disable Maxicode, scan the appropriate barcode below.

< Enable Maxicode >

Disable Maxicode

QR CODE

To enable or disable QR Code, scan the appropriate barcode below.

< Enable QR Code >   Disable QR Code

Inverse Autodetect

AZTEC

To enable or disable Aztec, scan the appropriate barcode below.

<Enable Aztec >   **Disable Aztec**

Han Xin

To enable or disable Han Xin, scan the appropriate barcode below.
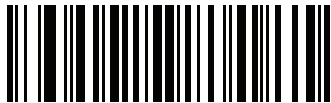
Enable Han Xin   **<Disable Han Xin>**

SECURITY LEVEL

The decoder offers four levels of decode security for delta bar codes, which include the Code 128 family, UPC/EAN, and Code 93. Select increasing levels of security for decreasing levels of barcode quality. There is an inverse relationship between security and decoder aggressiveness, so choose only that level of security necessary for any given application.

- **Security Level 0**: This setting allows the decoder to operate in its most aggressive state, while providing sufficient security in decoding most "in-spec" bar codes.

- **Security Level 1**: Select this option if misdecodes occur. This default setting should eliminate most misdecodes.

- **Security Level 2**: Select this option if Security level 1 fails to eliminate misdecodes.

- **Security Level 3**: If Security Level 2 was selected and misdecodes still occur, select this security level. Be advised, selecting this option is an extreme measure against miss-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the decoder. If this level of security is necessary, try to improve the quality of the bar codes.

Security Level 0

< Security Level 1 >

Security Level 2

Security Level 3

INTERCHARACTER GAP SIZE

The Code 39 and Codabar symbologies have an intercharacter gap that is typically quite small. Due to various barcode-printing technologies, this gap can grow larger than the maximum size allowed, preventing the decoder from decoding the symbol. If this problem occurs, scan the Large Intercharacter Gaps parameter to tolerate these out-of-specification bar codes.

< Normal Intercharacter Gaps >

Large Intercharacter Gaps

Report Version
Scan the barcode below to report the version of software currently installed in the decoder.

Report Software Version

MACRO PDF FEATURES

Macro PDF is a special feature for concatenating multiple PDF symbols into one file. The decoder can decode symbols that are encoded with this feature, and can store more than 64 kb of decoded data stored in up to 50 Macro PDF symbols.

Caution: *When printing, keep each Macro PDF sequence separate, as each sequence has unique identifiers. Do not mix bar codes from several Macro PDF sequences, even if they encode the same data. When scanning Macro PDF sequences, scan the entire Macro PDF sequence without interruption.*

Macro PDF User Indications
In this mode the decoder provides the following feedback.

Macro PDF User Indications

User Scans	Pass through All Symbols		Transmit Any Symbol in Set		Buffer All Symbols	
	Beep	T	Beep	T	Beep	T
Last Macro PDF in set	Decode Beep	Y	Decode Beep	Y	Decode Beep	Y
Any Macro PDF in set except last	Decode Beep	Y	Decode Beep	Y	2 Short Low	N
Macro PDF is not in current Set	Decode Beep	Y	2 Long Low	N	2 Long Low	N
Invalid formatted Macro PDF	Decode Beep	Y	2 Long Low	N	2 Long Low	N
Macro PDF from a set has already been scanned	Decode Beep	Y	4 Long Low	N	4 Long Low	N
Out of Macro PDF memory	N/A	-	3 Long Low	N	3 Long Low	N
Any non-Macro PDF scanned during a set	N/A	-	4 Long Low	N	4 Long Low	N
Flush Macro PDF	Low Hi	N	5 Long Low	N	5 Long Low	Y
Abort Macro PDF	High Low High Low	N	High Low High Low	N	High Low High Low	N
Notes: 1. The beep only sounds if the *BEEPER_ON signal is connected. 2. The column marked T indicates whether the symbol is transmitted to the host. N = No transmission.						

Macro PDF Transmit / Decode Mode Symbols

Select one of the options below for handling Macro PDF decoding. In *Buffer All Symbols* the decoder can handle sets of up to 50 maximum-sized Macro PDF symbols. In all other modes there is no limit to the size of the Macro PDF set.

- Buffer All Symbols / Transmit Macro PDF When Complete: This transmits all decode data from an entire Macro PDF sequence only when the entire sequence is scanned and decoded. Use the beeper and LED signals when using this mode to ensure proper user feedback.

- If the decode data exceeds the limit of 50 symbols, there is no transmission because the entire sequence was not scanned. Use the parameter *Flush Macro Buffer* to purge the buffer.

- Transmit Any Symbol in Set / No Particular Order: This transmits data from each Macro PDF symbol as decoded, regardless of the sequence (although some error handling is performed). When selecting this mode, enable Transmit Macro PDF Control Header. Also use the beeper and LED signals provided to ensure proper user feedback.

- Pass through All Symbols: This transmits and decodes all Macro PDF symbols and performs no processing. In this mode the host is responsible for detecting and parsing the Macro PDF sequences.

  Use this mode when the decoder's BEEPER_ON signal is not used to drive a beeper. In the other modes, some Macro PDF scanning sequences provide audible feedback only, so if BEEPER_ON is not used no user feedback is provided. All actions marked No Transmission provide no feedback unless the BEEPER_ON signal is used. By using Pass through All Symbols mode every user decode is transmitted to the host where the host software can provide the appropriate feedback.

Buffer All Symbols / Transmit Macro
PDF When Complete

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

Transmit Any Symbol in Set / No
Particular Order

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

< Pass through All Symbols >

Transmit Macro PDF Control Header

When enabled, this activates transmission of the control header, which
contains the segment index and the file ID, in Macro PDF symbols. For
example, the field may be: \92800000\725\120\343. The five digits after the
\928 are the segment index (or block index), and \725\120\343 is the file ID.

Enable this when selecting *Transmit Any Symbol in Set / No Particular Order*
for the *Macro PDF Transmit / Decode Mode Symbols*, and disable this when
selecting *Buffer All Symbols / Transmit Macro PDF When Complete*. This
parameter has no effect when *Pass through All Symbols* is selected.

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

Enable Macro PDF Control Header
Transmit

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

**< Disable Macro PDF Control Header
Transmit >**

Escape Characters

This enables the backslash (\) character as an Escape character for systems that can process transmissions containing special data sequences. Scan a barcode below to either format special data according to the GLI (Global Label Identifier) protocol, or to disable this parameter. This parameter only affects the data portion of a Macro PDF symbol transmission; the Macro PDF Control Header (if enabled) is always sent with GLI formatting.

GLI Protocol

< None >

Flush Macro Buffer

This flushes the buffer of all decoded Macro PDF data stored to that point, transmits it to the host device, and aborts from Macro PDF mode.

Flush Macro PDF Buffer

Abort Macro PDF Entry

This clears all currently-stored Macro PDF data in the buffer without transmission and aborts from Macro PDF mode.

Abort Macro PDF Entry

Chapter 7   Miscellaneous Scanner Options

Introduction
This chapter includes commonly used bar codes to customize how data is transmitted to the host device.

See *Appendix A, Standard Default Parameters* for all host device and miscellaneous scanner defaults. If the default values suit requirements, programming is not necessary.

Note: Most computer monitors allow scanning the bar codes directly on the screen. When scanning from the screen, is sure to set the document magnification to a level where the barcode can be seen clearly, and bars and/or spaces are not merging.

To return all features to default values, scan the *Set Default Parameter* barcode. Throughout the programming barcode menus, default values are framed.

Scanning Sequence Examples
In most cases, scan one barcode to set a specific parameter value. Other parameters, such as Prefix Value, require scanning several bar codes. See each parameter for descriptions of this procedure.

Errors While Scanning
Unless otherwise specified, to correct an error during a scanning sequence, just re-scan the correct parameter.

Miscellaneous Scanner Parameter Defaults
Table below lists the defaults for miscellaneous scanner options parameters. To change any option, scan the appropriate barcode(s) provided in the *Miscellaneous Scanner Parameter*.

Note: See *Standard Default Parameters* for all user preferences, hosts, symbologies, and miscellaneous default parameters.

Miscellaneous Scanner Options Default Table

Parameter	Default
Transmit Code ID Character	None
SSI Prefix Value	<CR>
SSI Suffix 1 Value SSI Suffix 2 Value	<CR> <CR>
Non-SSI Prefix Value	<CR><LF>
Non-SSI Suffix 1 Value Non-SSI Suffix 2 Value	<CR><LF> <CR><LF>
Scan Data Transmission Format	Data as is
FN1 Substitution Values	Set
Transmit "No Read" Message	Disable

TRANSMIT CODE ID CHARACTER

A Code ID character identifies the code type of a scanned barcode. This is useful when the decoder is decoding more than one code type. In addition to any single character prefix already selected, the Code ID character is inserted between the prefix and the decoded symbol.

Select no Code ID character, a Default Code ID character, or an AIM Code ID character. For Code ID Characters, see Default *Code Identifiers* and *AIM Code Identifiers*.

Default Code ID Character

AIM Code ID Character

< None >

PREFIX/SUFFIX VALUES

A prefix and/or one or two suffixes can be appended to scan data for use in data editing. To set a value for a prefix or suffix, scan a prefix or suffix barcode below, then scan a four-digit number (i.e., four barcodes from *Appendix D, Numeric Bar Codes*) that corresponds to that value. To correct an error or change a selection, scan *Cancel barcode*.

Note: To use Prefix/Suffix values, first set the *Scan Data Transmission Format*.

For non-SSI hosts, when using host commands to set the prefix or suffix, set the key category parameter to 1, then set the 3-digit decimal value.

Scan Prefix

Scan Suffix 1

Scan Suffix 2

SCAN DATA TRANSMISSION FORMAT

To change the scan data format, scan one of the following eight bar codes corresponding to the desired format. If using this parameter do not use ADF rules to set the prefix/suffix.

To set values for the prefix and/or suffix, see *Prefix/Suffix Values.*

< Data As Is >

<DATA> <SUFFIX 1>

<DATA> <SUFFIX 2>

<DATA> <SUFFIX 1> <SUFFIX 2>

<PREFIX> <DATA >

<PREFIX> <DATA> <SUFFIX 1>

<PREFIX> <DATA> <SUFFIX 2>

<PREFIX> <DATA> <SUFFIX 1>
<SUFFIX 2>

FN1 SUBSTITUTION VALUES

The Wedge and USB HID Keyboard hosts support a FN1 Substitution feature. When enabled any FN1 character (0x1b) in an EAN128 barcode is substituted with a value. This value defaults to 7013 (Enter Key).

When using host commands to set the FN1 substitution value, set the key category parameter to 1, then set the 3-digit keystroke value. See the ASCII Character Set table for the currently installed host interface for the desired value.

To select a FN1 substitution value via barcode menus:
1. Scan the barcode below.

Set FN1 Substitution Value

2. Look up the keystroke desired for FN1 Substitution in the ASCII Character Set table for the currently installed host interface. Enter the 4-digit ASCII Value by scanning each digit in *Appendix D, Numeric Bar Codes*.

To correct an error or change the selection, scan Cancel. To enable FN1 substitution for USB HID keyboard, scan the Enable FN1 Substitution barcode.

APPENDIX A: STANDARD DEFAULT PARAMETERS

Default Parameters

Table A-1.   Standard Default Parameters Table

Parameter		Default
User Preferences		
Set Default Parameter		All Defaults
Parameter Scanning		Enable
Beeper Tone		Medium
Beeper Volume		High
Trigger Modes	Handheld/hands-free scanner	Level
	Scan module	Presentation
Power Mode	Handheld/hands-free scanner	Low Power
	Scan module	Continuous On
Time Delay to Low Power Mode		NA
Decode Session Timeout		9.9 Sec
Timeout Between Decodes, Same Symbol		0.6 Sec
Beep After Good Decode		Enable
Presentation Mode Session Timeout		2 Seconds

Serial Host Parameters	
Serial Host Types	SSI Host
Baud Rate	9600
Parity Type	None
Stop Bit Select	1 Stop Bit
Data Bits	8-Bit
Check Receive Errors	Enable
Hardware Handshaking	None
Software Handshaking	None
Host Serial Response Time-out	2 Sec
RTS Line State	Low RTS
Beep on <BEL>	Disable
Intercharacter Delay	0 msec
Nixdorf Beep/LED Options	Normal Operation
Ignore Unknown Characters	Send barcode
USB Host Parameters	
USB Device Type	HID Keyboard Emulation

USB Country Keyboard Types (Country Codes)	North American
USB Keystroke Delay	No Delay
USB CAPS Lock Override	Disable
USB Ignore Unknown Characters	Enable
Emulate Keypad	Disable
USB FN1 Substitution	Disable
Function Key Mapping	Disable
Simulated Caps Lock	Disable
Convert Case	None
UPC/EAN	
UPC-A	Enable
UPC-E	Enable
UPC-E1	Disable
EAN-8/JAN 8	Enable
EAN-13/JAN 13	Enable
Bookland EAN	Disable
Decode UPC/EAN/JAN Supplemental (2 and 5 digits)	Ignore
UPC/EAN/JAN Supplemental Redundancy	10
Transmit UPC-A Check Digit	Enable
Transmit UPC-E Check Digit	Enable
Transmit UPC-E1 Check Digit	Enable
UPC-A Preamble	System Character

UPC-E Preamble	System Character
UPC-E1 Preamble	System Character
Convert UPC-E to A	Disable
Convert UPC-E1 to A	Disable
EAN-8/JAN-8 Extend	Disable
Code 128	
Code 128	Enable
UCC/EAN-128	Enable
ISBT 128	Enable
Code 39	
Code 39	Enable
Trioptic Code 39	Disable
Convert Code 39 to Code 32 (Italian Pharmacy Code)	Disable
Code 32 Prefix	Disable
Set Length(s) for Code 39	2 to 55
Code 39 Check Digit Verification	Disable
Transmit Code 39 Check Digit	Disable
Code 39 Full ASCII Conversion	Disable
Buffer Code 39	Disable
Code 93	
Code 93	Disable
Set Length(s) for Code 93	4 to 55

Code 11	
Code 11	Disable
Set Lengths for Code 11	4 to 55
Code 11 Check Digit Verification	Disable
Transmit Code 11 Check Digit(s)	Disable
Interleaved 2 of 5 (ITF)	
Interleaved 2 of 5 (ITF)	Enable
Set Lengths for I 2 of 5	14
I 2 of 5 Check Digit Verification	Disable
Transmit I 2 of 5 Check Digit	Disable
Convert I 2 of 5 to EAN 13	Disable
Discrete 2 of 5 (DTF)	
Discrete 2 of 5	Disable
Set Length(s) for D 2 of 5	12
Codabar (NW - 7)	
Codabar	Disable
Set Lengths for Codabar	5 to 55
CLSI Editing	Disable
NOTIS Editing	Disable
MSI	
MSI	Disable
Set Length(s) for MSI	4 to 55
MSI Check Digits	One

Transmit MSI Check Digit	Disable
MSI Check Digit Algorithm	Mod 10/Mod 10
Postal Codes	
US Postnet	Enable
US Planet	Enable
UK Postal	Enable
Transmit UK Postal Check Digit	Enable
Japan Postal	Enable
Australian Postal	Enable
Dutch Postal	Enable
Transmit US Postal Check Digit	Enable
RSS (Reduced Space Symbology)	
RSS 14	Enable
RSS Limited	Enable
RSS Expanded	Enable
Convert RSS to UPC/EAN	Disable
Composite	
Composite CC-C	Disable
Composite CC-A/B	Disable
Composite TLC-39	Disable
UPC Composite Mode	Always Linked
Composite Beep Mode	Beep As Each Code Type is Decoded

UCC/EAN Code 128 Emulation Mode for UCC/EAN Composite Codes	Disable
2D Symbologies	
PDF417	Enable
MicroPDF417	Disable
Code 128 Emulation	Disable
Data Matrix	Enable
Maxicode	Enable
QR Code	Enable
Symbology-Specific Security Levels	
Redundancy Level	1
Security Level	1
Intercharacter Gap Size	Normal
Report Version	
Macro PDF	
Macro PDF Transmit/Decode Mode Symbols	Pass through Mode
Transmit Macro PDF Control Header	Disable
Escape Characters	None
Flush Macro PDF Buffer	Page 134
Abort Macro PDF Entry	Page 134
Miscellaneous Scanner Options	
Transmit Code ID Character	None
SSI Prefix Value	<CR>

SSI Suffix 1 Value SSI Suffix 2 Value	<CR> <CR>
Non-SSI Prefix Value	<CR><LF>
Non-SSI Suffix 1 Value Non-SSI Suffix 2 Value	<CR><LF> <CR><LF>
Scan Data Transmission Format	Data as is
FN1 Substitution Values	Set
Transmit "No Read" Message	Disable

APPENDIX B: DEFAULT CODE IDENTIFIERS

Default Code Characters

Code Character	Code Type
A	UPC-A, UPC-E, UPC-E1, EAN-8, EAN-13
B	Code 39, Code 32
C	Codabar
D	Code 128
E	Code 93
F	Interleaved 2 of 5
G	Discrete 2 of 5, or Discrete 2 of 5 IATA
H	Code 11
J	MSI
K	UCC/EAN-128
L	Bookland EAN
M	Trioptic Code 39
N	Coupon Code
R	RSS Family
T	UCC Composite, TLC 39
X	PDF417, Macro PDF417, Micro PDF417
P00	Data Matrix
P01	QR Code
P02	Maxicode

P03	US Postnet
P04	US Planet
P05	Japan Postal
P06	UK Postal
P08	Dutch Postal
P09	Australian Postal
P09	UK Postal

AIM Code Identifiers

Each AIM Code Identifier contains the three-character string]cm where:

    ] = Flag Character (ASCII 93)
    c = Code Character
    m = Modifier Character

Aim Code Characters

Code Character	Code Type
A	Code 39, Code 39 Full ASCII, Code 32
C	Code 128, Coupon (Code 128 portion)
d	Data Matrix
E	UPC/EAN, Coupon (UPC portion)
e	RSS Family
F	Codabar
G	Code 93
H	Code 11
I	Interleaved 2 of 5
L	PDF417, Macro PDF417, Micro PDF417
M	MSI
Q	QR Code
S	Discrete 2 of 5, IATA 2 of 5
U	Maxicode
X	Bookland EAN, Trioptic Code 39, US Postnet, US Planet, UK Postal, Japan Postal, Australian Postal, Dutch Postal

The modifier character is the sum of the applicable option values based on Table B-3.

Modifier Characters

Code Type	Option Value	Option
Code 39	0	No check character or Full ASCII processing.
	1	Reader has checked one check character.
	3	Reader has checked and stripped check character.
	4	Reader has performed Full ASCII character conversion.
	5	Reader has performed Full ASCII character conversion and checked one check character.
	7	Reader has performed Full ASCII character conversion and checked and stripped check character.
	Example: A Full ASCII barcode with check character W, A+I+MI+DW, is transmitted as]A7AIMID where 7 = (3+4).	
Trioptic Code 39	0	No option specified at this time. Always transmit 0.
	Example: A Trioptic barcode 412356 is transmitted as]X0412356	
Code 128	0	Standard data packet, no Function code 1 in first symbol position.
	1	Function code 1 in first symbol character position.
	2	Function code 1 in second symbol character position.
	Example: A Code (EAN) 128 barcode with Function 1 character FNC1 in the first position, AIMID is transmitted as]C1AIMID	
I 2 of 5	0	No check digit processing.
	1	Reader has validated check digit.
	3	Reader has validated and stripped check digit.
	Example: An I 2 of 5 barcode without check digit, 4123, is transmitted as]I04123	
Codabar	0	No check digit processing.
	1	Reader has checked check digit.
	3	Reader has stripped check digit before transmission.
	Example: A Codabar barcode without check digit, 4123, is	

	0	No options specified at this time. Always transmit 0.
Code 93		
	Example: A Code 93 barcode 012345678905 is transmitted as]G0012345678905	
	0	Check digits are sent.
MSI	1	No check digit is sent.
	Example: An MSI barcode 4123, with a single check digit checked, is transmitted as]M14123	
	0	No options specified at this time. Always transmit 0.
D 2 of 5		
	Example: A D 2 of 5 barcode 4123, is transmitted as]S04123	
	0	Standard packet in full EAN country code format, which is 13 digits for UPC-A and UPC-E (not including supplemental data).
UPC/EAN	1	Two-digit supplement data only.
	2	Five-digit supplement data only.
	4	EAN-8 data packet.
	Example: A UPC-A barcode 012345678905 is transmitted as]E00012345678905	
	0	No options specified at this time. Always transmit 0.
Bookland EAN		
	Example: A Bookland EAN barcode 123456789X is transmitted as]X0123456789X	
	0	Single check digit
Code 11	1	Two check digits
	3	Check characters validated but not transmitted.
RSS Family		No option specified at this time. Always transmit 0. RSS-14 and RSS-Limited transmit with an Application Identifier "01". Note: In UCC/EAN-128 emulation mode, RSS is transmitted using Code 128 rules (i.e.,]C1).
	Example: An RSS-14 barcode 100123456788902 is transmitted as]e001100123456788902.	
		Native mode transmission. Note: UPC portion of composite is transmitted using UPC rules.
	0	Standard data packet.

EAN.UCC Composites (RSS, UCC/EAN-128, 2D portion of UPC composite)	1	Data packet containing the data following an encoded symbol separator character.
	2	Data packet containing the data following an escape mechanism character. The data packet does not support the ECI protocol.
	3	Data packet containing the data following an escape mechanism character. The data packet supports the ECI protocol.
		UCC/EAN-128 emulation Note: UPC portion of composite is transmitted using UPC rules.
	1	Data packet is a UCC/EAN-128 symbol (i.e., data is preceded with]JC1).
PDF417, Micro PDF417	0	Reader set to conform to protocol defined in 1994 PDF417 symbology specifications. Note: When this option is transmitted, the receiver cannot reliably determine whether ECIs have been invoked or whether data byte 92DEC has been doubled in transmission.
	1	Reader set to follow the ECI protocol (Extended Channel Interpretation). All data characters 92DEC are doubled.
	2	Reader set for Basic Channel operation (no escape character transmission protocol). Data characters 92DEC are not doubled. Note: When decoders are set to this mode, unbuffered Macro symbols and symbols requiring the decoder to convey ECI escape sequences cannot be transmitted.
	3	The barcode contains a UCC/EAN-128 symbol, and the first codeword is 903-907, 912, 914, 915.
	4	The barcode contains a UCC/EAN-128 symbol, and the first codeword is in the range 908-909.
	5	The barcode contains a UCC/EAN-128 symbol, and the first codeword is in the range 910-911.
		Example: A PDF417 barcode ABCD, with no transmission protocol enabled, is transmitted as]L2ABCD.
Data Matrix	0	ECC 000-140, not supported.
	1	ECC 200.
	2	ECC 200, FNC1 in first or fifth position.
	3	ECC 200, FNC1 in second or sixth position.

	4	ECC 200, ECI protocol implemented.
	5	ECC 200, FNC1 in first or fifth position, ECI protocol implemented.
	6	ECC 200, FNC1 in second or sixth position, ECI protocol implemented.
MaxiCode	0	Symbol in Mode 4 or 5.
	1	Symbol in Mode 2 or 3.
	2	Symbol in Mode 4 or 5, ECI protocol implemented.
	3	Symbol in Mode 2 or 3, ECI protocol implemented in secondary message.
QR Code	0	Model 1 symbol.
	1	Model 2 symbol, ECI protocol not implemented.
	2	Model 2 symbol, ECI protocol implemented.
	3	Model 2 symbol, ECI protocol not implemented, FNC1 implied in first position.
	4	Model 2 symbol, ECI protocol implemented, FNC1 implied in first position.
	5	Model 2 symbol, ECI protocol not implemented, FNC1 implied in second position.
	6	Model 2 symbol, ECI protocol implemented, FNC1 implied in second position.

APPENDIX C: ASCII CHARACTER SET

ASCII Value Table

ASCII Value	Full ASCII Code 39 Encode Char	Keystroke
1000	%U	CTRL 2
1001	$A	CTRL A
1002	$B	CTRL B
1003	$C	CTRL C
1004	$D	CTRL D
1005	$E	CTRL E
1006	$F	CTRL F
1007	$G	CTRL G
1008	$H	CTRL H/**BACKSPACE**[1]
1009	$I	CTRL I/**HORIZONTAL TAB**[1]
1010	$J	CTRL J
1011	$K	CTRL K
1012	$L	CTRL L
1013	$M	CTRL M/**ENTER**[1]
1014	$N	CTRL N
1015	$O	CTRL O
1016	$P	CTRL P
1017	$Q	CTRL Q

1018	$R	CTRL R
1019	$S	CTRL S
1020	$T	CTRL T
1021	$U	CTRL U
1022	$V	CTRL V
1023	$W	CTRL W
1024	$X	CTRL X
1025	$Y	CTRL Y
1026	$Z	CTRL Z
1027	%A	CTRL [
1028	%B	CTRL \
1029	%C	CTRL]
1030	%D	CTRL 6
1031	%E	CTRL
1032	Space	Space
1033	/A	!
1034	/B	"
1035	/C	#
1036	/D	$
1037	/E	%
1038	/F	&
1039	/G	'
1040	/H	(

1041	/I	)
1042	/J	*
1043	/K	+
1044	/L	,
1045	-	-
1046	.	.
1047	/o	/
1048	0	0
1049	1	1
1050	2	2
1051	3	3
1052	4	4
1053	5	5
1054	6	6
1055	7	7
1056	8	8
1057	9	9
1058	/Z	:
1059	%F	;
1060	%G	<
1061	%H	=
1062	%I	>
1063	%J	?

1064	%V	@
1065	A	A
1066	B	B
1067	C	C
1068	D	D
1069	E	E
1070	F	F
1071	G	G
1072	H	H
1073	I	I
1074	J	J
1075	K	K
1076	L	L
1077	M	M
1078	N	N
1079	O	O
1080	P	P
1081	Q	Q
1082	R	R
1083	S	S
1084	T	T
1085	U	U
1086	V	V

1087	W	W
1088	X	X
1089	Y	Y
1090	Z	Z
1091	%K	[
1092	%L	\
1093	%M	]
1094	%N	^
1095	%O	_
1096	%W	'
1097	+A	a
1098	+B	b
1099	+C	c
1100	+D	d
1101	+E	e
1102	+F	f
1103	+G	g
1104	+H	h
1105	+I	i
1106	+J	j
1107	+K	k
1108	+L	l
1109	+M	m

1110	+N	n
1111	+O	o
1112	+P	p
1113	+Q	q
1114	+R	r
1115	+S	s
1116	+T	t
1117	+U	u
1118	+V	v
1119	+W	w
1120	+X	x
1121	+Y	y
1122	+Z	z
1123	%P	{
1124	%Q	l
1125	%R	}
1126	%S	~
The keystroke in bold is sent only if the Function Key Mapping is enabled. Otherwise, the unbold keystroke is sent.		

ALT Key Standard Default Tables

ALT Keys	Keystroke
2064	ALT 2
2065	ALT A
2066	ALT B
2067	ALT C
2068	ALT D
2069	ALT E
2070	ALT F
2071	ALT G
2072	ALT H
2073	ALT I
2074	ALT J
2075	ALT K
2076	ALT L
2077	ALT M
2078	ALT N
2079	ALT O
2080	ALT P
2081	ALT Q
2082	ALT R
2083	ALT S
2084	ALT T
2085	ALT U
2086	ALT V
2087	ALT W
2088	ALT X
2089	ALT Y
2090	ALT Z

USB GUI Key Character Set

GUI Key	Keystroke
3000	Right Control Key
3048	GUI 0
3049	GUI 1
3050	GUI 2
3051	GUI 3
3052	GUI 4
3053	GUI 5
3054	GUI 6
3055	GUI 7
3056	GUI 8
3057	GUI 9
3065	GUI A
3066	GUI B
3067	GUI C
3068	GUI D
3069	GUI E
3070	GUI F
3071	GUI G
3072	GUI H
3073	GUI I
3074	GUI J
3075	GUI K
3076	GUI L
3077	GUI M
3078	GUI N
3079	GUI O
3080	GUI P

3081	GUI Q
3082	GUI R
3083	GUI S
3084	GUI T
3085	GUI U
3086	GUI V
3087	GUI W
3088	GUI X
3089	GUI Y
3090	GUI Z
Note: GUI Shift Keys - The Apple™ iMac keyboard has an apple key on either side of the space bar. Windows-based systems have a GUI key to the left of the left ALT key, and to the right of the right ALT key.	

PF Key Standard Default Table

PF Keys	Keystroke
4001	PF 1
4002	PF 2
4003	PF 3
4004	PF 4
4005	PF 5
4006	PF 6
4007	PF 7
4008	PF 8
4009	PF 9
4010	PF 10
4011	PF 11
4012	PF 12
4013	PF 13
4014	PF 14
4015	PF 15
4016	PF 16

F key Standard Default Table

F Keys	Keystroke
5001	F 1
5002	F 2
5003	F 3
5004	F 4
5005	F 5
5006	F 6
5007	F 7
5008	F 8
5009	F 9
5010	F 10
5011	F 11
5012	F 12
5013	F 13
5014	F 14
5015	F 15
5016	F 16
5017	F 17
5018	F 18
5019	F 19
5020	F 20
5021	F 21
5022	F 22
5023	F 23
5024	F 24

Numeric Key Standard Default Table

Numeric Keypad	Keystroke
6042	*
6043	+
6044	Undefined
6045	-
6046	.
6047	/
6048	0
6049	1
6050	2
6051	3
6052	4
6053	5
6054	6
6055	7
6056	8
6057	9
6058	Enter
6059	Num Lock

Extended Keypad Standard Default Table

Extended Keypad	Keystroke
7001	Break
7002	Delete
7003	Pg Up
7004	End
7005	Pg Dn
7006	Pause
7007	Scroll Lock
7008	Backspace
7009	Tab
7010	Print Screen
7011	Insert
7012	Home
7013	Enter
7014	Escape
7015	Up Arrow
7016	Dn Arrow
7017	Left Arrow
7018	Right Arrow

APPENDIX D: NUMERIC BAR CODES

For parameters requiring specific numeric values, scan the appropriately numbered barcode(s).

‖‖‖‖‖‖‖‖‖‖‖
0

‖‖‖‖‖‖‖‖‖‖‖
1

‖‖‖‖‖‖‖‖‖‖‖
2

‖‖‖‖‖‖‖‖‖‖‖
3

‖‖‖‖‖‖‖‖‖‖‖
4

‖‖‖‖‖‖‖‖‖‖‖
5

‖‖‖‖‖‖‖‖‖‖‖
6

‖‖‖‖‖‖‖‖‖‖‖
7

8

9

Cancel

To correct an error or change a selection, scan the barcode below.

Cancel

APPENDIX E: READABLE SYMBOLOGIES

1D Symbologies

Symbologies	Default Enable
EAN/UPC	
UPC-A	○
UPC-E	○
UPC-E1	Disable
EAN-8/JAN 8	○
EAN-13/JAN 13	○
Bookland EAN	○
Bookland ISBN Format	ISBN-10
Decode UPC/EAN/JAN Supplementals (2 and 5 digits)	Ignore
UPC/EAN/JAN Supplemental Redundancy	10
Decode UPC/EAN/JAN Supplemental AIM ID	Combined
Transmit UPC-A Check Digit	○
Transmit UPC-E Check Digit	○
Transmit UPC-E1 Check Digit	○
UPC-A Preamble	System Character
UPC-E Preamble	System Character
UPC-E1 Preamble	System Character
Convert UPC-E to A	Disable
Convert UPC-E1 to A	Disable
EAN-8/JAN-8 Extend	Disable
UCC Coupon Extended Code	Disable
Coupon Report	New Coupon Symbols
ISSN EAN	Disable

Symbologies	Default Enable
Code 128	
Code 128	◯
Set Length(s) for Code 128	Any Length
GS1-128 (formerly UCC/EAN-128)	◯
ISBT 128	◯
ISBT Concatenation	Disable
Check ISBT Table	◯
ISBT Concatenation Redundancy	10
Code 39	
Code 39	◯
Trioptic Code 39	Disable
Convert Code 39 to Code 32 (Italian Pharmacy Code)	Disable
Code 32 Prefix	Disable
Set Length(s) for Code 39	Length Within Range: 2 to 55
Code 39 Check Digit	Disable
Transmit Code 39 Check Digit	Disable
Code 39 Full ASCII Conversion	Disable
Buffer Code 39	Disable
Code 93	
Code 93	Disable
Set Length(s) for Code 93	Length Within Range: 4 to 55
Code 11	
Code 11	Disable
Set Lengths for Code 11	Length Within Range: 4 to 55
Code 11 Check Digit Verification	Disable
Transmit Code 11 Check	Disable

Interleaved 2 of 5 (ITF)	
Interleaved 2 of 5 (ITF)	Disable
Set Lengths for I 2 of 5	1 Length; Length = 14
I 2 of 5 Check Digit Verification	Disable
Transmit I 2 of 5 Check Digit	Disable
Convert I 2 of 5 to EAN 13	Disable
Discrete 2 of 5 (DTF)	
Discrete 2 of 5	Disable
Set Length(s) for D 2 of 5	1 Length; Length = 12
Codabar (NW - 7)	
Codabar	Disable
Set Lengths for Codabar	Length Within Range: 5 to 55
CLSI Editing	Disable
NOTIS Editing	Disable
Codabar Upper or Lower Case Start/Stop Characters Detection	Upper Case
MSI	
MSI	Disable
Set Length(s) for MSI	Length Within Range: 4 to 55
MSI Check Digits	One
Transmit MSI Check Digit	Disable
MSI Check Digit Algorithm	Mod 10/Mod 10
Chinese 2 of 5	
Chinese 2 of 5	Disable
Matrix 2 of 5	
Matrix 2 of 5	Disable
Matrix 2 of 5 Lengths	Length; Length = 14
Matrix 2 of 5 Check Digit	Disable
Transmit Matrix 2 of 5 Check	Disable

Korean 3 of 5	
Korean 3 of 5	Disable
Inverse 1D	Regular
Postal Codes	
US Postnet	Disable
US Planet	Disable
Transmit US Postal Check Digit	○
UK Postal	Disable
Transmit UK Postal Check Digit	○
Japan Postal	Disable
Australia Post	Disable
Australia Post Format	Autodiscriminate
Netherlands KIX Code	Disable
USPS 4CB/One Code/Intelligent Mail	Disable
UPU FICS Postal	Disable
GS1 DataBar	
GS1 DataBar (GS1 DataBar Omnidirectional, GS1 DataBar Truncated, GS1 DataBar Stacked, GS1 DataBar Stacked Omnidirectional)	○
GS1 DataBar Limited	Disable
GS1 DataBar Limited Security	3
GS1 DataBar Expanded (GS1 DataBar Expanded, GS1 DataBar Expanded Stacked)	○
Convert GS1 DataBar to UPC/EAN	Disable

Composite	
Composite CC-C	Disable
Composite CC-A/B	Disable
Composite TLC-39	Disable
UPC Composite Mode	UPC Always Linked
Composite Beep Mode	Beep As Each Code Type is Decoded
GS1-128 Emulation Mode for UCC/EAN Composite Codes	Disable

2D Symbologies

Symbologies	Default Enable
PDF417	◯
MicroPDF417	Disable
Code 128 Emulation	Disable
Data Matrix	◯
Data Matrix Inverse	Regular
Decode Mirror Images (Data Matrix Only)	Auto
Maxicode	Disable
QR Code	◯
QR Inverse	Regular
MicroQR	◯
Aztec	◯
Aztec Inverse	Inverse Autodetect
Redundancy Level	1
Security Level (UPC/EAN and Code 93)	1
Intercharacter Gap Size	Normal
Macro PDF Transmit/ Decode Mode Symbols	Passthrough Mode
Transmit Macro PDF Control	Disable
Escape Characters	None