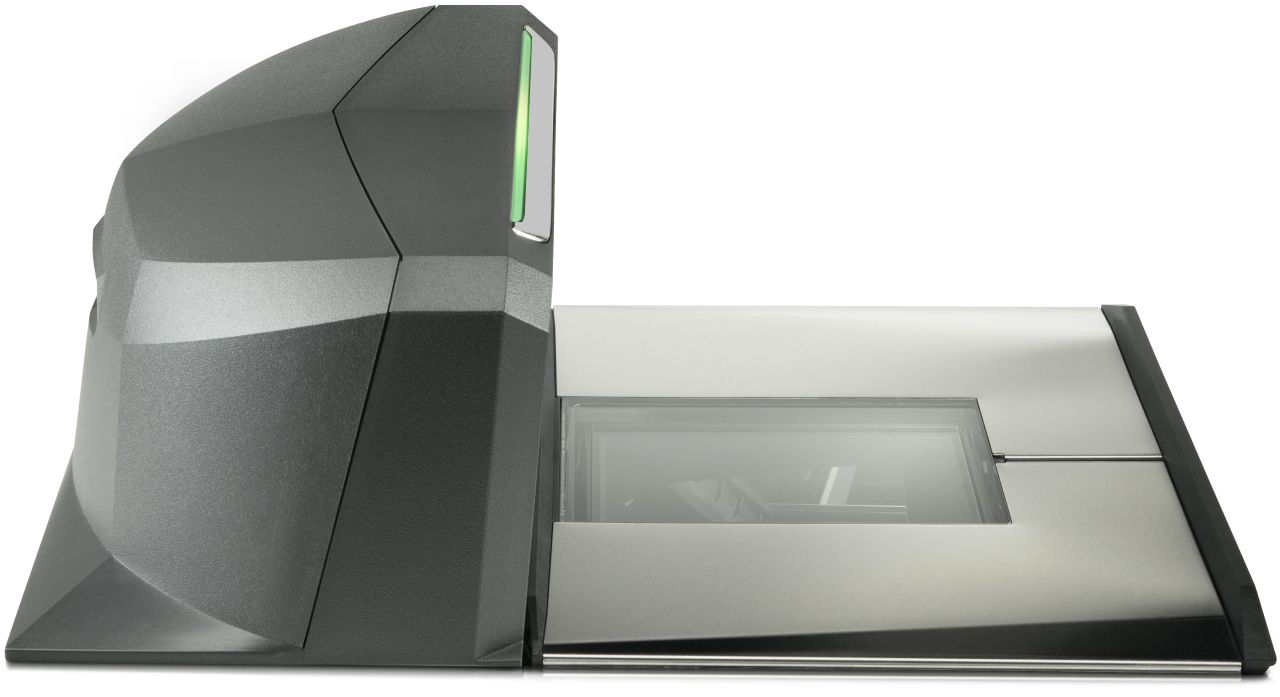
MP6000

BAR CODE PROGRAMMING GUIDE



MP6000
BAR CODE PROGRAMMING GUIDE

72E-172633-08

Revision A

February 2016

Zebra Technologies Corporation
Lincolnshire, IL U.S.A.
http://www.zebra.com

Warranty

Subject to the terms of Zebra’s hardware warranty statement, the MP6000 is warranted against defects in workmanship and materials for a period of 1 (one) year from the date of shipment.

For the complete Zebra hardware product warranty statement, go to:
http://www.zebra.com/warranty

Revision History

Changes to the original guide are listed below:

Change	Date	Description
-01 Rev. A	6/2013	Initial Release.
-02 Rev. A	5/2014	Added: - New software information - Aux scanner parameters - RS-232 NCR and Datalogic information - Dual Cable Scale bar codes - Reset button - Third Party Scale parameters.
-03 Rev. A	7/2014	Added: - New parameters... - GS1 QR parameter - GS1-Datamatrix parameter - Center Object Detect - Coerce UPC/EAN - UPC/EAN/JAN Supplemental Aim ID Format - Text to NCR Variant bullet under *RS-232 Host Types* Updated: - Renamed **Bar Code Self Service Mode** to **Bar Code Hold-off Mode** - Changed the default for **IBM Specification Version** to Version 2.2
-04 Rev. A	11/2014	Zebra branding; add Symbol Native API (SNAPI) Interface bar code to USB chapter; add SNAPI chapter.
-05 Rev. A	3/2015	Zebra Re-branding
-06 Rev. A	5/2015	Rev. D software updates: Additional auxiliary RS-232 device port configuration bar codes - Aux1/Aux2 Baud, Data Bits, Stop Bits and Parity' settings; added Honor Direct I/O Beeps and Scale Zero Button Limit.
-07 Rev. A	10/2015	Updates: - Chapter 1: Added 9 msec option - Chapter 2: NCR Prefix and Suffix description; Scanner/Scale bar code hex value - Chapter 4: Default for Maximum Initial Zero Setting Range; added hex values to Scale Enable parameters - Chapter 5: -- Corrected Low Tone value -- Added parameters for Enable Tone, Enable Volume; Disable Tone, Disable Volume; Disable Tone, Enable Volume; Enable Tone, Disable Volume -- Corrected Baud Rate 115200 -- Corrected Exclude Decode Field Of Views bar code names -- Corrected Illumination Configurations bar code names - Chapter 6: Corrected hex value for Sensormatic Scan Enable Interlock Mode - Chapter 7: Corrected Parity description
-08 Rev. A	2/2016	Added new sample bar codes: UPC-E, EAN-8, DataBar Expanded, DataBar Limited, Code 93, Aztec.

TABLE OF CONTENTS

Chapter 5: USER PREFERENCES & MISCELLANEOUS OPTIONS

ABOUT THIS GUIDE

Introduction

The *MP6000 Bar Code Programming Guide* includes the programming bar codes to configure the MP6000.

Chapter Descriptions

- *Chapter 1, USB INTERFACE BAR CODES* provides bar codes to set up the bioptic scanner with a USB host.
- *Chapter 2, RS-232 INTERFACE BAR CODES* provides bar codes to set up the bioptic scanner with an RS-232 host, such as point-of-sale devices, host computers, or other devices with an available RS-232 port.
- *Chapter 3, IBM RS-485 INTERFACE BAR CODES* provides bar codes to set up the bioptic scanner with IBM RS-485 Point of Sale (POS) systems.
- *Chapter 4, SCALE CONFIGURATION* provides bar codes to configure and calibrate the scale.
- *Chapter 5, USER PREFERENCES & MISCELLANEOUS OPTIONS* describes features frequently used to customize how data transmits to the host device and programming bar codes for selecting user preference features for the MP6000.
- *Chapter 6, EAS PARAMETERS* describes the EAS features, and provides programming bar codes for selecting these features.
- *Chapter 7, AUXILIARY SCANNER BAR CODES* includes the parameter bar codes in this chapter configure the MP6000 for connection to an auxiliary scanner.
- *Chapter 8, 123SCAN2* describes the 123Scan^2 utility.
- *Chapter 9, SSI INTERFACE* Customers using RS-232 OPOS require the Simple Serial Interface (SSI), which provides a communications link between Zebra scanners, and a serial host.
- *Chapter 10, SNAPI INTERFACE* includes information about the USB-SNAPI Interface.
- *Chapter 11, SYMBOLOGIES* describes all symbology features and provides programming bar codes for selecting these features for the MP6000.
- *Chapter 12, DRIVER'S LICENSE SET UP* describes how to program the MP6000 to read and use the data contained in the 2D bar codes on US driver's licenses, and AAMVA compliant ID cards.
- *Chapter 13, ADVANCED DATA FORMATTING* briefly describes ADF and refers to the guide.

- *Appendix A, STANDARD DEFAULT PARAMETERS* provides a table of all host devices and miscellaneous scanner defaults.
- *Appendix B, PROGRAMMING REFERENCE* provides a table of AIM code identifiers, ASCII character conversions, and keyboard maps.
- *Appendix C, SAMPLE BAR CODES* includes sample bar codes of various code types.
- *Appendix D, NUMERIC BAR CODES* includes the numeric bar codes to scan for parameters requiring specific numeric values.
- *Appendix E, ASCII CHARACTER SETS* includes ASCII character set values.

Notational Conventions

The following conventions are used in this document:

- *Italics* are used to highlight the following:
  - Chapters and sections in this and related documents
  - Dialog box, window and screen names
  - Drop-down list and list box names
  - Check box and radio button names.
- **Bold** text is used to highlight the following:
  - Key names on a keypad
  - Button names on a screen.
- bullets (•) indicate:
  - Action items
  - Lists of alternatives
  - Lists of required steps that are not necessarily sequential
- Sequential lists (e.g., those that describe step-by-step procedures) appear as numbered lists.
- Throughout the programming bar code menus, asterisks (*) are used to denote default parameter settings.

- Symbols:

NOTE This symbol indicates something of special interest or importance to the reader. Failure to read the note will not result in physical harm to the reader, equipment or data.

CAUTION This symbol indicates that if this information is ignored, the possibility of data or material damage may occur.

IMPORTANT This symbol points out meaningful advice.

WARNING! **This symbol indicates that if this information is ignored the possibility that serious personal injury may occur.**

Related Documents

- *MP6000 Integrator Guide*, p/n 72E-172632-xx, provides installation information, interface setups, scale calibration procedure, beeper and LED indicators, warning and error messages, and information about using the MP6000.
- *Advanced Data Formatting Programmer Guide (ADF)*, p/n 72E-69680-xx, provides ADF information and the bar codes necessary to customize data before transmission to a host.

For the latest version of this guide and all guides, go to: http://www.zebra.com/support.

Recommended Services Information

If you have a problem using the equipment, contact your facility's technical or systems support. If there is a problem with the equipment, they will contact the Zebra Customer Support Center at: http://www.zebra.com/support.

When contacting Zebra support, please have the following information available:

- Serial number of the unit
- Model number or product name
- Software type and version number

responds to calls by e-mail, telephone or fax within the time limits set forth in service agreements.

If your problem cannot be solved by the Zebra Customer Support Center, you may need to return your equipment for servicing and will be given specific directions or a Field Service Technician may be sent to your location to perform the repair, depending on your level of entitlement set forth in the service agreement. is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty.

If you purchased your business product from a business partner, please contact that business partner for support.

recommends the following Service options to keep the MP6000 operating at peak performance throughout its lifecycle:

- Service from the Start with Advance Exchange Support (available for scanner-only configurations).
- Service from the Start with On Site System Support (available for scanner-only and scanner/scale configurations).

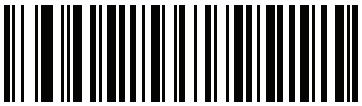
CHAPTER 1 USB INTERFACE BAR CODES

Introduction

This chapter includes the programming bar codes for the USB host interface. The MP6000 connects directly to a USB host, or a powered USB hub. An additional power supply is required (PWRS-14000-148R). Only a USB Power Plus host (IBM registers) can power the MP6000 using a Power Plus cable, with an external power supply.

For detailed technical information about the MP6000 including installation, setting up interfaces, calibrating the scale, and operation refer to the *MP6000 Integrator Guide* (p/n 72E-172632-xx).

Throughout the programming bar code menus, asterisks (*) indicate default values.



*Indicates Default — ***Scan Disable Mode - Full Disable** — Feature/Option

USB Parameter Defaults

Table 1-1 lists the defaults for USB host parameters. To change any option, scan the appropriate bar code(s) provided in the Parameter Descriptions section beginning on page *1-3*.

NOTE See *Appendix A, STANDARD DEFAULT PARAMETERS* for all user preferences, hosts, symbologies, and miscellaneous default parameters.

Table 1-1 *USB Interface Parameter Defaults*

Parameter	Default	Page Number
USB Host Parameters		
USB Device Type	IBM Table Top	*1-3*
USB Country Keyboard Types - Country Codes	North American Standard USB Keyboard	*1-9*
USB Keystroke Delay	No Delay	*1-14*
Simulated Caps Lock	Disable	*1-17*
USB CAPS Lock Override	Disable	*1-19*
Scan Disable Mode	Full Disable	*1-21*
USB Ignore Unknown Characters	Enable	*1-19*
Scan Disable Mode	Full Disable	*1-21*
USB Ignore Unknown Characters	Enable	*1-24*
USB Convert Unknown to Code 39	Disable	*1-26*
USB Ignore Beep Directive	Ignore	*1-28*
USB Ignore Type Directive	Ignore	*1-30*
Honor Direct I/O Beeps	Honor	*1-32*
Emulate Keypad	Disable	*1-34*
Emulate Keypad with Leading Zero	Disable	*1-36*
USB Keyboard FN 1 Substitution	Disable	*1-38*
Function Key Mapping	Disable	*1-40*
Convert Case	Disable	*1-42*
USB Static CDC	Enable	*1-45*
USB HID Polling Interval	8 msec	*1-47*
Fast HID Keyboard	Disable	*1-56*
Quick Keypad Emulation	Disable	*1-58*
IBM USB Scale Default Response Status	Disabled	*1-60*
IBM Specification Version	Version 2.2	*1-63*

USB Host Parameters

USB Device Type

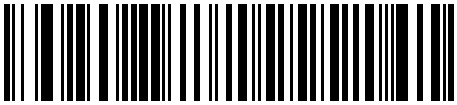
Select the desired USB device type from the following options.

- * IBM Table-top USB
- IBM Hand-held USB
- IBM OPOS (IBM Hand-held USB with Full Scan Disable)
- HID Keyboard Emulation
- CDC COM Port Emulation.
- Symbol Native API (SNAPI)

NOTE 1. When changing USB device types, the MP6000 automatically resets and issues the standard startup beep sequences.

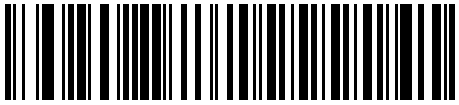
2. Select **IBM Hand-held USB** to disable data transmission when an IBM register issues a Scan Disable command. Illumination and decoding are still permitted. Select **IBM OPOS (IBM Hand-held USB with Full Scan Disable)** to completely shut off the scanner when an IBM register issues a Scan Disable command, including illumination, decoding, and data transmission.

3. Before selecting CDC COM Port Emulation, install the USB CDC driver on the host to ensure the scanner does not stall during power up (due to a failure to enumerate USB). If the scanner stalls, to recover it:
a. Install the USB CDC driver
or
b. After power-up, hold the trigger for 10 seconds, which allows the scanner to power up using an alternate USB configuration. Upon power-up, scan another **USB Device Type**.



*** IBM Table-top USB**

USB Device Type (continued)



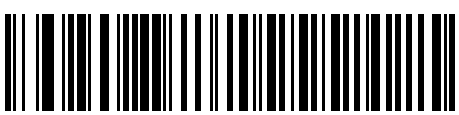
IBM Hand-held USB

USB Device Type (continued)

IBM OPOS
(IBM Hand-held USB with Full Scan Disable)

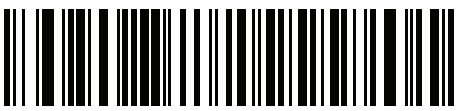
USB Device Type (continued)

✓ When the HID Keyboard host is selected, and the MP6000 has auxiliary scanners connected, use ADF rules to program the auxiliary scanners to add a 500 msec pause to the end of the data to prevent the interleaving of bar code data from multiple scanners. This works with standard RS-232, and SSI over RS-232 (with the Send Raw Decode Data setting).



HID Keyboard Emulation

USB Device Type (continued)



CDC COM Port Emulation

USB Device Type (continued)

Symbol Native API (SNAPI) Interface

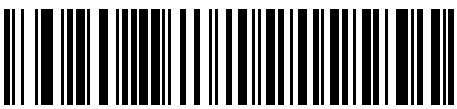
USB Country Keyboard Types - Country Codes

Scan the bar code corresponding to the keyboard type from the following options. This setting applies only to the USB HID Keyboard Emulation device.

Options:

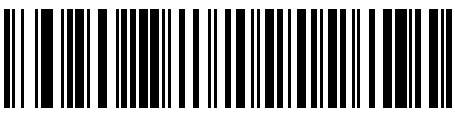
- *North American Standard USB Keyboard
- German Windows
- French Windows
- French Canadian Windows 95/98
- French Canadian Windows 2000/XP.

NOTE When changing USB country keyboard types the digital scanner automatically resets and issues the standard startup beep sequences.



***North American Standard USB Keyboard**

USB Country Keyboard Types - Country Codes (continued)

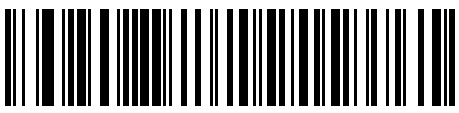


German Windows

USB Country Keyboard Types - Country Codes (continued)

French Windows

USB Country Keyboard Types - Country Codes (continued)



French Canadian Windows 95/98

USB Country Keyboard Types - Country Codes (continued)

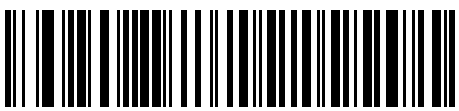
French Canadian Windows 2000/XP

USB Keystroke Delay

This parameter sets the delay, in milliseconds, between emulated keystrokes. Scan the appropriate bar code from the following options to increase the delay when hosts require a slower transmission of data.

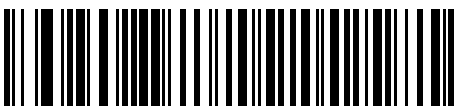
Options:

- *No Delay
- Medium Delay (20 msec)
- Long Delay (40 msec).



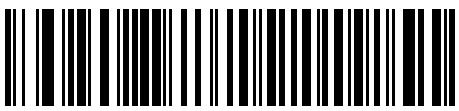
***No Delay**

USB Keystroke Delay (continued)



Medium Delay (20 msec)

USB Keystroke Delay (continued)



Long Delay (40 msec)

Simulated Caps Lock

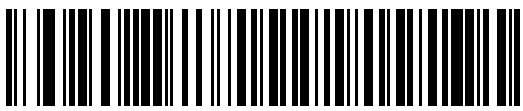
Enable this to invert upper and lower case characters on the bar code as if the Caps Lock state is enabled on the keyboard. This inversion occurs regardless of the keyboard's **Caps Lock** state. Note that this only applies to alpha characters.

Options:

- *Disable Simulated Caps Lock
- Enable Simulated Caps Lock.

***Disable Simulated Caps Lock**

Simulated Caps Lock (continued)



Enable Simulated Caps Lock

USB CAPS Lock Override

This option applies only to the HID Keyboard Emulation device. Enable this to preserve the case of the data 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.

Options:

- *Do Not Override Caps Lock Key (Disable)
- Override Caps Lock Key (Enable).

NOTE If both **Simulated Caps Lock** and **Caps Lock Override** are enabled, **Caps Lock Override** takes precedence.

Override Caps Lock Key
(Enable)

USB CAPS Lock Override (continued)

***Do Not Override Caps Lock Key**
(Disable)

Scan Disable Mode

Parameter # 1214

This parameter determines the behavior of the MP6000 when it receives a *Scan Disable* directive from the connected host.

Options:

- *Full Disable - Scanning bar codes is disabled.
- Transmit Disable **-** The MP6000 may scan bar codes, but transmission of bar code data is disabled.
- Auto Disable - MP6000 disables scanning after transmission of a bar code, and remains disabled until the host sends a *Scan Enable.*

NOTE This feature is currently supported by IBM Table Top USB, IBM Hand-held USB, and all IBM 46XX interfaces.

*** Full Disable**
(0)

Scan Disable Mode (continued)

Transmit Disable
(1)

Scan Disable Mode (continued)

Auto Disable
(2)

USB Ignore Unknown Characters

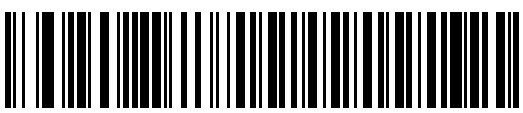
This option applies only to the IBM device. Unknown characters are characters the host does not recognize.

Options:

- *Send Bar Codes with Unknown Characters - Select **Send Bar Codes With Unknown Characters** to send all bar code data except for unknown characters. The MP6000 issues no error beeps.
- Do Not Send Bar Codes with Unknown Characters - Select **Do Not Send Bar Codes With Unknown Characters**, for IBM devices, to prevent sending bar codes containing at least one unknown character to the host. The MP6000 issues an error beep.

***Send Bar Codes with Unknown Characters**

USB Ignore Unknown Characters (continued)



Do Not Send Bar Codes with Unknown Characters

USB Convert Unknown to Code 39

This option applies only to the IBM Hand-held, IBM Table Top, and IBM OPOS (IBM Hand-held USB with Full Scan Disable) devices. Scan a bar code below to enable or disable converting unknown bar code type data to Code 39.

Options:

- *Disable Convert Unknown to Code 39
- Enable Convert Unknown to Code 39.

***Disable Convert Unknown to Code 39**

USB Convert Unknown to Code 39 (continued)

Enable Convert Unknown to Code 39

USB Ignore Beep Directive

This applies only to IBM Hand-held, IBM Table Top, and IBM OPOS (IBM Hand-held USB with Full Scan Disable) devices. Scan one of the following bar codes to honor or ignore a beep directive. All directives are still acknowledged as if they were processed.

Options:

- Honor USB Beep Directive
- *Ignore USB Beep Directive.

Honor USB Beep Directive

USB Ignore Beep Directive (continued)

*Ignore USB Beep Directive

USB Ignore Type Directive

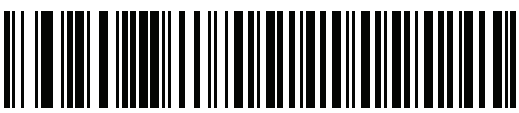
This applies only to IBM hand-held, IBM tabletop, and OPOS devices. Scan one of the following bar codes to honor or ignore a code type enable/disable directive. All directives are still acknowledged as if they were processed.

Options:

- Honor USB Ignore Type Directive
- *Ignore USB Type Directive.

Honor USB Ignore Type Directive

USB Ignore Type Directive (continued)



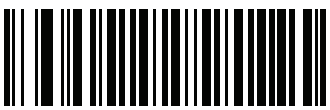
*Ignore USB Type Directive

Direct I/O Beeps

Scan one of the following bar codes to honor or ignore a direct I/O beep from the USB host. When disabled, the MP6000 does not sound beeps on this command. All directives are still acknowledged to the USB host as if they were processed.

Options:

- *Honor Direct I/O Beeps
- Ignore Direct I/O Beeps.



***Honor Direct I/O Beeps**

Direct I/O Beeps (continued)

Ignore Direct I/O Beeps

Emulate Keypad

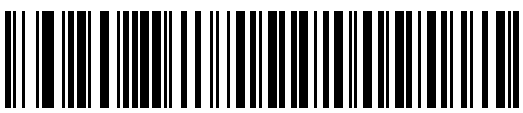
Enable this to send all characters as ASCII sequences over the numeric keypad. For example ASCII A transmits as “ALT make” 0 6 5 “ALT Break”.

Options:

- *Disable Keypad Emulation
- Enable Keypad Emulation.

***Disable Keypad Emulation**

Emulate Keypad (continued)



Enable Keypad Emulation

Emulate Keypad with Leading Zero

Enable this to send character sequences sent over the numeric keypad as ISO characters which have a leading zero. For example ASCII A transmits as “ALT MAKE” 0 0 6 5 “ALT BREAK”.

Options:

- *Disable Keypad Emulation with Leading Zero
- Enable Keypad Emulation with Leading Zero.

***Disable Keypad Emulation with Leading Zero**

Emulate Keypad with Leading Zero (continued)

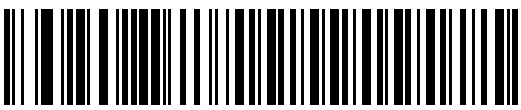
Enable Keypad Emulation with Leading Zero

USB Keyboard FN1 Substitution

This option applies only to the USB HID Keyboard Emulation device. Enable this to replace any FN1 characters in an EAN 128 bar code with a user-selected Key Category and value (see *FN1 Substitution Values on page 5-141* to set the Key Category and Key Value).

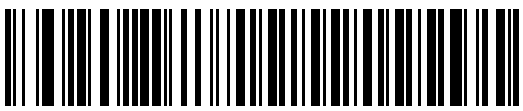
Options:

- Enable USB Keyboard FN1 Substitution
- *Disable USB Keyboard FN1 Substitution.



Enable USB Keyboard FN1 Substitution

USB Keyboard FN 1 Substitution (continued)



*Disable USB Keyboard FN1 Substitution

Function Key Mapping

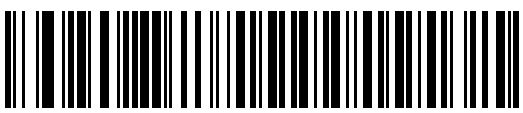
ASCII values under 32 are normally sent as a control-key sequences (see *Table 1-5 on page 1-65*). Enable this parameter to send the keys in bold in place of the standard key mapping. Table entries that do not have a bold entry remain the same whether or not you enable this parameter.

Options:

- *Disable Function Key Mapping
- Enable Function Key Mapping.

***Disable Function Key Mapping**

Function Key Mapping (continued)



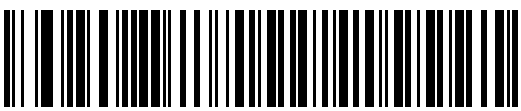
Enable Function Key Mapping

Convert Case

Enable this to convert all bar code data to the selected case.

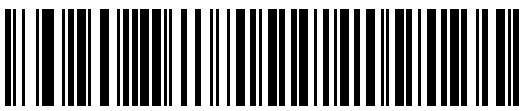
Options:

- *No Case Conversion
- Convert All to Upper Case
- Convert All to Lower Case.



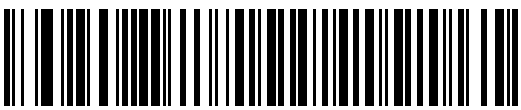
***No Case Conversion**

Convert Case (continued)



Convert All to Upper Case

Convert Case (continued)



Convert All to Lower Case

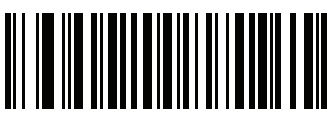
USB Static CDC

When disabled, each device connected consumes another COM port (first device = COM1, second device = COM2, third device = COM3, etc.)

When enabled, each device connects to the same COM port

Options:

- *Enable USB Static CDC
- Disable USB Static CDC.



***Enable USB Static CDC**

USB Static CDC (continued)

Disable USB Static CDC

USB Transmission Speed Parameters

Use the following parameters to speed USB data transmission:

- *USB HID Polling Interval* - When using more current USB systems, use this parameter to set a lower interval in order to increase data transmission speed.
- *Fast HID Keyboard* - When configured as a USB HID keyboard device, use this parameter to increase the data transmission speed of printable (7-bit) ASCII characters.
- *Quick Keypad Emulation* - When configured as a USB HID keyboard device, use this parameter to increase the data transmission speed of a mix of both printable (7-bit) and full (8-bit) ASCII characters.

NOTE Enabling *Emulate Keypad on page 1-34* or *Quick Keypad Emulation on page 1-58* overrides *Fast HID Keyboard*.

USB HID Polling Interval

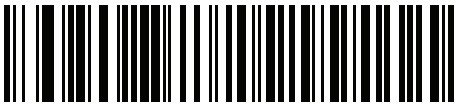
This option speeds data transmission for all USB devices except CDC. Scan the appropriate bar code to set the polling interval. The polling interval determines the rate at which data can be sent between the scanner and the host computer. A lower number indicates a faster data rate. The default value is 8 msec.

Options:

- 1 msec
- 2 msec
- 3 msec
- 4 msec
- 5 msec
- 6 msec
- 7 msec
- * 8 msec
- 9 msec.

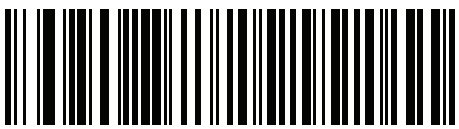
Changing the polling interval re-initializes the scanner.

CAUTION Ensure the host can handle the selected data rate. Selecting a data rate that is too fast for the host can result in lost data.



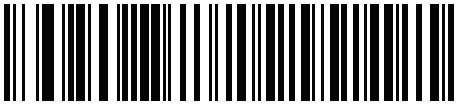
1 msec

USB HID Polling Interval (continued)



2 msec

USB HID Polling Interval (continued)

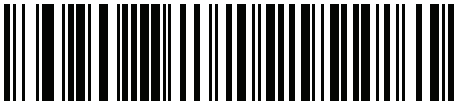


3 msec

USB HID Polling Interval (continued)

4 msec

USB HID Polling Interval (continued)

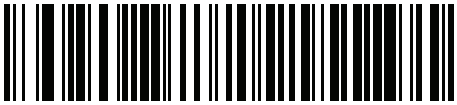


5 msec

USB HID Polling Interval (continued)

6 msec

USB HID Polling Interval (continued)

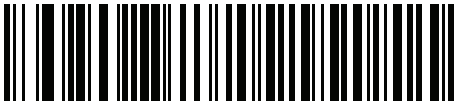


7 msec

USB HID Polling Interval (continued)

***8 msec**

USB HID Polling Interval (continued)



9 msec

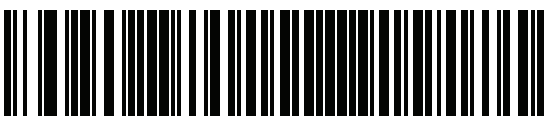
Fast HID Keyboard

This option transmits USB HID keyboard data at a faster rate.

Options:

- Enable Fast HID Keyboard
- * Disable Fast HID Keyboard.

NOTE Enabling *Emulate Keypad on page 1-34* or *Quick Keypad Emulation* overrides *Fast HID Keyboard*.



Enable

Fast HID Keyboard (continued)

*Disable

Quick Keypad Emulation

This option applies only to the HID keyboard emulation device when *Emulate Keypad on page 1-34* is enabled. This parameter enables a quicker method of emulation utilizing the numeric keypad. The default value is **Disable**.

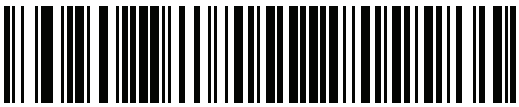
Options:

- Enable Quick Keypad Emulation
- *Disable Quick Keypad Emulation.

NOTE Enabling *Emulate Keypad on page 1-34* or *Quick Keypad Emulation* overrides *Fast HID Keyboard*.

Enable

Quick Keypad Emulation (continued)



*Disable

IBM USB Scale Default Response Status

Parameter #1286

An MP6200 (MP6000 configured with a scale) sends a 2-byte scale status to the IBM USB Point of Sale (POS) system as the default setting. This parameter allows a user to program the MP6200 scanner/scale to send either 2-byte scale status, or a 3-byte scale extended status.

Options:

- *2-byte Scale Status - Extended Scale Status Disabled: The 2-byte scale status sent to the IBM POS consists of the information shown in *Table 1-2* and *Table 1-3*.

Table 1-2 *Scale Status Byte 0*

Bit Position	Description
0	Flash update in progress (if flash update is implemented).
1	Configuration data response frame.
2	Extended status response frame.
3	Not defined (always 0).
4	Not defined (always 0).
5	Not defined (always 0).
6	Unacceptable command.
7	Device not ready to receive weigh commands.

Table 1-3 *Scale Status Byte 1*

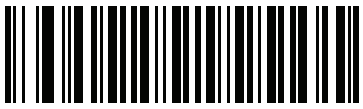
Bit Position	Description
0	0: US weigh mode. 1: Metric weigh mode.
1	0: Four digit weight. 1: Five digit weight.
2	Weight data not include/scale in motion.
3	Data value error (weight digits not in range 0-9).
4	Read error (timeout occurred trying to obtain valid weight/status).
5	Remote display required but not detected.
6	Scale hardware error.
7	Undefined command received (command reject).

- 3-byte Scale Status - Extended Scale Status Enabled: When enabled, the MP6200 scanner/scale sends an additional scale status byte to the IBM POS with the information shown in *Table 1-4*.

Table 1-4 *Scale Status Byte 2*

Bit Position	Description
0	Configuration successful.
1	Scale under zero.
2	Scale over capacity.
3	Scale center-of-zero.
4	Scale requires zeroing.
5	Scale warm up in progress.
6	Duplicate weight (United Kingdom mode only).
7	Not defined (always 0).

NOTE Some IBM POS applications require a 3-byte extended scale status for better price/weight transaction performance.



***2-byte IBM USB Scale Status - Extended Scale Status Disabled (0)**

IBM USB Scale Default Response Status (continued)

3-byte IBM USB Scale Status - Extended Scale Status Enabled (1)

IBM Specification Version

The IBM USB interface specification version selected defines how code types are reported over the IBM USB interface.

Options:

- Original Specification
- *Version 2.2.

Original Specification

IBM Specification Version (continued)

*Version 2.2

ASCII Character Set for USB

Table 1-5 *USB Prefix/Suffix Values*

Prefix/ Suffix Value	Full ASCII Code 39 Encode Char.acter	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

[1]The keystroke in bold transmits only if you enable *Function Key Mapping on page 1-40*. Otherwise, the unbolded keystroke transmits.

Table 1-5 *USB Prefix/Suffix Values (Continued)*

Prefix/ Suffix Value	Full ASCII Code 39 Encode Char.acter	Keystroke
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

[1]The keystroke in bold transmits only if you enable *Function Key Mapping on page 1-40*. Otherwise, the unbolded keystroke transmits.

Table 1-5 *USB Prefix/Suffix Values (Continued)*

Prefix/ Suffix Value	Full ASCII Code 39 Encode Char.acter	Keystroke
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

[1]The keystroke in bold transmits only if you enable *Function Key Mapping on page 1-40*. Otherwise, the unbolded keystroke transmits.

Table 1-5 *USB Prefix/Suffix Values (Continued)*

Prefix/ Suffix Value	Full ASCII Code 39 Encode Char.acter	Keystroke
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

[1]The keystroke in bold transmits only if you enable *Function Key Mapping on page 1-40*. Otherwise, the unbolded keystroke transmits.

Table 1-5 *USB Prefix/Suffix Values (Continued)*

Prefix/ Suffix Value	Full ASCII Code 39 Encode Char.acter	Keystroke
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	~

[1]The keystroke in bold transmits only if you enable *Function Key Mapping on page 1-40*. Otherwise, the unbolded keystroke transmits.

Table 1-6 *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

Table 1-7 *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

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.

Table 1-7 *USB GUI Key Character Set (Continued)*

GUI Key	Keystroke
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.

Table 1-8 *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

Table 1-9 *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

Table 1-10 *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 2 RS-232 INTERFACE BAR CODES

Introduction

This chapter includes the programming bar codes for the RS-232 host interface. Use the RS-232 interface to connect the MP6000 to POS devices, host computers, or other devices with an available RS-232 port (e.g., com port).

For detailed technical information about the MP6000 including installation, setting up interfaces, calibrating the scale, and operation refer to the *MP6000 Integrator Guide* (p/n 72E-172632-xx). Also see *Character Sets on page E-1* for the character sets.

✓ ***NOTE*** The MP6000 uses TTL RS-232 signal levels, which interface with most system architectures. For system architectures requiring RS-232C signal levels, offers different cables providing TTL-to-RS-232C conversion.

Throughout the programming bar code menus, asterisks (*) indicate default values.

* Indicates Default — ***Baud Rate 9,600** — Feature/Option

RS-232 Parameter Defaults

Table 2-1 lists the defaults for RS-232 host parameters. To change any option, scan the appropriate bar code(s) provided.

NOTE See *Appendix A, STANDARD DEFAULT PARAMETERS* for all user preferences, hosts, symbologies, and miscellaneous default parameters.

Table 2-1 *RS-232 Host Default Table*

Parameter	Default	Page Number
RS-232 Host Parameters		
RS-232 Host Types	Standard	*2-7*
Baud Rate	9600	*2-18*
Parity Type	None	*2-23*
Stop Bits	1	*2-26*
Data Bits	8-bit	*2-28*
Check Receive Errors	Enable	*2-30*
Hardware Handshaking	None	*2-32*
Software Handshaking	None	*2-38*
Host Serial Response Timeout	2 Sec	*2-44*
RTS Line State	Low RTS	*2-49*
Beep on <BEL>	Disable	*2-51*
Intercharacter Delay	0 msec	*2-53*
Wincor-Nixdorf Beep/LED Options	Normal Operation	*2-58*
Ignore Unknown Characters	Send Bar Code	*2-61*
NCR Use Prefix	Enabled	*2-63*
NCR Prefix	1002 (STX)	*2-65*
NCR Suffix	1003 (ETX)	*2-66*
NCR Use Block Check Character	Enabled	*2-67*
NCR Interface	Follow System	*2-69*
NCR Scale Beep After Weight Request	Disable	*2-72*

RS-232 Host Parameters

Various RS-232 hosts use their own parameter default settings. Selecting standard, ICL, Fujitsu, Wincor-Nixdorf Mode A, Wincor-Nixdorf Mode B, OPOS/JPOS, Olivetti, Omron, Common Use Terminal Equipment (CUTE-LP/LG bar code readers), NCR, or Datalogic sets the defaults listed in *Table 2-2* and *Table 2-3*.

Table 2-2 *Terminal Specific RS-232*

Parameter	ICL	Fujitsu	Wincor-Nixdorf Mode A	Wincor-Nixdorf Mode B/OPOS/JPOS
Baud Rate	9600	9600	9600	9600
Parity	Even	None	Odd	Odd
Stop Bit Select	One	One	One	One
ASCII Format	8-Bit	8-Bit	8-Bit	8-Bit
Hardware Handshaking	RTS/CTS Option 3	None	RTS/CTS Option 3	RTS/CTS Option 3
Software Handshaking	None	None	None	None
Serial Response Timeout	9.9 Sec.	2 Sec.	None	None
RTS Line State	High	Low	Low	Low = No data to send
Beep On <BEL>	Disable	Disable	Disable	Disable
Transmit Code ID	Yes	Yes	Yes	Yes
Data Transmission Format	Data/Suffix	Data/Suffix	Data/Suffix	Data/Suffix
Prefix	None	None	None	None
Suffix	CR (1013)	CR (1013)	CR (1013)	CR (1013)

In the Wincor-Nixdorf Mode B, if CTS is low, scanning is disabled. When CTS is high, scanning is enabled. If you scan Wincor-Nixdorf Mode B without connecting the digital scanner to the proper host, it may appear unable to scan. If this happens, scan a different RS-232 host type within 5 seconds of cycling power to the digital scanner.

Table 2-3 *Terminal Specific RS-232*

Parameter	Olivetti	Omron	CUTE	NCR	Datalogic
Baud Rate	9600	9600	9600	9600	9600
Parity	Even	None	Even	Odd	Odd
Stop Bit Select	One	One	One	One	One
ASCII Format	7-Bit	8-Bit	7-Bit	7-Bit	7-Bit
Hardware Handshaking	None	None	None	None	None
Software Handshaking	ACK/NAK	None	None	None	None

The CUTE host disables all parameter scanning, including Set Defaults. If you inadvertently select CUTE, scan Enable Parameter Bar Code Scanning (located in the MP6000 Bar Code Programming Guide) then change the host selection.

Table 2-3 *Terminal Specific RS-232 (Continued)*

Parameter	Olivetti	Omron	CUTE	NCR	Datalogic
Serial Response Timeout	9.9 Sec.	9.9 Sec.	9.9 Sec.	9.9 Sec.	9.9 Sec.
RTS Line State	Low	High	High	High	High
Beep On <BEL>	Disable	Disable	Disable	Disable	Enable
Transmit Code ID	Yes	Yes	Yes	Yes	Yes
Data Transmission Format	Prefix/Data/Suffix	Data/Suffix	Prefix/Data/ Suffix	Prefix/ Suffix *	Data/Suffix
Prefix	STX (1002)	None	STX (1002)	STX *	None
Suffix	ETX (1003)	CR (1013)	CR (1013) ETX (1003)	ETX *	CR (1013)
The CUTE host disables all parameter scanning, including Set Defaults. If you inadvertently select CUTE, scan Enable Parameter Bar Code Scanning (located in the MP6000 Bar Code Programming Guide) then change the host selection.					

RS-232 Host Parameters (continued)

Selecting ICL, Fujitsu, Wincor-Nixdorf Mode A, Wincor-Nixdorf Mode B, OPOS/JPOS, Olivetti, Omron, Common Use Terminal Equipment (CUTE-LP/LG bar code readers), NCR, or Datalogic enables the transmission of code ID characters listed in *Table 2-4* and *Table 2-5*. These code ID characters are not programmable and are separate from the Transmit Code ID feature. Do not enable the Transmit Code ID feature for these terminals.

Table 2-4 *Terminal Specific Code ID Characters*

Code Type	ICL	Fujitsu	Wincor-Nixdorf Mode A	Wincor-Nixdorf Mode B/ OPOS/JPOS
UPC-A	A	A	A	A
UPC-E	E	E	C	C
EAN-8/JAN-8	FF	FF	B	B
EAN-13/JAN-13	F	F	A	A
Bookland EAN	F	F	A	A
Code 39	C <len>	None	M	M
Code 39 Full ASCII	None	None	M	M
Trioptic	None	None	None	None
Code 32	None	None	None	None
Codabar	N <len>	None	N	N
Code 128	L <len>	None	K	K
GS1-128	L <len>	None	P	P
Code 93	None	None	L	L
I 2 of 5	I <len>	None	I	I
D 2 of 5	H <len>	None	H	H
MSI	None	None	O	O
IATA	H<len>	None	H	H
GS1 Databar Variants	None	None	E	E
PDF417	None	None	Q	Q
MicroPDF417	None	None	S	S
Data Matrix	None	None	R	R
QR Codes	None	None	U	U
Aztec/Aztec Rune	None	None	V	V

*** 2D bar codes are not supported.**

Table 2-5 *Terminal Specific Code ID Characters*

Code Type	Olivetti	Omron	CUTE	NCR	Datalogic
UPC-A	A	A	A	**A**	**A**
UPC-E	C	E	None	E	E
EAN-8/JAN-8	B	FF	None	FF	FF
EAN-13/JAN-13	A	F	A	F	F
Bookland EAN	A	F	None	None	None
Code 39	M <len>	C <len>	3	B1	*
Code 39 Full ASCII	None	None	3	None	None
Trioptic	None	None	None	None	$T
Code 32	None	None	None	None	AE
Codabar	N <len>	N <len>	None	None	%
Code 128	K <len>	L <len>	5	B3	#
GS1-128	P <len>	L <len>	5	None	None
Code 93	L <len>	None	None	None	&
I 2 of 5	I <len>	I <len>	1	B2	i
D 2 of 5	H <len>	H <len>	2	None	None
MSI	O <len>	None	None	None	@
IATA	H<len>	H<len>	2	None	IA
GS1 Databar Variants	None	None	None	]e0	GS1 Databar - R4 GS1 Databar Limited - RL GS1 Databar Expanded - RX
PDF417	None	None	6	n/a*	P
MicroPDF417	None	None	6	n/a*	mP
Data Matrix	None	None	4	n/a*	Dm
QR Codes	None	None	7	n/a*	QR
Aztec/Aztec Rune	None	None	8	n/a*	Az

*** 2D bar codes are not supported.**

RS-232 Host Types

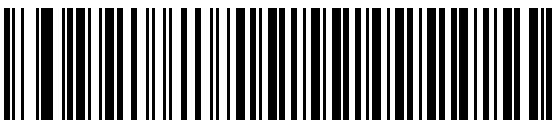
Scan one of the bar codes that follow to select RS-232 as the host interface.

Options:

- *Standard RS-232
- ICL RS-232
- Wincor-Nixdorf RS-232 Mode A
- Wincor-Nixdorf RS-232 Mode B
- Olivetti ORS4500
- Omron
- OPOS/JPOS
- Fujitsu RS-232
- CUTE 2
- NCR Variant (both Scanner-Only and Scanner/Scale variants)
- RS-232 Host -Datalogic Variant
- Datalogic Variant.

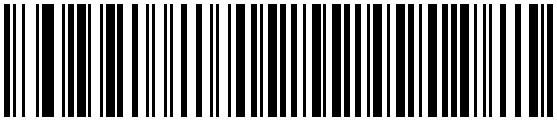
NOTES [1] Scanning **Standard RS-232** activates the RS-232 driver, but does not change port settings (e.g., parity, data bits, handshaking). Selecting another RS-232 host type bar code changes these settings.

[2] The CUTE host (on *page 2-15*) disables all parameter scanning, including Set Defaults. If you inadvertently select CUTE, scan **Enable Parameter Bar Code Scanning** (located in the MP6000 Bar Code Programming Guide) then change the host selection.



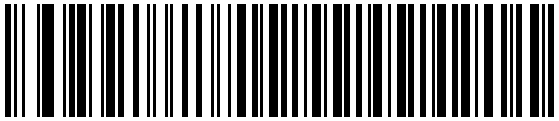
***Standard RS-232**

RS-232 Host Types (continued)



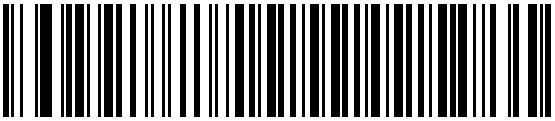
ICL RS-232

RS-232 Host Types (continued)



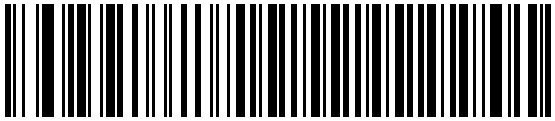
Wincor-Nixdorf RS-232 Mode A

RS-232 Host Types (continued)



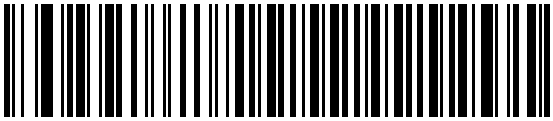
Wincor-Nixdorf RS-232 Mode B

RS-232 Host Types (continued)



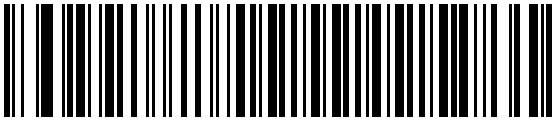
Olivetti ORS4500

RS-232 Host Types (continued)



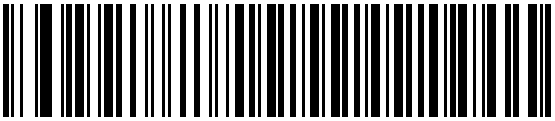
Omron

RS-232 Host Types (continued)



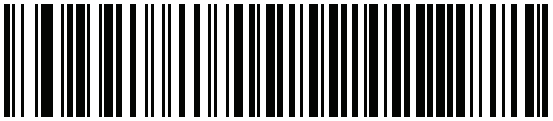
OPOS/JPOS

RS-232 Host Types (continued)



Fujitsu RS-232

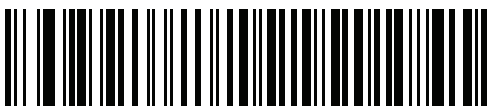
RS-232 Host Types (continued)



CUTE 2

RS-232 Host Types (continued)

Scan the bar code below to enable the NCR variant of the RS-232 host.



NCR Variant

RS-232 Host Types (continued)

RS-232 Host -Datalogic Variant

Scan the bar code below to enable the Datalogic variant of the RS-232 host.

Datalogic Variant

RS-232 Host Preferences

Baud Rate

Baud rate is the number of bits of data transmitted per second. Set the MP6000 '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.

NOTE The MP6000 does not support baud rates below 9600.

Options:

- *Baud Rate 9600
- Baud Rate 19,200
- Baud Rate 38,400
- Baud Rate 57,600
- Baud Rate 115,200.

***Baud Rate 9600**

Baud Rate (continued)

Baud Rate 19,200

Baud Rate (continued)

Baud Rate 38,400

Baud Rate (continued)

Baud Rate 57,600

Baud Rate (continued)

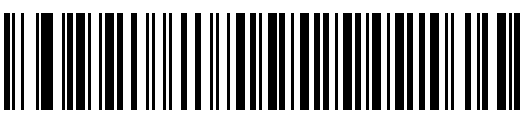
Baud Rate 115,200

Parity

A parity check bit is the most significant bit of each ASCII coded character. Select the parity type according to host device requirements.

Options:

- Odd: Select parity to set the parity bit value to 0 or 1, based on data, to ensure that the coded character contains an odd number of 1 bits.
- Even: Select parity to set the parity bit value is set to 0 or 1, based on data, to ensure that the coded character contains an even number of 1 bits.
- *None: Select when no parity bit is required.

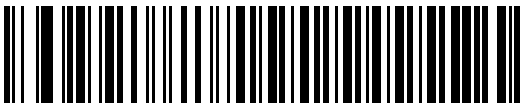


Odd

Parity (continued)

Even

Parity (continued)



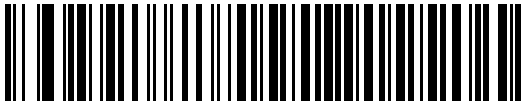
*None

Stop Bits

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. Select the number of stop bits (one or two) based on the number the receiving terminal is programmed to accommodate. Set the number of stop bits to match host device requirements.

Options:

- *1 Stop Bit
- 2 Stop Bits.



***1 Stop Bit**

Stop Bits (continued)

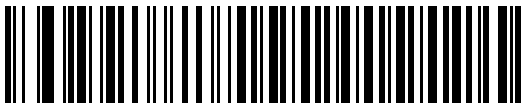
2 Stop Bits

Data Bits

This parameter allows the MP6000 to interface with devices requiring a 7-bit or 8-bit ASCII protocol.

Options:

- 7-bit
- *8-bit.



7-Bit

Data Bits (continued)

*8-Bit

Check Receive Errors

Select whether or not to check the parity, framing, and overrun of received characters. The parity value of received characters is verified against the parity parameter selected in the section *Parity on page 2-23*.

Options:

- *Check For Received Errors (Enable)
- Do Not Check For Received Errors (Disable).

***Check For Received Errors**
(Enable)

Check Receive Errors (continued)

Do Not Check For Received Errors (Disable)

Hardware Handshaking

The data interface consists of an RS-232 port designed to operate either with or without the hardware handshaking lines, *Request to Send* (RTS), and *Clear to Send* (CTS).

Disable Standard RTS/CTS handshaking to transmit scan data as it becomes available. Select Standard RTS/CTS handshaking to transmit scan data according to the following sequence:

- The MP6000 reads the CTS line for activity. If CTS is asserted, the scanner waits up to Host Serial Response Timeout for the host to de-assert the CTS line. If, after Host Serial Response Timeout (default), the CTS line is still asserted, the scanner sounds a transmit error, and discards any scanned data.
- When the CTS line is de-asserted, the MP6000 asserts the RTS line and waits up to Host Serial Response Timeout for the host to assert CTS. When the host asserts CTS, the scanner transmits data. If, after Host Serial Response Timeout (default), the CTS line is not asserted, the scanner sounds a transmit error, and discards the data.
- When data transmission completes, the MP6000 de-asserts RTS 10 msec after sending the last character.
- The host should respond by negating CTS. The MP6000 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 de-asserted for more than 50 ms between characters, the MP6000 aborts transmission, sounds a transmission error, and discards the data.

If this communication sequence fails, the MP6000 issues an error indication. In this case, the data is lost and must be re-scanned.

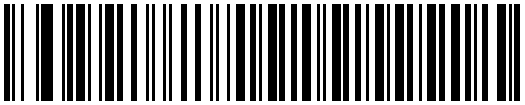
If hardware handshaking and software handshaking are both enabled, hardware handshaking takes precedence.

NOTE The DTR signal is jumpered to the active state.

Hardware Handshaking (continued)

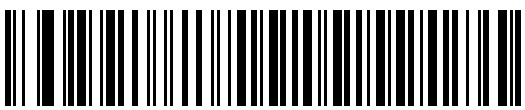
Options:

- None: Scan this bar code to disable hardware handshaking.
- Standard RTS/CTS: Scan this bar code to select Standard RTS/CTS Hardware Handshaking.
- RTS/CTS Option 1: If you select RTS/CTS Option 1, the MP6000 asserts RTS before transmitting and ignores the state of CTS. The scanner de-asserts RTS when the transmission completes.
- RTS/CTS Option 2: If you select Option 2, RTS is always high or low (user-programmed logic level). However, the MP6000 waits for CTS to be asserted before transmitting data. If CTS is not asserted within Host Serial Response Timeout (default), the scanner issues an error indication and discards the data.
- RTS/CTS Option 3: If you select Option 3, the MP6000 asserts RTS prior to any data transmission, regardless of the state of CTS. The scanner waits up to Host Serial Response Timeout (default) for CTS to be asserted. If CTS is not asserted during this time, the scanner issues an error indication and discards the data. The MP6000 de-asserts RTS when transmission is complete.



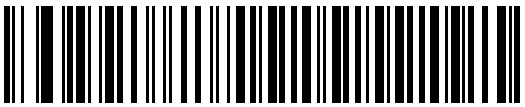
***None**

Hardware Handshaking (continued)



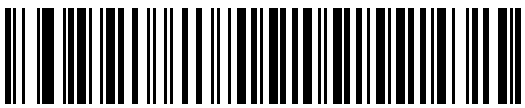
Standard RTS/CTS

Hardware Handshaking (continued)



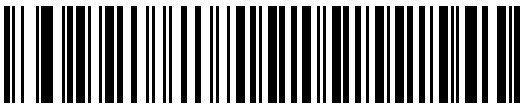
RTS/CTS Option 1

Hardware Handshaking (continued)



RTS/CTS Option 2

Hardware Handshaking (continued)



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.

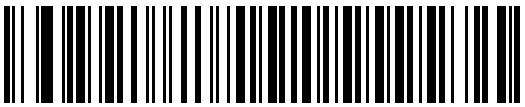
If software handshaking and hardware handshaking are both enabled, hardware handshaking takes precedence.

Options:

- None: Select this to transmit data immediately. The MP6000 expects no response from the host.
- ACK/NAK: If you select this option, after transmitting data, the MP6000 expects either an ACK or NAK response from the host. When it receives a NAK, the scanner transmits the same data again and waits for either an ACK or NAK. After three unsuccessful attempts to send data after receiving NAKs, the MP6000 issues an error indication and discards the data.

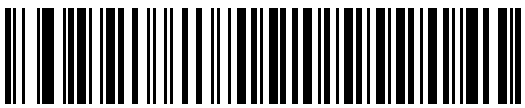
  The MP6000 waits up to the programmable Host Serial Response Timeout to receive an ACK or NAK. If the scanner does not get a response in this time, it issues an error indication and discards the data. There are no retries when a timeout occurs.
- ENQ: If you select this option, the MP6000 waits for an ENQ character from the host before transmitting data. If it does not receive an ENQ within the Host Serial Response Timeout, the MP6000 issues an error indication and discards the data. The host must transmit an ENQ character at least every Host Serial Response Timeout 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 MP6000 transmission off until the scanner receives an XON character. There are two situations for XON/XOFF:
  - The MP6000 receives an XOFF before has data to send. When the scanner has data to send, it waits up to Host Serial Response Timeout for an XON character before transmission. If it does not receive the XON within this time, the MP6000 issues an error indication and discards the data.
  - The MP6000 receives an XOFF during a transmission. Data transmission then stops after sending the current byte. When the MP6000 receives an XON character, it sends the rest of the data message. The MP6000 waits indefinitely for the XON.

Software Handshaking (continued)



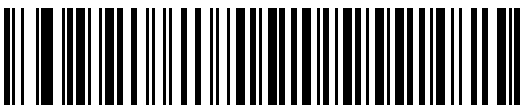
*None

Software Handshaking (continued)



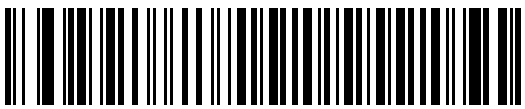
ACK/NAK

Software Handshaking (continued)



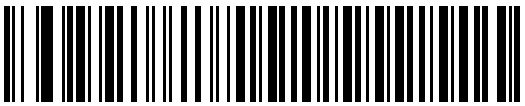
ENQ

Software Handshaking (continued)



ACK/NAK with ENQ

Software Handshaking (continued)



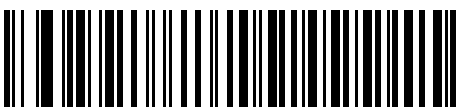
XON/XOFF

Host Serial Response Timeout

This parameter specifies how long the MP6000 waits for an ACK, NAK, or CTS before determining that a transmission error occurred. This only applies when in one of the ACK/NAK software handshaking modes, or RTS/CTS hardware handshaking mode.

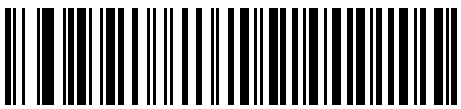
Options:

- *Minimum: 2 Sec
- Low: 2.5 Sec
- Medium: 5 Sec
- High: 7.5 Sec
- Maximum: 9.9 Sec.



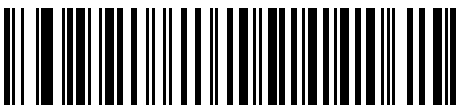
***Minimum: 2 Sec**

Host Serial Response Timeout (continued)



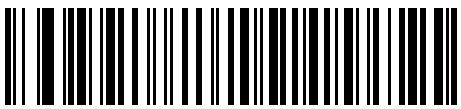
Low: 2.5 Sec

Host Serial Response Timeout (continued)



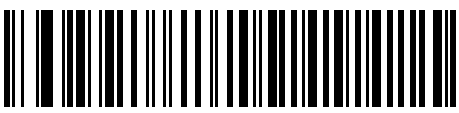
Medium: 5 Sec

Host Serial Response Timeout (continued)



High: 7.5 Sec

Host Serial Response Timeout (continued)



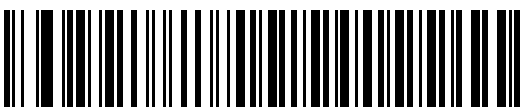
Maximum: 9.9 Sec

RTS Line State

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

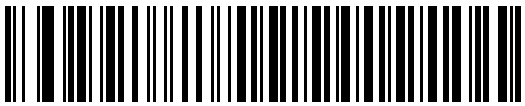
Options:

- *Host: Low RTS
- Host: High RTS.



***Host: Low RTS**

RTS Line State (continued)



Host: High RTS

Beep on <BEL>

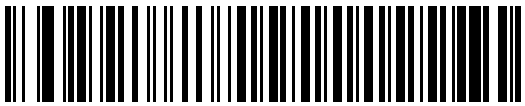
If you enable this parameter, the MP6000 issues a beep when it detects a <BEL> character on the RS-232 serial line. <BEL> indicates an illegal entry or other important event.

Options:

- *Do Not Beep On <BEL> Character (Disable)
- Beep On <BEL> Character (Disable).

Beep On <BEL> Character (Enable)

Beep on <BEL> (continued)



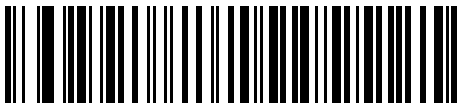
*Do Not Beep On <BEL> Character
(Disable)

Intercharacter Delay

This parameter specifies the intercharacter delay inserted between character transmissions.

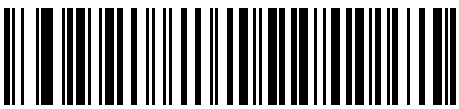
Options:

- *Minimum: 0 msec
- Low: 25 msec
- Medium: 50 msec
- High: 75 msec
- Maximum: 99 msec.



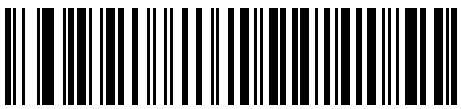
***Minimum: 0 msec**

Intercharacter Delay (continued)



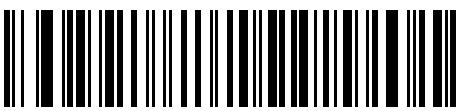
Low: 25 msec

Intercharacter Delay (continued)



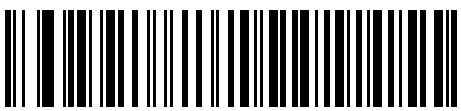
Medium: 50 msec

Intercharacter Delay (continued)



High: 75 msec

Intercharacter Delay (continued)



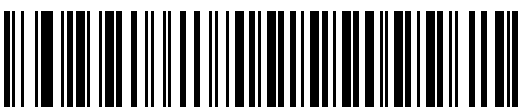
Maximum: 99 msec

Wincor-Nixdorf Beep/LED Options

If you selected Wincor-Nixdorf Mode B, this indicates when the digital scanner beeps and turns on its LED after a decode.

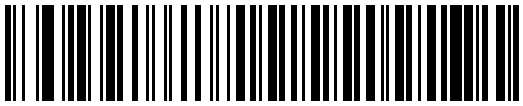
Options:

- *Normal Operation (Beep/LED immediately after decode)
- Beep/LED After Transmission
- Beep/LED After CTS Pulse.



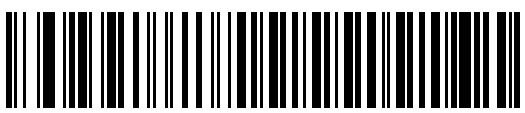
***Normal Operation**
(Beep/LED immediately after decode)

Wincor-Nixdorf Beep/LED Options (continued)



Beep/LED After Transmission

Wincor-Nixdorf Beep/LED Options (continued)



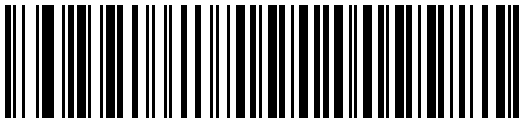
Beep/LED After CTS Pulse

Ignore Unknown Characters

Unknown characters are characters the host does not recognize.

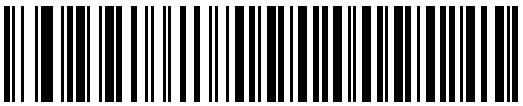
Options:

- *Send Bar Codes with Unknown Characters: Select to send all bar code data except for unknown characters. The MP6000 issues no error beeps.
- Do Not Send Bar Codes With Unknown Characters: Select to send bar code data up to the first unknown character. The MP6000 issues an error beep.



***Send Bar Code**
(with unknown characters)

Ignore Unknown Characters (continued)



Do Not Send Bar Codes
(with unknown characters)

NCR Variant Preferences

NCR Use Prefix

Parameter #1238

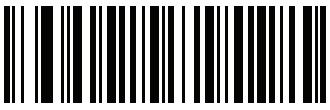
When **NCR Variant** is selected, this parameter determines whether or not the prefix is used for all communications.

Options:

- Disabled
- *Enabled.

Disabled
(00h)

NCR Use Prefix (continued)



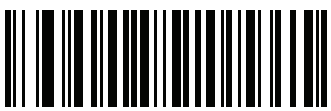
***Enabled**
(01h)

NCR Prefix

Parameter # 1282

When NCR variant is selected, and **NCR Use Prefix** is enabled, this parameter determines the Prefix Character used for all communications. The default is 1002 (STX).

To set a prefix value, scan the bar code below, then scan four numeric bar codes from *Appendix D, NUMERIC BAR CODES* that correspond to the desired character in *Table 2-6* (*ASCII Character Set for RS-232 on page 2-74*).



NCR Prefix

NCR Suffix

Parameter # 1283

When NCR variant is selected, this parameter determines the suffix (terminator) character used for all communications. The default is 1003 (ETX).

To set a suffix value scan the bar code below, then scan four numeric bar codes from *Appendix D, NUMERIC BAR CODES* that correspond to the desired character in *Table 2-6* (*ASCII Character Set for RS-232 on page 2-74*).

NCR Suffix

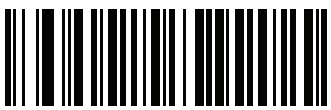
NCR Use Block Check Character (BCC)

Parameter #1239

When NCR variant is selected, this parameter determines whether or not to enable the use of the *Block Check Character* (after the *Terminator* byte) for all communications.

Options:

- Disabled
- *Enabled.



Disabled
(00h)

NCR Use Block Check Character (BCC)

***Enabled**
(01h)

NCR Interface

Parameter #1240

When NCR variant is selected, this parameter determines the NCR specific interface to be used for all communications. NCR supports two interfaces: scanner only, and scanner/scale.

Options:

- *Follow System: Scan this bar code for auto system detection. If the system has a scale installed, the scanner/scale interface is used; if the system has no scale installed, scanner only is used.
- Scanner Only: Scan this bar code to force the system to use the scanner only interface whether or not a scale is installed.
- Scanner/Scale: Scan this bar code to force the system to use the scanner/scale interface whether or not a scale is installed.

***Follow System**
(00h)

NCR Interface (continued)

Scanner Only
(01h)

NCR Interface (continued)

Scanner/Scale
(02h)

NCR Scale Beep After Weight Request

Parameter #1353

Scan **Enable NCR Scale Beep After Weight** below to sound a beep tone after a successful weight request.

Options:

- Enable NCR Scale Beep After Weight: The scale beeps a single beep tone after each successful weight request by the POS system.
- *Disable NCR Scale Beep After Weight: The scale does not beep after a weight request is made by the POS system.

***Disable NCR Beep After Weight Request**
(0x00h)

NCR Scale Beep After Weight Request

Enable NCR Beep After Weight Request (0x01h)

ASCII Character Set for RS-232

You can assign the values in *Table 2-6* as prefixes or suffixes for ASCII character data transmission.

Table 2-6 *Prefix/Suffix Values*

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

Table 2-6 *Prefix/Suffix Values (Continued)*

Prefix/Suffix Value	Full ASCII Code 39 Encode Character	ASCII Character
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	:

Table 2-6 *Prefix/Suffix Values (Continued)*

Prefix/Suffix Value	Full ASCII Code 39 Encode Character	ASCII Character
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

Table 2-6 *Prefix/Suffix Values (Continued)*

Prefix/Suffix Value	Full ASCII Code 39 Encode Character	ASCII Character
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

Table 2-6 *Prefix/Suffix Values (Continued)*

Prefix/Suffix Value	Full ASCII Code 39 Encode Character	ASCII Character
1121	+Y	y
1122	+Z	z
1123	%P	{
1124	%Q	|
1125	%R	}
1126	%S	~
1127		Undefined
7013		ENTER

CHAPTER 3 IBM RS-485 INTERFACE BAR CODES

Introduction

This chapter includes the programming bar codes for the IBM RS-485 host interface.

For detailed technical information about the MP6000 including installation, setting up interfaces, calibrating the scale, and operation refer to the *MP6000 Integrator Guide* (p/n 72E-172632-xx).

Throughout the programming bar code menus, asterisks (*) indicate default values.

* Indicates Default — ***Disable Convert to Code 39** — Feature/Option

IBM Parameter Defaults

Table 3-1 lists the defaults for IBM host parameters. To change any option, scan the appropriate bar code(s) provided in the Parameter Descriptions section beginning on page *3-3*.

NOTE See *Appendix A, STANDARD DEFAULT PARAMETERS* for all user preferences, hosts, symbologies, and miscellaneous default parameters.

Table 3-1 *IBM Host Default Table*

Parameter	Default	Page Number
IBM RS-485 Host Parameters		
Port Addresses	None Selected	*3-3*
Scale Port Addresses	None Selected	*3-7*
IBM RS-485 Miscellaneous Parameters		
Convert Unknown to Code 39	Disable	*3-11*
Ignore Beep Directive	Honor	*3-13*
Ignore Configuration Directive	Ignore	*3-15*
Scan Disable Mode	Full Disable	*3-17*

IBM RS-485 Host Parameters

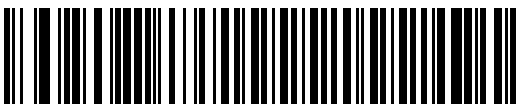
Port Address

This parameter sets the IBM RS-485 port used.

NOTE Scanning one of these bar codes enables the RS-485 interface on the MP6000.

Options:

- *None Selected
- Hand-held Scanner Emulation (Port 9B)
- Non-IBM Scanner Emulation (Port 5B)
- Table-top Scanner Emulation (Port 17).



***None Selected**

Port Address (continued)

Hand-held Scanner Emulation (Port 9B)

Port Address (continued)

Non-IBM Scanner Emulation (Port 5B)

Port Address (continued)

Table-top Scanner Emulation (Port 17)

Scale Port Address

The scale port address must be configured for the scale to operate on the IBM RS-485 bus.

Options:

- *None Selected
- Port 6A
- Port 6B
- Port 6E.

***None Selected**

Scale Port Address (continued)

Port 6A

Scale Port Address (continued)

Port 6B

Scale Port Address (continued)

Port 6E

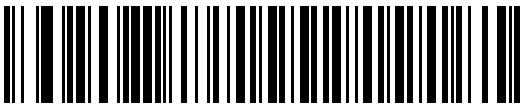
IBM RS-485 Miscellaneous Parameters

Convert Unknown to Code 39

Scan a bar code below to enable or disable the conversion of unknown bar code type data to Code 39.

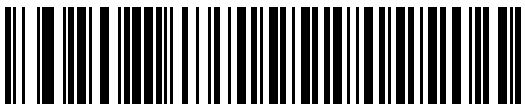
Options:

- Enable Convert Unknown to Code 39
- *Disable Convert Unknown to Code 39.



Enable Convert Unknown to Code 39

Convert Unknown to Code 39 (continued)



*Disable Convert Unknown to Code 39

Ignore Beep Directive

Scan one of the following bar codes to honor or ignore a beep directive made over the IBM RS-485 bus. All directives are still acknowledged to the IBM RS-485 host as if they were processed.

Options:

- Honor Beep Directive
- *Ignore Beep Directive.

Honor Beep Directive

Ignore Beep Directive (continued)

*Ignore Beep Directive

Ignore Configuration Directive

Scan one of the following bar codes to honor or ignore a code type enable/disable directive made over the IBM RS-485 bus. All directives are still acknowledged to the IBM RS-485 host as if they were processed.

Options:

- Honor Configuration Directive
- *Ignore Configuration Directive.

Honor Configuration Directive

Ignore Configuration Directive (continued)

*Ignore Configuration Directive

Scan Disable Mode

Parameter # 1214

This parameter determines the behavior of the MP6000 when it receives a *Scan Disable* directive from the connected host.

Options:

- *Full Disable: Scanning bar codes is disabled.
- Transmit Disable: The MP6000 may scan bar codes, but transmission of bar code data is disabled.
- Auto Disable: MP6000 disables scanning after transmission of a bar code, and remains disabled until the host sends a *Scan Enable.*

NOTE This feature is currently supported by IBM Table Top USB, IBM Hand-held USB, and all IBM 46XX interfaces.

*** Full Disable**
(0)

Scan Disable Mode

Transmit Disable
(1)

Scan Disable Mode

Auto Disable
(2)

CHAPTER 4 SCALE CONFIGURATION

Introduction

You can program the MP6000 to perform various functions, or activate different features. This chapter describes each scale calibration feature, and provides programming bar codes for selecting these features.

The MP6000 ships with the settings shown in *Table 4-1 on page 4-2* (also see *Appendix A, STANDARD DEFAULT PARAMETERS* for all host device and miscellaneous defaults). If the default values suit requirements, programming is not necessary.

To set feature values, scan a single bar code or a short bar code sequence. The settings are stored in non-volatile memory and are preserved even when the MP6000 is powered down.

* Indicates Default — * **Disable Scale Display Configuration** — Feature/Option

Scanning Sequence Examples

In most cases, scanning one bar code sets the parameter value. For example, to enable the Scale Display, scan the **Enable Scale Display Configuration** bar code listed under *Scale Display Configuration on page 4-12*.

Errors While Scanning

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

Scale Parameter Defaults

Table 4-1 lists defaults for user preferences parameters. To change the default values, scan the appropriate bar codes in this guide. These new values replace the standard default values in memory. To recall the default parameter values, scan the *Set Default Parameter on page 5-5*.

NOTE See *Appendix A, STANDARD DEFAULT PARAMETERS* for all user preferences, hosts, symbologies, and miscellaneous default parameters.

Table 4-1 *User Preferences Parameter Defaults*

Parameter	Parameter Number	Default	Page Number
Legal Scale Units	995	n/a	*4-3*
Legal Scale Dampening Filter Setting	996	Low Vibration Sensitivity	*4-5*
Scale Enable	1197	Enable	*4-9*
Scale Reset	6019	n/a	*4-11*
Scale Display Configuration	986	Disable	*4-12*
Scale Enforce Zero Return	987	Disable	*4-14*
Scale Beep After Weight Request	988	Disable	*4-16*
Scale Port Address	n/a	Not Selected	See *Scale Port Address on page 3-7* for this parameter.
Ignore Scale Pole Directives	1242	Ignore	*4-18*
Maximum Initial Zero Setting Range	1285	15% maximum weight capacity	*4-20*
Maximum Scale Zeroing Weight Limit	1366	60	*4-22*

Legal Scale Units

Parameter # 995

Scan a weight unit below to set the legal weight units for the MP6000. Scan **Kilograms** for international units; scan **Pounds** for the United States.

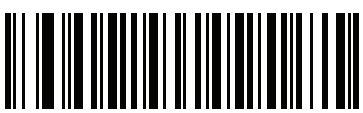
NOTE This legal scale unit can only be programmed when the scale is placed into a legal scale calibration mode. Refer to the *MP6000 Integrator Guide* (p/n 72E-172632-xx) for detailed information about scale calibration.

Options:

- Kilograms
- Pounds.

Kilograms
(0)

Legal Scale Units (continued)



Pounds
(1)

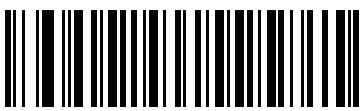
Legal Scale Dampening Filter Setting

Parameter # 996

Scan a bar code below to set the vibration sensitivity of the scale. The higher the number value, the less sensitive the scale is to vibration. The scale must be in a calibration mode to program this parameter. Refer to the *MP6000 Integrator Guide* (p/n 72E-172632-xx) for detailed information about calibrating the scale.

Options:

- 0 = Normal Vibration Sensitivity
- 1 = *Low Vibration Sensitivity
- 2 = Very Low Vibration Sensitivity
- 3 = Ultra Low Vibration Sensitivity.



Normal Vibration Sensitivity (0)

Legal Scale Dampening Filter Setting (continued)

*** Low Vibration Sensitivity (1)**

Legal Scale Dampening Filter Setting (continued)

Very Low Vibration Sensitivity (2)

Legal Scale Dampening Filter Setting (continued)

Ultra Low Vibration Sensitivity (3)

Scale Enable

Parameter # 1197

This parameter enables and disables the functionality of an already existing scale. If the scale was not properly installed, this parameter does nothing.

Options:

- *Scale Enable
- Scale Disable.

***Scale Enable**
(01h)

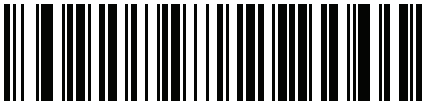
Scale Enable (continued)

Scale Disable
(00h)

Scale Reset

Parameter # 6009

Scan **STISCLRST** to reset the scale. This parameter can be scanned in any mode of operation. If a pole display is enabled, and installed, it repeats the 7-segment test. Refer to the *MP6000 Integrator Guide* (p/n 72E-172632-xx) for details.



STISCLRST

Scale Display Configuration

Parameter # 986

Scan **Enable Scale Display Configuration** below to enable the pole display port. Scale Display Configuration is disabled by default.

Options:

- Enable Scale Display Configuration: When a pole display is installed and connected to the MP6000/scale, the pole display shows weight, and/or additional alphanumeric information associated with the state of the scale. If a pole display is not connected, and **Enable Scale Display Configuration** is scanned, the 7-segment display scrolls the code U23 indicating that there is a remote Scale Display communication error.
- *Disable Scale Display Configuration: Scan this parameter when no Scale Display is installed. When a Scale Display is installed and connected to the MP6000/scale, the Scale Display remains blank. The Scale Display can be installed and programmed in any mode of operation.

Refer to the *MP6000 Integrator Guide* (p/n 72E-163525-xx) for detailed information about the audit trail, scale calibration, and error/warning conditions.

Enable Scale Display Configuration
(1)

Scale Display Configuration (continued)

*** Disable Scale Display Configuration (0)**

Scale Enforce Zero Return

Parameter # 987

Scan a bar code to below to enable or disable enforce zero return.

Options:

- *Disable Scale Enforce Zero Return: Provides live gross weight in real time upon request from a Point-of-sale (POS) system. This is the factory default.
- Enable Scale Enforce Zero Return: The scale must return to zero weight between POS weight requests. If the scale fails to return to zero weight between POS weight requests then all subsequent weight requests are returned to the POS as an invalid weight.

Enable Scale Enforce Zero Return (1)

Scale Enforce Zero Return (continued)

*** Disable Scale Enforce Zero Return**
(0)

Scale Beep After Weight Request

Parameter # 988

Scan **Enable Scale Beep After Weight** below to sound a beep tone after a successful weight request.

Options:

- Enable Scale Beep After Weight: The scale beeps a single beep tone after each successful weight request by the POS system. The beep tone sounds when the weight is above zero, stable, and the previous weight does not equal the present weight.
- *Disable Scale Beep After Weight: The scale does not beep after a weight request is made by the POS system. Disable is the factory default.

Enable Scale Beep After Weight (1)

Scale Beep After Weight Request (continued)

*** Disable Scale Beep After Weight (0)**

Ignore Scale Pole Directives

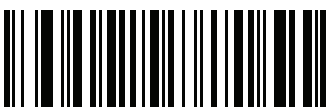
Parameter #1242

The pole display is required to be consumer facing if the POS system is not certified for displaying live gross weight.

When *Ignore Scale Pole Directives* is set to honor scale pole directives (**Honor Scale Pole Directives**), a *Remote display required but not detected* status is returned to the POS system (see bit position 5 in *Table 1-2 on page 1-60*) if the pole display configuration was set to **Enable Scale Display Configuration** (see *Scale Display Configuration on page 4-12*), and a pole display was either uninstalled, or failed at the scale display port on the MP6000 (refer to the *MP6000 Integrator Guide*, p/n 72E-172632-xx, for the pole display port). The 7-segment display scrolls a U23 fault code under this condition. This prevents the POS display from showing live gross weight, and does not allow the POS to complete a price/weight transaction unless a pole display is connected, and shows live gross weight.

Options:

- *Ignore Scale Pole Directives: Always returns the status *Remote display required but not detected* to the POS system. POS weight display and/or price/weight transactions are enabled whether a pole display is installed or not.
- Honor Scale Pole Directives: Returns the status *Remote display required but not detected* to the POS system when the **Scale Display Configuration** is enabled (*page 4-12*), and the pole display is either uninstalled, or the connection to the port is faulty. This prevents live gross weight from displaying on the POS system, and inhibits price/weight scale transactions at the POS until a pole display is installed and shows live gross weight.



***Ignore Scale Pole Directives**
(1)

Ignore Scale Pole Directives (continued)

Honor Scale Pole Directives
(0)

Maximum Initial Zero Setting Range

Parameter #1285

Initial Zero Setting - The scale indication is set to zero automatically when the device is powered on, and before it is ready for use.

The default *Initial Zero Setting* range is set to -5% to +15% of the maximum capacity of the scale (i.e.: -1.5 lb to 4.5 lb, -0.75 kg to 2.25 kg).

When an object is left on the scale, and within this weight range at scale power up, it automatically zeroes the weight.

When the object is removed, the scale is in a negative weight condition, and an indication is present on the display (i.e.; dashes ------, or a blank display).

There are two ways to clear this condition, depending on the weight of the object that was initially on the scale.

- After removal of a light weight object, the scale can be zeroed by touching the **Zero** button on the MP6000 front panel which zeros from -2% to 2% of the maximum capacity (i.e.: -0.6 lb to 0.6 lb, -0.3 kg to 0.3 kg). The allowable zeroing weight limit of 0.6 lb and 0.3 kg is configurable (see *Maximum Scale Zeroing Weight Limit on page 4-22*).
- After removal of a heavy weighted object, the scale can only be zeroed by power cycling the MP6000 to reset the scale. (Ensure no objects remain on the scale. If so, remove and reapply power.)

This parameter allows a user to reduce the overall range of *Initial Zero Setting* by scanning a parameter which adjusts the positive limit from 2% to 15% in 1% increments. In addition, this parameter is intended to compensate for scale life time drift.

- Higher values may require cause the MP6000 scale to fail more frequently at power on, making removal of the item from the platter and rebooting necessary.
- Lower values may require more frequent scale calibrations.

If you frequently leave items on the platter during periods of non-use (like a cash drawer) you should set this value to 2 (0.9lb or 0.45kg). This prevents the need to reboot the MP6000 due to exceeding this maximum power on weight limit (see *Table 4-2 on page 4-21*).

For example, if the maximum initial zero setting range is programmed for +2% then if a weight greater 2% (i.e.: 0.6 lb, 0.3 kg) is left on the weighing surface at power up and then removed, the scale automatically finds zero with no intervention required by the user. In most all scenarios, a user would only want to program this setting for +2%, or leave the default setting of +15%.

Scan **Set Scale Maximum Initial Zero Setting Range**, followed by two numeric bar codes from *Appendix D, NUMERIC BAR CODES*, that correspond to the desired percent (e.g., 2% = 02, 3% = 03, 4% = 04, 10% = 10, 15% = 15). The range is 2% to 15% (i.e.: 02 to 15). The default setting is 15% maximum weight capacity (i.e., 4.5 lb, 2.25 kg).

✓ ***NOTES*** 1. A lower setting may result in more frequent legal scale calibrations.

2.Regardless of this parameter value, items above 4.5 lb or 2.25 kg also cause a **u13** 7-segment display message, but in this case the user can simply remove the items to clear the fault. A power cycle is not required.

Maximum Initial Zero Setting Range (continued)

Table 4-2 *Parameter Value Settings.*

Param Value	Lbs	Kgs
2 (minimum)	0.6	0.30
3	0.9	0.45
4	1.2	0.60
5	1.5	0.75
6	1.8	0.90
7	2.1	1.05
8	2.4	1.20
9	2.7	1.35
10	3.0	1.50
11	3.3	1.65
12	3.6	1.80
13	3.9	1.95
14	4.2	2.10
15 (maximum/default)	4.5	2.25

Set Scale Maximum Initial Zero Setting Range

Maximum Scale Zeroing Weight Limit

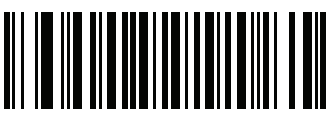
Parameter #1366

This parameter defines how much weight is permitted to be *zeroed out* when the **Zero** button is pressed.

- The range of values is 0-60 (default is 60).
- In *Lbs Mode*: 0=0.00lb - 60=0.60 lb (increments of 0.01 lbs).
- In *Kgs Mode*: 0=0.00kg - 60=0.300 kg (increments of 0.005 kg).

CAUTION In *Lbs Mode* the value is equivalent to the desired weight (60=.60 lbs). In *Kgs mode* the value is twice the desired weight (60=0.300 kgs).

To set a *Weight Limit* value, scan **Set Max Scale Zeroing Weight Limit** below, then scan two numeric bar codes from *Appendix D, NUMERIC BAR CODES* that correspond to the desired value. Enter a leading zero for single digit numbers. For example, to set a *Weight Limit* of 0.05 lbs, scan the bar code below, then scan the **0** and **5** bar codes. To correct an error or change the selection, scan *Cancel on page D-11*.



Set Max Scale Zeroing Weight Limit

CHAPTER 5 USER PREFERENCES & MISCELLANEOUS OPTIONS

Introduction

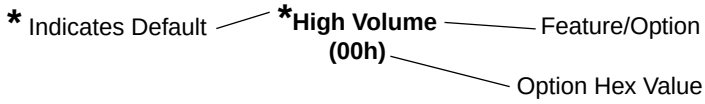
You can program the MP6000 to perform various functions, or activate different features. This chapter describes each user preference feature and provides programming bar codes for selecting these features.

The MP6000 ships with the settings shown in *Table 5-1 on page 5-2* (also see *Appendix A, STANDARD DEFAULT PARAMETERS* for all host device and miscellaneous defaults). If the default values suit requirements, programming is not necessary.

To set feature values, scan a single bar code or a short bar code sequence. The settings are stored in non-volatile memory and are preserved even when the MP6000 is powered down.

If not using a USB cable, select a host type (see each host chapter for specific host information) after the power-up beeps sound. This is only necessary upon the first power-up when connected to a new host.

To return all features to default values, scan the *Set Default Parameter on page 5-5*. Throughout the programming bar code menus, asterisks indicate (*) default values.



Scanning Sequence Examples

In most cases, scanning one bar code sets the parameter value. For example, to set the beeper tone to high, scan the **High Tone** (beeper tone) bar code in the *Beeper Tone* section on *page 5-12*. Other parameters, such as **Serial Response Timeout** or **Data Transmission Formats**, require scanning several bar codes. See these parameter descriptions for this procedure.

Errors While Scanning

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

User Preferences/Miscellaneous Options Parameter Defaults

Table 5-1 lists defaults for user preferences parameters. To change the default values, scan the appropriate bar codes in this guide. These new values replace the standard default values in memory. To recall the default parameter values, scan the *Set Default Parameter on page 5-5*.

NOTE See *Appendix A, STANDARD DEFAULT PARAMETERS* for all user preferences, hosts, symbologies, and miscellaneous default parameters.

Table 5-1 *User Preferences Parameter Defaults*

Parameter	Parameter Number	Default	Page Number
User Preferences			
Set Default Parameter	N/A	Set Defaults	*5-5*
Parameter Bar Code Scanning	236	Enable	*5-8*
Beep After Good Decode	56	Enable	*5-10*
Beeper Tone	145	Medium	*5-12*
Beeper Volume	140	Highest	*5-18*
Beeper Duration	628	Medium	*5-23*
Tone/Volume Button Enable	1287	Enable Tone, Enable Volume	*5-26*
Suppress Power-up Beeps	721	Do not suppress	*5-30*
Decode Session Timeout	136	9.9 Sec	*5-32*
Timeout Between Decodes, Same Symbol	137	0.5 Sec	*5-33*
Same Symbol Report Timeout	1284	Disable	*5-34*
Fuzzy 1D Processing	514	Enable	*5-39*
Swipe Frame Timeout	1226	15 ms	*5-36*
Presentation Frame Timeout	1227	35 ms	*5-37*

Table 5-1 *User Preferences Parameter Defaults (Continued)*

Parameter	Parameter Number	Default	Page Number
Cell Phone Frame Timeout	1228	35 ms	*5-38*
Mobile Phone Display Mode	716	Disable	*5-41*
PDF Prioritization	719	Disable	*5-43*
PDF Prioritization Timeout	720	300 ms	*5-45*
Center Object Detect	1128	Enable	*5-46*
Center IR Sensitivity	1219	Medium	*5-48*
Stitching Type	1229	Swipe Stitching	*5-51*
Scanning Usage Mode	1230	Cashier/Trained User	*5-53*
RS-232 Device Port Configuration	1246	Aux 1 Sensormatic and Aux 2 RS-232 Scanner	*5-55*
RS-232 Auxiliary Port Scale Protocol	1247	SASI	*5-61*
Aux1 Baud[1]	1328	15/Inherit[3]	*5-66*
Aux1 Data Bits[1]	1331	3/Inherit[3]	*5-73*
Aux1 Stop Bits[1]	1329	2/Inherit[3]	*5-76*
Aux1 Parity[1]	1330	6/Inherit[3]	*5-79*
Aux2 Baud[2]	1332	15/Inherit[3]	*5-85*
Aux2 Data Bits[2]	1335	3/Inherit[3]	*5-92*
Aux2 Stop Bits[2]	1333	2/Inherit[3]	*5-95*
Aux2 Parity[2]	1334	6/Inherit[3]	*5-98*

RS-232 Device Port Configuration Parameter Notes (see *RS-232 Device Port Configuration on page 5-3*):

1 Setting applies specifically to the Aux1 port. (See *Chapter 7, AUXILIARY SCANNER BAR CODES* for more information.)

2 Setting applies specifically to the Aux2 port. (See *Chapter 7, AUXILIARY SCANNER BAR CODES* for more information.)

3 Inherit means the default is based on the device assigned to the auxiliary port (see *Table 5-2 on page 5-55*).

Table 5-1 *User Preferences Parameter Defaults (Continued)*

Parameter	Parameter Number	Default	Page Number
Third Party Scale Parameters			
Third Party Scale	1294	Disable Third Party Scale	5-104
Third Party Scale LED Pin	1295	Active High	5-106
Third Party Scale Zero Pin	1296	Active High	5-108
Exclude Decode Field Of Views	1249	Include All Fields Of View	5-110
Illumination Configurations	1250	Full Brightness on Both Vertical and Horizontal	5-114
Product ID (PID) Type	1281	Host Type Unique	5-121
Continuous Bar Code Read	649	Disable	5-124
Miscellaneous Options			
Transmit Code ID Character	45	None	5-126
Prefix Value	99, 105	7013 <CR><LF>	5-129
Suffix 1 Value Suffix 2 Value	98, 104 100, 106	7013 <CR><LF>	5-129
Scan Data Transmission Format	235	Data as is	5-133
FN1 Substitution Values	103 109	7013 <CR> <LF>	5-141
Copy Statistics to a Staging Flash Drive	1137	Enable	5-142

User Preferences

Set Default Parameter

You can reset the MP6000 to two types of defaults: factory defaults or custom defaults. Scan the appropriate bar code below to reset the MP6000 to its default settings and/or set its current settings as custom defaults.

Options:

- *Set Defaults: Scan this bar code to reset all default parameters as follows.
  - If you previously set custom defaults by scanning **Write to Custom Defaults**, scan **Set Defaults** to retrieve and restore the MP6000 custom default settings.
  - If you did not set custom defaults, scan **Set Defaults** to restore the factory default values listed in *Table A-1*.
- Set Factory Defaults: Scan this bar code to restore the factory default values listed in *Table A-1.* This deletes any custom defaults set.
- Write to Custom Defaults: Scan this bar code to set the current digital scanner settings as custom defaults. Once set, you can recover custom default settings by scanning **Set Defaults**.

***Set Defaults**

Set Default Parameter (continued)

Set Factory Defaults

Set Default Parameter (continued)

Write to Custom Defaults

Parameter Bar Code Scanning

Parameter # 236

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

Options:

- *Enable Parameter Bar Code Scanning
- Disable Parameter Bar Code Scanning.

***Enable Parameter Bar Code Scanning**
(01h)

Parameter Bar Code Scanning (continued)

Disable Parameter Bar Code Scanning
(00h)

Beep After Good Decode

Parameter # 56

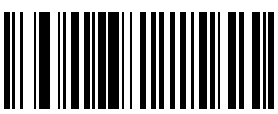
Scan a bar code below to select whether or not the MP6000 beeps after a good decode. If selecting **Do Not Beep After Good Decode**, the beeper still operates during parameter menu scanning and to indicate error conditions.

Options:

- *Beep After Good Decode (Enable)
- Do Not Beep After Good Decode (Disable).

***Beep After Good Decode**
(Enable)
(01h)

Beep After Good Decode (continued)



Do Not Beep After Good Decode
(Disable)
(00h)

Beeper Tone

Parameter # 145

To select a decode beep frequency (tone), scan one of the bar codes that follow.

If the decode tone is set to **Off**, the **Volume/Tone** button on the MP6000 cannot be used to control the volume of decode tones. To enable the **Volume/Tone** button, scan a tone other than **Off**.

Options:

- Off
- Low Tone
- *Medium Tone
- High Tone
- Medium to High Tone (2-tone)
- Chirp.

Off
(03h)

Beeper Tone (continued)

Low Tone
(02h)

Beeper Tone (continued)

***Medium Tone**
(01h)

Beeper Tone (continued)

High Tone
(00h)

Beeper Tone (continued)

Medium to High Tone (2-tone)
(04h)

Beeper Tone (continued)

Chirp
(05h)

Beeper Volume

Parameter # 140

To select a beeper volume, scan the one of the bar codes that follows.

Options:

- Low Volume
- Medium Volume
- High Volume
- Higher Volume
- *Highest Volume.

Low Volume
(02h)

Beeper Volume (continued)

Medium Volume
(01h)

Beeper Volume (continued)

High Volume
(00h)

Beeper Volume (continued)

Higher Volume
(03h)

Beeper Volume (continued)

***Highest Volume**
(04h)

Beeper Duration

Parameter # 628

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

Options:

- Short
- * Medium
- Long.

Short
(00h)

Beeper Duration (continued)

*** Medium**
(01h)

Beeper Duration (continued)

Long
(02h)

Tone/Volume Button Enable

Parameter # 1287

When this parameter is enabled the physical **Volume** button on the front panel of the MP6000 can be used to change the speaker volume and tone.

When this parameter is disabled the speaker volume and tone cannot be changed using the physical **Volume** button on the front panel of the MP6000.

Options:

- *Enable Tone, Enable Volume
- Disable Tone, Disable Volume
- Disable Tone, Enable Volume
- Enable Tone, Disable Volume.

***Enable Tone, Enable Volume**
(0)

Volume Button Enable (continued)

Disable Tone, Disable Volume (1)

Volume Button Enable (continued)

Disable Tone, Enable Volume (2)

Volume Button Enable (continued)

Enable Tone, Disable Volume (3)

Suppress Power-up Beeps

Parameter # 721

Select whether or not to suppress the MP6000 power-up beeps.

Options:

- * Do Not Suppress Power-up Beeps
- Suppress Power-up Beeps.

*** Do Not Suppress Power-up Beeps**
(00h)

Suppress Power-up Beeps (continued)

Suppress Power-up Beeps (01h)

Decode Session Timeout

Parameter # 136

This parameter sets the maximum time decode processing continues during a scan attempt. It is programmable in 0.1 second increments from 0.5 to 9.9 seconds. The default timeout is 9.9 seconds.

Options:

To set a Decode Session Timeout, scan the bar code below. Next, scan two numeric bar codes from *Appendix D, NUMERIC BAR CODES* that correspond to the desired on time. Enter a leading zero for single digit numbers. For example, to set a Decode Session Timeout of 0.5 seconds, scan the bar code below, then scan the **0** and **5** bar codes. To correct an error or change the selection, scan **Cancel** on *page D-11*.

NOTE The Decode Session Timeout **cannot** be less than or equal to *Timeout Between Decodes, Same Symbol*.

Decode Session Timeout

Timeout Between Decodes, Same Symbol

Parameter # 137

Use this option to prevent the beeper from continuously beeping when a symbol is left in the MP6000's field of view. It is programmable in 0.1 second increments from 0.0 to 9.9 seconds. The default interval is 0.5 seconds.

Options:

To select the timeout between decodes for the same symbol, scan the bar code below, then scan two numeric bar codes from *Appendix D, NUMERIC BAR CODES* that correspond to the desired interval, in 0.1 second increments.

NOTE The Timeout between Decodes, Same Symbol **cannot** be greater than or equal to the *Decode Session Timeout*.

Timeout Between Decodes, Same Symbol

Same Symbol Report Timeout

Parameter # 1284

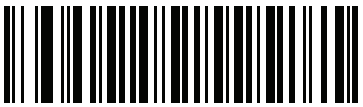
Affects how the *Timeout Between Decodes, Same Symbol* parameter is applied *(see page 5-33).*

When this parameter is disabled a bar code in the decode region decodes only once, even if the bar code remains indefinitely in the region. The user must remove the bar code, and reintroduce the bar code into the region before it decodes a second time.

When this parameter is enabled a bar code in the decode region decodes each time the same symbol timeout expires. Use **Enable** mode when using fast two-handed scanning of two of the same items. This usage scenario has a tendency to not decode the second of the two items. By enabling this mode the second item unconditionally decodes after the same symbol timeout expires. After enabling this setting the user may need to adjust the **Timeout Between Decodes, Same Symbol** parameter (*page 5-33*) so that the second item does not decode too quickly.

Options:

- *Disable Same Symbol Report Timeout
- Enable Same Symbol Report Timeout.



***Disable**
(0)

Same Symbol Report Timeout (continued)

Enable
(1)

Swipe Frame Timeout

Parameter # 1226

Specifies how much time to spend on processing the frame that is optimized to decode images where the bar code is swiped in front of the scanner. The range is 11 - 500 milliseconds. The default is 15 milliseconds.

Scan the bar code below, then scan three digits from *Appendix D, NUMERIC BAR CODES*. If a two digit timeout is desired, scan the zero bar code before scanning the two digits.

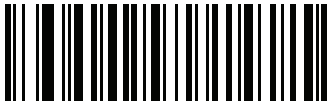
Swipe Frame Timeout (milliseconds)

Presentation Frame Timeout

Parameter # 1227

Specifies how much time to spend on processing the frame that is optimized to decode images where the bar code is presented to the scanner. The range is 11 - 500 milliseconds. The default is 35 milliseconds.

Scan the bar code below, then scan three digits from *Appendix D, NUMERIC BAR CODES*. If a two digit timeout is desired, scan the zero bar code before scanning the two digits.



Presentation Frame Timeout (milliseconds)

Cell Phone Frame Timeout

Parameter # 1228

Specifies how much time to spend on processing the frame that is optimized to decode bar codes from cell phone displays. The range is 11 - 500 milliseconds. The default is 35 milliseconds.

Scan the bar code below, then scan three digits from *Appendix D, NUMERIC BAR CODES*. If a two digit timeout is desired, scan the zero bar code before scanning the two digits.

Cell Phone Frame Timeout (milliseconds)

Fuzzy 1D Processing

Parameter # 514

This option is enabled by default to optimize decode performance on 1D bar codes, including damaged and poor quality symbols. Disable this only if you experience time delays when decoding 2D bar codes, or in detecting a no decode.

Options:

- *Enable Fuzzy 1D Processing
- Disable Fuzzy 1D Processing.

***Enable Fuzzy 1D Processing**
(01h)

Fuzzy 1D Processing (continued)

Disable Fuzzy 1D Processing
(00h)

Mobile Phone Display Mode

Parameter # 716

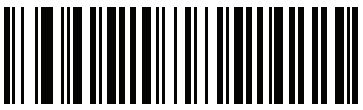
This mode improves bar code reading performance on mobile phones and electronic displays.

Options:

- *Disable Mobile Phone Display Mode
- Enable Mobile Phone Display Mode.

*** Disable Mobile Phone Display Mode (00h)**

Mobile Phone Display Mode (continued)



Enable Mobile Phone Display Mode
(03h)

PDF Prioritization

Parameter # 719

Enable this feature to delay decoding a 1D bar code (Code 128 of 8 to 25 characters length) by the value specified in *PDF Prioritization Timeout*. During that time the MP6000 attempts to decode a PDF417 symbol (e.g., on a US driver's license), and if successful reports this only. If it does not decode (can not find) a PDF417 symbol, it reports the 1D symbol after the timeout. The 1D symbol must be in the device's field of view for the MP6000 to report it. This parameter does not affect decoding other symbologies.

Options:

- *Disable PDF Prioritization
- Enable PDF Prioritization.

***Disable PDF Prioritization**
(00h)

PDF Prioritization (continued)

Enable PDF Prioritization
(01h)

PDF Prioritization Timeout

Parameter # 720

When *PDF Prioritization* is enabled, this timeout specifies how long the MP6000 attempts to decode a PDF417 symbol before reporting the 1D bar code in the field of view.

Scan the following bar code, then scan four digits from *Appendix D, NUMERIC BAR CODES* that specify the timeout in milliseconds. For example, to enter 400 ms, scan the following bar code, then scan 0400. The range is 0 to 5000 ms, and the default is 300 ms.

PDF Prioritization Timeout

Center Object Detect

Parameter # 1128

This parameter controls the scanner's ability to detect object motion in front of the scanning volume.

Options:

- Disable Center Object Detect
- *Enable Center Object Detect.

Disable Center Object Detect
(00h)

Center Object Detect (continued)

***Enable Center Object Detect (01h)**

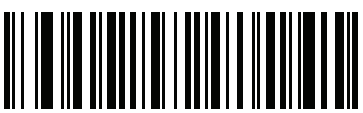
Center IR Sensitivity

Parameter # 1219

This parameter controls the distance, or range, at which the scanner detects object motion in front of the scanning volume.

Options:

- Short
- *Medium
- Long.



Short
(241)

Center IR Sensitivity (continued)

***Medium**
(81)

Center IR Sensitivity (continued)

Long
(17)

Stitching Type

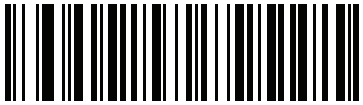
Parameter # 1229

This parameter configures the stitching algorithm to perform either where the bar code was swiped in front of the scanner, or only presented to the scanner.

When the stitching algorithm is configured to run when a bar code is swiped in front of a scanner, a swipe performance of UPC family and PDF bar codes might be slightly lower. If the stitching algorithm runs only when a bar code is presented to a scanner, swipe performance is not affected, but it takes longer to read long, one-dimensional bar codes.

Options:

- *Swipe Stitching
- Presentation Stitching.



***Swipe Stitching**
(00h)

Stitching Type (continued)

Presentation Stitching
(01h)

Scanning Usage Mode

Parameter # 1230

This parameter configures the scanner for either a trained user/cashier, or for self-checkout operation.

Options:

- *Cashier/Trained User
- Self-Checkout.

***Cashier/Trained User**
(00h)

Scanning Usage Mode (continued)

Self-Checkout
(01h)

RS-232 Device Port Configuration

Parameter # 1246

This option allows the user to select which devices to attach to the MP6000, and to which port they are attached. Scan the appropriate bar codes that follow to select the proper configuration.

The available configurations/options are:

- *0=Aux 1 Sensormatic, and Aux 2 RS-232 Scanner
- 1=Aux 1 Dual Cable Scale, and Aux 2 RS-232 Scanner
- 2=Aux 1 Sensormatic, and Aux 2 Dual Cable Scale.
- 4=Aux 1 Third Party Scale, Aux 2 Sensormatic.

Changes to this parameter do not take effect until the next power cycle (power cycling does not apply to 123Scan[2]). For that reason always remember to perform one of the functions below after scanning a device port parameter.

- Cycle power to the scanner (disconnect, and re-connect scanner cable).

  or

- Use the MP6000 **Reset** button (a button combination to reboot the MP6000).

When selecting any of the device port configuration options, ensure the devices connected to the MP6000 correctly match the devices defined for the option. For example, if option 1 is scanned, only a dual cable scale should be connected to the Aux 1 port, and an RS-232 scanner should be connected to the Aux 2 port. Turning on the MP6000 with connected devices that do not match the option can result in communication failures. To ensure successful operation the proper sequence for setting this option is as follows.

1. Power off the MP6000 (disconnect the power cable).
2. Disconnect all RS-232 devices (RS-232 scanner, Sensormatic, and/or dual cable scale).
3. Power on the MP6000(reconnect the power cable).
4. Scan the appropriate bar code option that matches the intended configuration.
5. Power off the MP6000.
6. Connect the appropriate devices.
7. Power on the MP6000.

Table 5-2 *Device Specific Default Values (Inherited Defaults)*

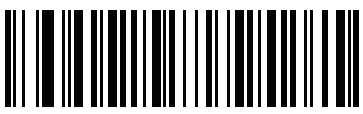
Device	Baud	Data Bits	Stop Bits	Parity
Scanner	9600	8	1	None
Sensormatic	9600	8	1	None
Dual Cable Scale: SASI Protocol[1]	9600	7	1	Even
Dual Cable Scale: DIGI Protocol[1]	9600	7	2	Even
Dual Cable Scale: ICL Protocol[1]	9600	7	1	Even
Third Party Scale	NA	NA	NA	NA

[1]See *RS-232 Auxiliary Port Scale Protocol on page 5-61* for details on selecting a scale protocol.

RS-232 Device Port Configuration (continued)

***Aux 1 Sensormatic and Aux 2 RS-232 Scanner (00h)**

RS-232 Device Port Configuration (continued)

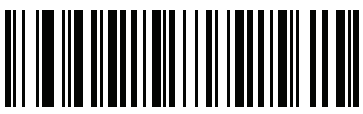


Aux 1 Dual Cable Scale and Aux 2 RS-232 Scanner (01h)

RS-232 Device Port Configuration (continued)

Aux 1 Sensormatic and Aux 2 Dual Cable Scale (02h)

RS-232 Device Port Configuration (continued)



Aux 1 Third Party Scale, Aux 2 Sensormatic (04h)

RS-232 Device Port Configuration (continued)

RS-232 Auxiliary Port Scale Protocol

Parameter # 1247

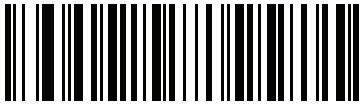
Scan one of the bar codes to select the desired scale protocol.

The *Dual Cable Scale* option must be used to assign a scale device to either the Aux1 or Aux2 port via the *RS232 Device Port Configuration* setting (see *page 5-55*).

See Aux1 and Aux2 Baud Rates, Data Bits, Stop Bits and Parity settings beginning on *page 5-66* for details about configuring the RS-232 ports.

Options:

- *0/0x00 = SASI
- 1/0x01 = DIGI
- 2/0x02 = ICL OMRON (Requesting zero weight is permitted)
- 3/0x03 = ICL Old OMRON (Requesting zero weight is not permitted)
- 4/0x04 = ICL Portugal (Identical to ICL / Old OMRON)

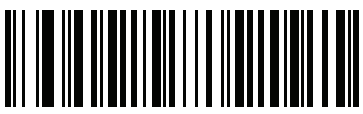


***SASI (0x00h)**

RS-232 Auxiliary Port Scale Protocol (continued)

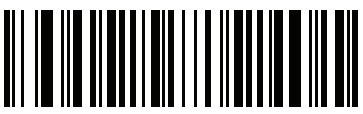
DIGI (0x01h)

RS-232 Auxiliary Port Scale Protocol (continued)



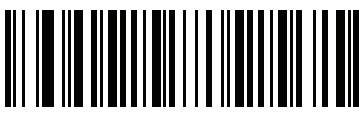
ICL OMRON
(0x02h)

RS-232 Auxiliary Port Scale Protocol (continued)



ICL Old OMRON
(0x03h)

RS-232 Auxiliary Port Scale Protocol (continued)



ICL Portugal
(0x04h)

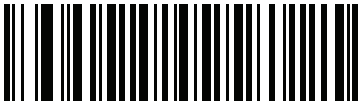
Aux1 Baud Rate

Parameter # 1328

Set this to match the device connected to the auxiliary 1 port. The default value is based on the information in *Table 5-2 on page 5-55*, and in many cases matches the connected device.

Options:

- *15/0x0Fh = Inherit
- 4/0x04 = Baud Rate 2400
- 5/0x05 = Baud Rate 4800
- 6/0x06 = Baud Rate 9600
- 7/x07 = Baud Rate 19200
- 8/0x08 = Baud Rate 38400
- 11/0x0B = Baud Rate 115200.



***Aux1 Baud Rate Inherit (0x0Fh)**

Aux1 Baud Rate (continued)

Aux1 Baud Rate 2400
(0x04h)

Aux1 Baud Rate (continued)

Aux1 Baud Rate 4800
(0x05h)

Aux1 Baud Rate (continued)

Aux1 Baud Rate 9600
(0x06h)

Aux1 Baud Rate (continued)

Aux1 Baud Rate 19200
(0x07h)

Aux1 Baud Rate (continued)

Aux1 Baud Rate 38400
(0x08h)

Aux1 Baud Rate (continued)

Aux1 Baud Rate 115200
(0x0Bh)

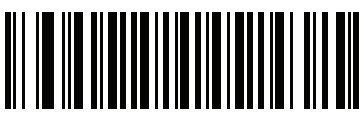
Aux1 Data Bits

Parameter # 1331

Set this to match the device connected to the auxiliary 1 port. The default value is based on the information in *Table 5-2 on page 5-55*, and in many cases matches the connected device.

Options:

- *3/0x03 = Inherit
- 0/0x00 = 7 Data Bits
- 1/0x01 = 8 Data Bits



***Aux1 Data Bits Inherit (0x03h)**

Aux1 Data Bits (continued)

Aux1 Data Bits 7
(0x00h)

Aux1 Data Bits (continued)

Aux1 Data Bits 8
(0x01h)

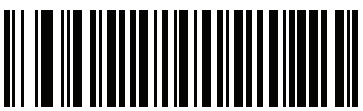
Aux1 Stop Bits

Parameter # 1329

Set this to match the device connected to the auxiliary 1 port. The default value is based on the information in *Table 5-2 on page 5-55*, and in many cases matches the connected device.

Options:

- *2/0x02 = Inherit
- 0/0x00 = 1 Stop Bit
- 1/0x01 = 2 Stop Bits



***Aux1 Stop Bits Inherit (0x02h)**

Aux1 Stop Bits (continued)

Aux1 Stop Bits 1
(0x00h)

Aux1 Stop Bits (continued)

Aux1 Stop Bits 2
(0x01h)

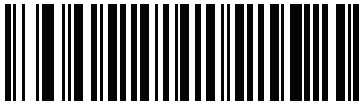
Aux1 Parity

Parameter # 1330

Set this to match the device connected to the auxiliary 1 port. The default value is based on the information in *Table 5-2 on page 5-55*, and in many cases matches the connected device.

Options:

- *6/0x06h = Inherit
- 0/0x00 = Odd
- 1/0x01 = Even
- 2/0x02 = Mark
- 3/0x03 = Space
- 4/0x04 = None



***Aux1 Parity Inherit (0x06h)**

Aux1 Parity (continued)

Aux1 Parity Odd
(0x00h)

Aux1 Parity (continued)

Aux1 Parity Even
(0x01h)

Aux1 Parity (continued)

Aux1 Parity Mark
(0x02h)

Aux1 Parity (continued)

Aux1 Parity Space
(0x03h)

Aux1 Parity (continued)

Aux1 Parity None
(0x04h)

Aux2 Baud Rate

Parameter # 1332

Set this to match the device connected to the auxiliary 2 port. The default value is based on the information in *Table 5-2 on page 5-55*, and in many cases matches the connected device.

Options:

- *15/0x0Fh = Inherit
- 4/0x04 = Baud Rate 2400
- 5/0x05 = Baud Rate 4800
- 6/0x06 = Baud Rate 9600
- 7/x07 = Baud Rate 19200
- 8/0x08 = Baud Rate 38400
- 11/0x0B = Baud Rate 115200

***Aux2 Baud Rate Inherit (0x0Fh)**

Aux2 Baud Rate (continued)

Aux2 Baud Rate 2400
(0x04h)

Aux2 Baud Rate (continued)

Aux2 Baud Rate 4800
(0x05h)

Aux2 Baud Rate (continued)

Aux2 Baud Rate 9600
(0x06h)

Aux2 Baud Rate (continued)

Aux2 Baud Rate 19200
(0x07h)

Aux2 Baud Rate (continued)

Aux2 Baud Rate 38400
(0x08h)

Aux2 Baud Rate (continued)

Aux2 Baud Rate 115200
(0x0Bh)

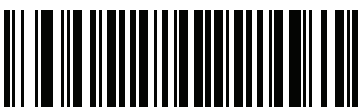
Aux2 Data Bits

Parameter # 1335

Set this to match the device connected to the auxiliary 2 port. The default value is based on the information in *Table 5-2 on page 5-55*, and in many cases matches the connected device.

Options:

- *3/0x03 = Inherit
- 0/0x00 = 7 Data Bits
- 1/0x01 = 8 Data Bits



***Aux2 Data Bits Inherit**
(0x03h)

Aux2 Data Bits (continued)

Aux2 Data Bits 7
(0x00h)

Aux2 Data Bits (continued)

Aux2 Data Bits 8
(0x01h)

Aux2 Stop Bits

Parameter # 1333

Set this to match the device connected to the auxiliary 2 port. The default value is based on the information in *Table 5-2 on page 5-55*, and in many cases matches the connected device.

Options:

- *2/0x02 = Inherit
- 0/0x00 = 1 Stop Bit
- 1/0x01 = 2 Stop Bits

***Aux2 Stop Bits Inherit (0x02h)**

Aux2 Stop Bits (continued)

Aux2 Stop Bits 1
(0x00h)

Aux2 Stop Bits (continued)

Aux2 Stop Bits 2
(0x01h)

Aux2 Parity

Parameter # 1334

Set this to match the device connected to the auxiliary 2 port. The default value is based on the information in *Table 5-2 on page 5-55*, and in many cases matches the connected device.

Options:

- *6/0x06h = Inherit
- 0/0x00 = Odd
- 1/0x01 = Even
- 2/0x02 = Mark
- 3/0x03 = Space
- 4/0x04 = None

***Aux2 Parity Inherit**
(0x06h)

Aux2 Parity (continued)

Aux2 Parity Odd
(0x00h)

Aux2 Parity (continued)

Aux2 Parity Even
(0x01h)

Aux2 Parity (continued)

Aux2 Parity Mark
(0x02h)

Aux2 Parity (continued)

Aux2 Parity Space
(0x03h)

Aux2 Parity (continued)

Aux2 Parity None
(0x04h)

Third Party Scale Parameters

Third Party Scale

Parameter # 1294

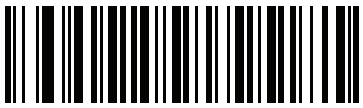
Enable or disable **Third Party Scale** functionality. When disabled **Third Party Scale LED Pin** (parameter # 1295) and **Third Party Scale Zero Pin** (parameter # 1296) are ignored/overridden.

Options:

- Enable Third Party Scale
- *Disable Third Party Scale.

Enable Third Party Scale
(1)

Third Party Scale (continued)



*** Disable Third Party Scale**
(0)

Third Party Scale LED Pin

Parameter # 1295

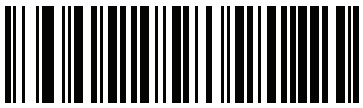
This parameter defines the polarity of the LED/Tare input pin that illuminates the scale LED. This parameter has no effect if **Third Party Scale** (parameter # 1294) is disabled.

Options:

- Active Low
- *Active High.

Active Low
(0)

Third Party Scale LED Pin (continued)



***Active High**
(1)

Third Party Scale Zero Pin

Parameter # 1296

This parameter defines the polarity of the zero output pin when the **Scale Zero** button is pressed. This parameter has no effect if **Third Party Scale** (parameter # 1294) is disabled.

Options:

- Active Low
- *Active High.

Active Low
(0)

Third Party Scale Zero Pin (continued)

***Active High**
(1)

Exclude Decode Field Of Views

Parameter # 1249

Used to prevent decoding from specific fields of view.

Options:

- * Include All Fields Of View
- Exclude Left Horizontal
- Exclude Right Horizontal
- Exclude Left Horizontal & Horizontal Right.

*** Include All Fields Of View**
(0)

Exclude Decode Field Of Views (continued)

Exclude Left Horizontal (1)

Exclude Decode Field Of Views (continued)

Exclude Right Horizontal (2)

Exclude Decode Field Of Views (continued)

Exclude Left & Right Horizontal (3)

Illumination Configurations

Parameter # 1250

Allows the illumination brightness of each field of view to be controlled.

Options:

- * Full Brightness on both Vertical and Horizontal
- Dim Vertical Brightness Only
- Extra Dim Vertical Brightness Only
- Dim Horizontal Brightness Only
- Extra Dim Horizontal Brightness Only
- Dim Both Horizontal and Vertical
- Extra Dim Both Horizontal and Vertical.

*** Full Brightness on both Vertical and Horizontal**
(0)

Illumination Configurations (continued)

Dim Vertical Brightness Only (1)

Illumination Configurations (continued)

Extra Dim Vertical Brightness Only (2)

Illumination Configurations (continued)

Dim Horizontal Brightness Only (3)

Illumination Configurations (continued)

Extra Dim Horizontal Brightness Only
(4)

Illumination Configurations (continued)

Dim Both Horizontal and Vertical (5)

Illumination Configurations (continued)

Extra Dim Both Horizontal and Vertical
(6)

Product ID (PID) Type

Parameter # 1281

Defines the PID value reported in USB enumeration.

Options:

- *Host Type Unique
- Product Unique
- IBM Unique.

***Host Type Unique**
(0)

PID Type (continued)

Product Unique
(1)

PID Type (continued)

IBM Unique (2)

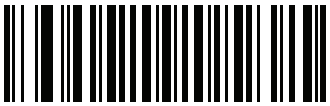
Continuous Bar Code Read

Parameter # 649

Enable this to report every bar code when scanning.

Options:

- *Disable Continuous Bar Code Read
- Enable Continuous Bar Code Read.



***Disable Continuous Bar Code Read**
(0h)

Continuous Bar Code Read (continued)

Enable Continuous Bar Code Read
(1h)

Miscellaneous Scanner Parameters

Transmit Code ID Character

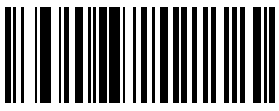
Parameter # 45

A Code ID character identifies the code type of a scanned bar code. This is useful when 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 Symbol Code ID character, or an AIM Code ID character. For Code ID Characters, see *Symbol Code Identifiers on page B-1* and *AIM Code Identifiers on page B-3*.

Options:

- Symbol Code ID Character
- AIM Code ID Character
- *None.



Symbol Code ID Character
(02h)

Transmit Code ID Character (continued)

AIM Code ID Character
(01h)

Transmit Code ID Character (continued)

*None
(00h)

Prefix/Suffix Values

Key Category Parameter # P = 99, S1 = 98, S2 = 100

Decimal Value Parameter # P = 105, S1 = 104, S2 = 106

You can append a prefix and/or one or two suffixes to scan data for use in data editing. To set a value for a prefix or suffix, scan a four-digit number (i.e., four bar codes from *Appendix D, NUMERIC BAR CODES*) that corresponds to that value. See *Table E-1 on page E-1* for the four-digit codes.

When using host commands to set the prefix or suffix, set the key category parameter to 1, then set the 3-digit decimal value. See *Table E-1 on page E-1* for the four-digit codes.

To correct an error or change a selection, scan *Cancel on page D-11*.

NOTE To use Prefix/Suffix values, first set the *Scan Data Transmission Format on page 5-133*.

Options:

- Scan Prefix
- Scan Suffix 1
- Scan Suffix 2
- Data Format Cancel.

Scan Prefix
(07h)

Prefix/Suffix Values (continued)

Scan Suffix 1
(06h)

Prefix/Suffix Values (continued)

Scan Suffix 2
(08h)

Prefix/Suffix Values (continued)

Data Format Cancel

Scan Data Transmission Format

Parameter # 235

To set the scan data format, scan one of the following bar codes.

NOTE 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 on page 5-129*.

Options:

- *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>.

***Data As Is**
(00h)

Scan Data Transmission Format (continued)

<DATA> <SUFFIX 1>
(01h)

Scan Data Transmission Format (continued)

<DATA> <SUFFIX 2>
(02h)

Scan Data Transmission Format (continued)

<DATA> <SUFFIX 1> <SUFFIX 2>
(03h)

Scan Data Transmission Format (continued)

<PREFIX> <DATA >
(04h)

Scan Data Transmission Format (continued)

<PREFIX> <DATA> <SUFFIX 1>
(05h)

Scan Data Transmission Format (continued)

<PREFIX> <DATA> <SUFFIX 2>
(06h)

Scan Data Transmission Format (continued)

<PREFIX> <DATA> <SUFFIX 1> <SUFFIX 2>
(07h)

FN1 Substitution Values

Key Category Parameter # 103

Decimal Value Parameter # 109

The wedge and USB HID keyboard hosts support a FN1 Substitution feature. Enabling this substitutes any FN1 character (0x1b) in an EAN128 bar code 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 current host interface for the desired value.

To select a FN1 substitution value via bar code menus:

1. Scan the **Set FN1 Substitution Value** bar code below.
2. Locate the keystroke desired for FN1 substitution in the ASCII character set table in the appropriate host interface chapter. 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 on page D-11*.

See *USB Keyboard FN1 Substitution on page 1-38* to enable FN1 substitution for the USB HID keyboard.

Set FN1 Substitution Value

Copy Statistics to a Staging Flash Drive

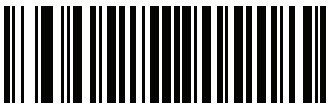
Parameter # 1137

If disabled, scan **Enable Copy Statistics to a Staging Flash Drive** to copy all data/configurations from the MP6000 to a staging USB flash drive.

Refer to the *MP6000 Integrator Guide* (p/n 72E-172632-xx) for detailed information about the staging flash drive cloning.

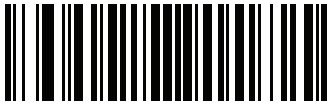
Options:

- Disable Copy Statistics to a Staging Flash Drive
- *Enable Copy Statistics to a Staging Flash Drive.



Disable Copy Statistics to a Staging Flash Drive (00h)

Copy Statistics to a Staging Flash Drive (continued)



*** Enable Copy Statistics to a Staging Flash Drive (01h)**

CHAPTER 6 EAS PARAMETERS

Introduction

You can program the MP6000 to perform various functions, or activate different features. This chapter describes the EAS features, and provides programming bar codes for selecting these features.

The MP6000 ships with the settings shown in *Table 6-1 on page 6-2* (also see *Appendix A, STANDARD DEFAULT PARAMETERS* for all host device and miscellaneous defaults). If the default values suit requirements, programming is not necessary.

To set feature values, scan a single bar code or a short bar code sequence. The settings are stored in non-volatile memory and are preserved even when the MP6000 is powered down.

To return all features to default values, scan the *Set Default Parameter on page 5-5*. Throughout the programming bar code menus, asterisks indicate (*) default values.

Scanning Sequence Examples

In most cases, scanning one bar code sets the parameter value. For example, to set the Sensormatic Interlock Bar Code Mode to enable tag deactivation only after a bar code is decoded, scan **Sensormatic Always Enable Deactivation Mode** in the section, *Sensormatic Always Enable Deactivation Mode on page 6-6*.

Other parameters, such as **Sensormatic Deactivation Timeout**, require scanning more than one bar code. See *Sensormatic Deactivation Timeout on page 6-15* for this procedure.

Errors While Scanning

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

User Preferences/Miscellaneous Options Parameter Defaults

Table 6-1 lists defaults for user preferences parameters. To change the default values, scan the appropriate bar codes in this guide. These new values replace the standard default values in memory. To recall the default parameter values, scan the *Set Default Parameter on page 5-5*.

NOTE
1. The EAS LED, located on the front of the MP6000, works in conjunction with the type of EAS device used. With a Sensormatic EAS system, the EAS LED is on always, and blinks when a tag is deactivated. With a Checkpoint EAS system, the EAS LED can be turned on by scanning *EAS LED On Mode on page 6-13*. The LED does not blink.
2. See *Appendix A, STANDARD DEFAULT PARAMETERS* for all user preferences, hosts, symbologies, and miscellaneous default parameters.

Table 6-1 *EAS Parameter Defaults*

Parameter	Parameter Number	Default	Page Number
Operating Modes	977	Disable	*6-5* to *6-14*
Miscellaneous Parameters			
Sensormatic Deactivation Timeout	982	10 sec	*6-15*
Sensormatic EAS Deactivation	979	Enable	*6-16*
Sensormatic Soft Tag Beeps	984	Soft Tag Beep 1	*6-19*
Sensormatic Hard Tag Beeps	985	Hard Tag Beep 1	*6-22*
Sensormatic Detected Any Time Beep	980	Enable	*6-25*
Sensormatic Deactivation Fail Beep	1213	Disable	*6-27*
Sensormatic Request Communication Message	978	Enable	*6-30*
Sensormatic Request Voltage Message	1130	Enable	*6-32*

Table 6-1 *EAS Parameter Defaults (Continued)*

Parameter	Parameter Number	Default	Page Number
Sensormatic Request Scan Time Message	1136	Enable	*6-34*
Checkpoint Interlock Polarity	983	Active Low	*6-36*
EAS Deactivation Override Button	981	Enable	*6-38*

EAS Operating Modes

In addition to EAS preferences (also in this chapter) there are 10 EAS operating modes for the MP6000, listed below. EAS operating modes control whether or not EAS functionality is enabled, and is independent of whether or not EAS equipment is connected. It is the installer's responsibility to match these modes with the installed equipment. Enabling one of these modes without EAS equipment, or with the wrong equipment installed results in EAS error messages.

- Sensormatic Auto (page *6-5*)
- Sensormatic Always Enable Deactivation (page *6-6*)
- Sensormatic Bar Code Interlock (page *6-7*)
- Sensormatic Bar Code Auto Interlock (page *6-8*)
- Sensormatic Hold Off (page *6-9*)
- Sensormatic Scan Enable Interlock (page *6-10*)
- Checkpoint Bar Code Interlock (page *6-11*)
- Checkpoint Scan Enable Interlock (page *6-12*)
- EAS LED On (page *6-13*).
- EAS Disable (page *6-14*)

Scan the appropriate bar codes on the following pages to configure the MP6000 with these modes.

Operating Modes

Parameter # 977

Sensormatic Auto Mode

Sensormatic Auto Mode is dependent on the *Scan Enable Time* that the MP6000 reads from the Sensormatic ScanMax Pro control box (this value is set by Sensormatic in the control box during installation).

If the *Scan Enable Time* equals 0 seconds, or 30 seconds, the MP6000 works in **Sensormatic Scan Enable Interlock Mode** (see *page 6-10*).

Otherwise *Scan Enable Time* is from 1 second to 29 seconds. In this mode tag deactivation is active following a bar code decode, and remains active until this timer expires.

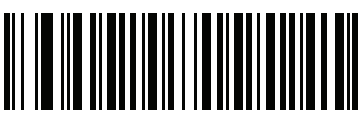
NOTE More than one tag can be deactivated during this time.

Sensormatic Auto Mode
(00h)

Sensormatic Always Enable Deactivation Mode

When **Sensormatic Always Enable Deactivation Mode** is scanned, tag deactivation is always enabled when the MP6000 is powered on.

✓ ***NOTE*** When the MP6000 is in *Sensormatic Always Enable Deactivation* mode, the tags are always deactivated by the MP6000 if the tags are in the deactivation field.



Sensormatic Always Enable Deactivation Mode
(01h)

Sensormatic Bar Code Interlock Mode

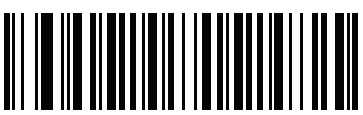
Scan **Sensormatic Bar Code Interlock Mode** to enable tag deactivation only after a bar code is decoded. The tag deactivation time uses the time value set with *Sensormatic Deactivation Timeout on page 6-15*.

NOTE Additional tags can be deactivated during the deactivation time if the tags are in the deactivation field.

Sensormatic Bar Code Interlock Mode (02h)

Bar Code Auto Interlock Mode

The MP6000 enables deactivation only when a bar code decodes. The deactivation state only lasts 1.2 seconds to avoid subsequent tag deactivation.



Sensormatic Bar Code Auto Interlock Mode (03h)

Bar Code Hold Off Mode

Scan the bar code below to enable **Hold Off** mode. In this mode, if a tag is detected, bar codes are not decoded (no beep, no transmission to host) until the tag is deactivated.

NOTE A bar code decode does not occur if a hard tag is detected, until the hard tag is removed from the detection field.

Hold Off Mode
(04h)

Sensormatic Scan Enable Interlock Mode

When **Sensormatic Scan Enable Interlock Mode** is scanned, if the POS application sends a Scan Enable message to the MP6000, then the tag deactivated is enabled. If the POS application sends a Scan Disable message to the MP6000, then the tag deactivated is disabled.

Sensormatic Scan Enable Interlock Mode
(05h)

Checkpoint Bar Code Interlock Mode

Scan **Checkpoint Bar Code Interlock Mode** to enable Checkpoint tag deactivation for 3 seconds after a bar code is decoded. The Checkpoint device controls all audible and visual feedback (the MP600 does not produce any audio and visual feedback for tag detection nor tag deactivation).

This is also programmable inside the Checkpoint device by the Checkpoint installer.

Bar Code Interlock Mode (6)

Checkpoint Scan Enable Interlock Mode

When **Checkpoint Scan Enable Interlock Mode** is scanned the following occurs:

- Tag deactivation is active after the MP6000 receives a *Scan Enable* command from a host (POS application).
- Tag deactivation is inactive after the MP6000 receives a *Scan Disable* command from a host (POS application).
- Tag deactivation is enabled on power on.

Checkpoint Scan Enable Interlock Mode
(07h)

EAS LED On Mode

Scan **EAS LED On Mode** to turn on the EAS LED. If there is EAS equipment, it controls the EAS tag detection and deactivation by itself.

EAS LED On Mode
(09h)

EAS Disable Mode

Parameter # 977

In this mode EAS tags are not detected, or deactivated.

Disable EAS
(08h)

Sensormatic Deactivation Timeout

Parameter # 982

This option determines the period of time in which EAS tag deactivation is allowed following a good bar code decode. This option only applies to *Sensormatic Bar Code Interlock Mode on page 6-7*.

Scan **Sensormatic Deactivation Timeout** followed by two numeric bar codes from *Appendix D, NUMERIC BAR CODES* to set the EAS deactivation window to a time from 1 to 29 seconds. Single numerals must be preceded by a zero. For example, to set the deactivation time period to 8 seconds, scan **Sensormatic Deactivation Timeout**; scan 0 (zero); then scan 8.

When a tag is successfully deactivated, the deactivation time period is still active, and additional deactivations can occur.

Sensormatic Deactivation Timeout

Sensormatic EAS Deactivation

Parameter # 979

Options:

- Sensormatic Disable EAS Deactivation - scan to prevent any soft tags from being deactivated.
- *Sensormatic Enable EAS Deactivation - scan to allow soft tags to be deactivated.

Sensormatic Disable EAS Deactivation
(00h)

Sensormatic EAS Deactivation (continued)

***Sensormatic Enable EAS Deactivation**
(01h)

Sensormatic EAS Beeps

Scan a bar code in this section to set the audible alerts upon Sensormatic EAS tag detection, and/or deactivation. These modes have no affect if using Checkpoint equipment.

In all cases (except when disabled) there are several types of beeps per bar code with a tag.

Options:

- Sensormatic EAS Soft Tag Beeps
  - Disable Soft Tag Beep
  - *Sensormatic EAS Soft Tag Beep 1
  - Sensormatic EAS Soft Tag Beep 2
- Sensormatic EAS Hard Tag Beeps
  - Disable Hard Tag Beep
  - * Beep Indication Type 1
  - Beep Indication Type 2
- *Enable Detected Any Time Beep
- Disable Detected Any Time Beep
- *Disable Deactivation Fail Beep
- Enable Deactivation Fail Beep.

Table 6-2 *Sensormatic Beep Types*

Beep Type	Description	Page
EAS Soft Tag Beeps	The MP6000 sounds a soft tag beep when a soft tag is deactivated.	*6-19*
EAS Hard Tag Beeps	The MP6000 sounds a hard tag beep when the MP6000 conclusively detects a hard tag.	*6-22*
Detected Any Time Beep	The MP6000 sounds a beep when a soft/hard tag is in the detected field.	*6-25*
EAS Deactivation Fail Beeps	The MP6000 generates a deactivation fail beep if a tag is not deactivated, and is considered live, and the type of tag (soft or hard) cannot be determined.	*6-27*

Sensormatic EAS Beeps (continued)

Sensormatic EAS Soft Tag Beeps

Parameter # 984

Disable Soft Tag Beep
(00h)

✓ ***NOTE*** When **Disable Soft Tag Beep** is scanned, no audible beep sounds when an EAS soft tag is deactivated.

Sensormatic EAS Beeps (continued)

Sensormatic EAS Soft Tag Beep 1

When **Senormatic EAS Soft Tag Beep 1** is scanned, a low tone short beep sounds when an EAS soft tag is deactivated.

***Sensormatic EAS Soft Tag Beep 1**
(01h)

Sensormatic EAS Beeps (continued)

Sensormatic EAS Soft Tag Beep 2

When **Senormatic EAS Soft Tag Beep 2** is scanned, a low tone medium duration beep sounds when an EAS soft tag is deactivated.

Sensormatic Soft Tag Beep 2
(02h)

Sensormatic EAS Beeps (continued)

Sensormatic EAS Hard Tag Beeps

Parameter # 985

Disable Hard Tag Beep
(00h)

Sensormatic EAS Beeps (continued)

Scan **Beep Indication Type 1** for a high tone short beep.

*** Beep Indication Type 1**
(01h)

Sensormatic EAS Beeps (continued)

Scan **Beep Indication Type 2** for a high tone medium duration beep.

Beep Indication Type 2
(02h)

Sensormatic EAS Beeps (continued)

Sensormatic EAS Tag Detected Any Time Beep

Parameter # 980

***Enable Detected Any Time Beep**
(01h)

Sensormatic EAS Beeps (continued)

Disable Detected Any Time Beep
(00h)

Sensormatic EAS Beeps (continued)

Sensormatic EAS Deactivation Fail Beep

Parameter # 1213

***Disable Deactivation Fail Beep**
(00h)

Sensormatic EAS Beeps (continued)

Enable Deactivation Fail Beep
(01h)

Sensormatic Request Messages

There are three EAS message types (communication, high voltage, and enable scan time) that can be selected by scanning the EAS message parameters that follow.

- Request Communication/Connection Message:
  Enabling this feature allows communication with the control box.
- Request Voltage Message:
  Enabling this feature sends messages about dangerous voltage levels.
- Request Scan Time Message:
  This message is only available in Auto Interlock Mode. The messages sent check to validate scan time is synchronized between the MP6000 and the control box.

When any of these message types are enabled, messages are sent between the MP6000 and the control box periodically (approximately every 2 seconds). Error messages display on the 7-segment display. Refer to the *MP6000 Integrator Guide* (p/n 72E-172632-xx) for error messages.

Options:

- *Enable Communication/Connection Message
- Disable Communication/Connection Message
- *Enable Voltage Message
- Disable Voltage Message
- *Enable Scan Time Message
- Disable Scan Time Message

Sensormatic Request Communication/Connection Message

Parameter # 978

***Enable Communication/Connection Message**
(01h)

Sensormatic Request Communication/Connection Message (continued)

Disable Communication/Connection Message (00h)

Sensormatic Request Voltage Message

Parameter # 1130

***Enable Voltage Message**
(01h)

Sensormatic Request Voltage Message (continued)

Disable Voltage Message
(00h)

Sensormatic Request Scan Time Message

Parameter # 1136

***Enable Scan Time Message**
(01h)

Sensormatic Request Scan Time Message (continued)

Disable Scan Time Message
(00h)

Checkpoint Interlock Polarity

Parameter # 983

EAS Checkpoint Interlock Polarity determines the interlock pulse polarity required to deactivate a tag (the polarity must match the setting in the EAS control box).

Options:

- *Active Low - Tag deactivation is initiated by an active low pulse.
- Active High - Tag deactivation is initiated by an active high pulse.

***Active Low**
(00h)

Checkpoint Interlock Polarity (continued)

Active High
(01h)

Deactivation Override Button

Parameter # 981

The **EAS** button on the MP6000 can be pressed to deactivate soft tags on items without decoding the bar code on the item.

Options:

- Disable EAS Deactivation Override Button - scan to disable the feature; pressing the **EAS** button has no effect.
- *Enable EAS Deactivation Override Button - scan to activate the **EAS** button.

When **Enable EAS Deactivation Override Button** is scanned, the operator can press the **EAS** button on the MP6000 to override the EAS settings. After pressing the **EAS** button, the operator has the next 3 seconds to present a soft tag for deactivation. During this override period bar codes are not decoded. The MP6000 exits the override mode, and returns to normal operation after either a tag deactivation, or the 3 second timeout.

Enabling this override can be useful in the following situations:

- When using Interlock mode, and a bar code cannot be scanned, the operator must physically enter the bar code data. In this case, after the operator enters the bar code data and presses the **EAS** button, s/he has the next 3 seconds to present a soft tag to deactivate.
- When a bar code is scanned but the tag was not deactivated. In this case, the operator cannot pass the item through the deactivation area a second time to deactivate the tag because the bar code would decode a second time (charging the item twice). Instead, the operator presses the **EAS** button, and for the next 3 seconds s/he can present a soft tag which will be deactivated without re-reading the bar code.

***Enable Deactivation Override Button**
(01h)

Deactivation Override Button (continued)

Disable Deactivation Override Button (00h)

CHAPTER 7 AUXILIARY SCANNER BAR CODES

Introduction

The parameter bar codes in this chapter, and the bar code defaults in *Table 7-1*, are solely for the MP6000. These bar codes configure the MP6000 for connection to an auxiliary scanner. The auxiliary scanner requires its own configuration, and should be programmed with matching settings found in the auxiliary scanner's Product Reference Guide.

In addition to these settings the auxiliary scanner must be independently configured as a stand alone scanner, as though it were connected directly to a host. An auxiliary scanner connected to an MP6000 does not assume the MP6000 configuration..

✓ ***NOTE*** For additional information about auxiliary port configuration, see *Chapter 5, USER PREFERENCES & MISCELLANEOUS OPTIONS*: *RS-232 Device Port Configuration* and the settings for Aux1/Aux2 Bauds, Stop Bits, Data Bits, and Parity.

For detailed technical information about the MP6000 including installation, setting up interfaces, calibrating the scale, and operation refer to the *MP6000 Integrator Guide* (p/n 72E-172632-xx).

✓ ***NOTE*** Auxiliary RS-232 scanners should only be attached/detached when the MP6000 is powered off.

Table 7-1 *MP6000 Auxiliary Scanner Connection Parameter Defaults*

Parameter	Default	Page Number
Auxiliary Scanner Decode with Unknown Type	Send Unknown as Code 39	*7-3*
Host Protocol	Zebra Scanner Auto Switch	*7-7*
Baud Rate[1]	9600	*7-10*
Data Bits[1]	8 Data Bits	*7-17*

[1] Applies to an attached scanner regardless of whether or not it is connected to the auxiliary 1 port or the auxiliary 2 port.

Table 7-1 *MP6000 Auxiliary Scanner Connection Parameter Defaults (Continued)*

Parameter	Default	Page Number
Stop Bits[1]	One Stop	*7-19*
Parity[1]	No Parity	*7-21*
Host RTS State	Low RTS	*7-24*

[1] Applies to an attached scanner regardless of whether or not it is connected to the auxiliary 1 port or the auxiliary 2 port.

Auxiliary Scanner Parameters

Auxiliary Scanner Decode with Unknown Type

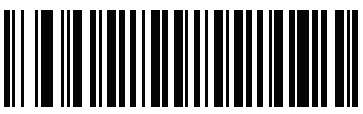
If an auxiliary scanner is connected via SSI over RS-232 for Zebra scanners, HID Keyboard for non-Zebra scanners, or standard RS-232, and the Send Raw Decode Data option is enabled, the MP6000 transmits decode data with the code type set by this parameter. The default is value 1 (**Send Unknown as Code 39**).

Options:

- *Send Unknown as Code 39
- Send Unknown as Code 128
- Send Unknown as PDF-417
- Send Unknown as Data Matrix.

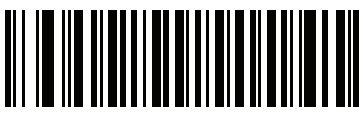
***Send Unknown as Code 39**
(01h)

Auxiliary Scanner Decode with Unknown Type (continued)



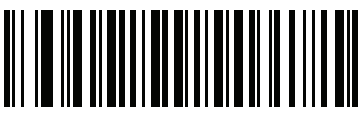
Send Unknown as Code 128 (03h)

Auxiliary Scanner Decode with Unknown Type (continued)



Send Unknown as PDF-417
(11h)

Auxiliary Scanner Decode with Unknown Type (continued)



Send Unknown as Data Matrix (1Bh)

Host Type

The MP6000 only supports standard RS-232, Wincor-Nixdorf B for non-Zebra scanners, and additionally SSI over RS-232 for Zebra scanners. Scan one of the bar codes that follow to select RS-232 as the host interface for the Zebra auxiliary scanner.

Options:

- Standard RS-232
- Wincor-Nixdorf RS-232 Mode B
- * Zebra Scanner Auto Switch.

Standard RS-232

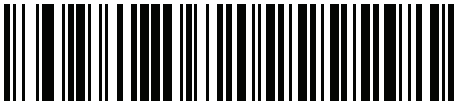
Host Type (continued)

Wincor-Nixdorf RS-232 Mode B

Host Type (continued)

Zebra Scanner Auto Switch Mode

This mode only applies to Zebra RS-232 scanners. In this mode the MP6000 decides which protocol a scanner uses based on the primary host. For example, if the MP6000 is using SSI over CDC it automatically switches the auxiliary serial scanner to SSI over RS-232. If the user selects Wincor-Nixdorf B, the auxiliary RS-232 port only uses the Wincor-Nixdorf B protocol, and that does not change unless another auxiliary RS-232 protocol setting is scanned.



*** Zebra Scanner Auto Switch**

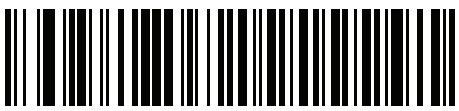
Baud Rate

Baud rate is the number of bits of data transmitted per second. Set the MP6000 baud rate to match the baud rate setting of the auxiliary scanner. Otherwise, data may not reach the host device or may reach it in distorted form.

NOTE The MP6000 does not support baud rates below 9600.

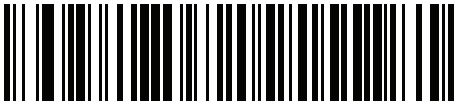
Options:

- *Baud Rate 9600
- Baud Rate 19200
- Baud Rate 38400
- Baud Rate 115200
- Baud Rate 230400
- Baud Rate 460800
- Baud Rate 921600.



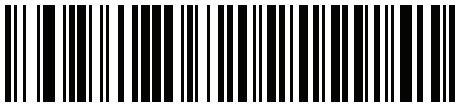
*** Baud Rate 9600**

Baud Rate (continued)



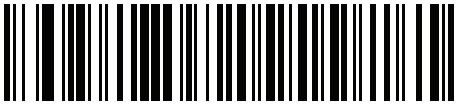
Baud Rate 19200

Baud Rate (continued)



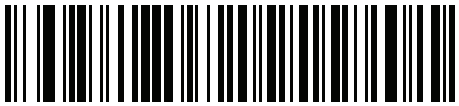
Baud Rate 38400

Baud Rate (continued)



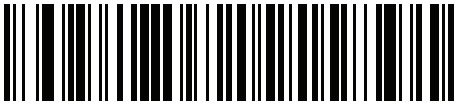
Baud Rate 115200

Baud Rate (continued)



Baud Rate 230400

Baud Rate (continued)



Baud Rate 460800

Baud Rate (continued)

Baud Rate 921600

Data Bits

This parameter allows the MP6000 to interface with auxiliary scanners requiring a 7-bit or 8-bit ASCII protocol.

Options:

- 7 Data Bits
- *8 Data Bits.

7 Data Bits

Data Bits (continued)

*8 Data Bits

Stop Bits

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. Select the number of stop bits (one or two) based on the number the receiving terminal is programmed to accommodate. Set the number of stop bits to match auxiliary scanner requirements.

Options:

- Two Stops
- *One Stop.

Two Stops

Stop Bits (continued)

*One Stop

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 has a value 0 or 1, based on data, to ensure that an odd number of 1 bits is contained in the coded character.
- Select **Even Parity** and the parity bit has a value 0 or 1, based on data, to ensure that an even number of 1 bits is contained in the coded character.
- If no parity is required, select **No Parity**.

Options:

- Even Parity
- Odd Parity
- *No Parity.

Even Parity

Parity (continued)

Odd Parity

Parity (continued)

*No Parity

Host RTS State

This parameter sets the idle state of the auxiliary serial host RTS line. Scan a bar code below to select a **Low RTS**, or **High RTS** line state.

Options:

- High RTS
- *Low RTS.

High RTS

Host RTS State (continued)

*Low RTS

CHAPTER 8 123SCAN2

Introduction

123Scan² is an easy to use, PC-based software tool that enables rapid customized setup of Zebra decoders.

For detailed information about 123Scan², and how to use this utility to configure the MP6000, refer to the *MP6000 Integrator Guide* (p/n 72E-172632-xx).

IMPORTANT When configuring the MP6000 by scanning a 2D programming bar code generated by 123Scan^2, the only device programmed is the MP6000. If an MX101 (CSS) device, and/or an auxiliary scanner (e.g., DS6878) are connected to the MP6000, each device must scan its own programming bar code to be configured.

CHAPTER 9 SSI INTERFACE

Introduction

Customers using RS-232 OPOS require the Simple Serial Interface (SSI), which provides a communications link between Zebra scanners, and a serial host. MP6000 includes a limited SSI implementation for special purposes. Contact the Zebra Customer Support Center online at: http://www.zebra.com/support, or call 1.800.653.5350 for more information.

All communication between the decoder and host occurs over the hardware interface lines using the SSI protocol. Refer to the *Simple Serial Interface Programmer's Guide*, p/n 72-40451-xx, for more information on SSI.

CHAPTER 10 SNAPI INTERFACE

Introduction

Customers using USB OPOS often require the USB-SNAPI Interface, which provides a communications link between Zebra scanners and a USB host. MP6000 includes a limited SNAPI implementation for special purposes. Contact the Zebra Customer Support Center online at: http://www.zebra.com/support, or call 1.800.653.5350 for more information.

All communication between the decoder and host occurs over the hardware interface lines using the SNAPI protocol.

CHAPTER 11 SYMBOLOGIES

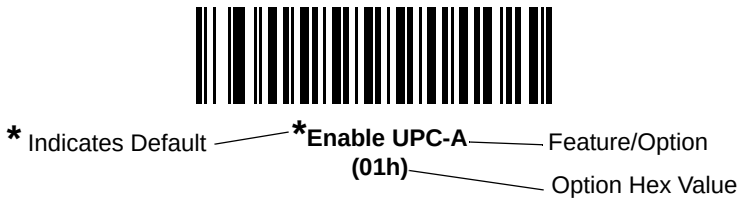
Introduction

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

To set feature values, scan a single bar code or a short bar code sequence. The settings are stored in non-volatile memory and are preserved even when the MP6000 powers down.

Select a host type (see each host chapter for specific host information) after the power-up beeps sound. This is only necessary upon the first power-up when connected to a new host.

To return all features to default values, scan the *Set Default Parameter on page 5-5*. Throughout the programming bar code menus, asterisks (*) indicate default values.



Scanning Sequence Examples

In most cases, scanning one bar code sets the parameter value. For example, to transmit bar code data without the UPC-A check digit, simply scan the **Do Not Transmit UPC-A Check Digit** bar code under *Transmit UPC-A Check Digit on page 11-40*. The MP6000 issues a fast warble beep and the LED turns green, signifying a successful parameter entry.

Other parameters, such as **Set Length(s) for D 2 of 5** require scanning several bar codes. See the individual parameter, such as **Set Length(s) for D 2 of 5**, for this procedure.

Errors While Scanning

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

Symbology Parameter Defaults

Table 11-1 lists the defaults for all symbologies parameters. To change the default values, scan the appropriate bar codes in this guide. These new values replace the standard default values in memory. To recall the default parameter values, scan the *Set Default Parameter on page 5-5*.

NOTE See *Appendix A, STANDARD DEFAULT PARAMETERS* for all user preferences, hosts, and miscellaneous default parameters.

Table 11-1 *Parameter Defaults*

Parameter	Parameter Number	Default	Page Number
Disable All Code Types			***11-7***
UPC/EAN			
UPC-A	1	Enable	*11-8*
UPC-E	2	Enable	*11-10*
UPC-E1	12	Disable	*11-12*
EAN-8/JAN 8	4	Enable	*11-14*
EAN-13/JAN 13	3	Enable	*11-16*
Bookland EAN	83	Disable	*11-19*
Bookland ISBN Format	576	ISBN-10	*11-20*
Decode UPC/EAN/JAN Supplementals (2 and 5 digits)	16	Ignore	*11-24*
User-Programmable Supplementals Supplemental 1: Supplemental 2:	 579 580	N/A	*11-36*
UPC/EAN Redundancy	1225	1	*11-38*
UPC/EAN/JAN Supplemental Redundancy	80	10	*11-39*
Transmit UPC-A Check Digit	40	Enable	*11-40*
Transmit UPC-E Check Digit	41	Enable	*11-42*
Transmit UPC-E1 Check Digit	42	Enable	*11-44*
UPC-A Preamble	34	System Character	*11-46*
UPC-E Preamble	35	System Character	*11-49*
UPC-E1 Preamble	36	System Character	*11-52*
Convert UPC-E to A	37	Disable	*11-56*
Convert UPC-E1 to A	38	Disable	*11-58*
EAN-8/JAN-8 Zero Extend	39	Disable	*11-60*

Table 11-1 *Parameter Defaults (Continued)*

Parameter	Parameter Number	Default	Page Number
Coerce UPC/EAN	915	Disable	*11-62*
UPC/EAN/JAN Supplemental Aim ID Format	672	Combined AIM ID, 1 Transmission	*11-64*
UCC Coupon Extended Code	85	Disable	*11-67*
Coupon Report	730	New Coupon Symbols	*11-69*
ISSN EAN	617	Disable	*11-72*
UPC/EAN Random Weight Check Digit	53	Disable	*11-73*
Code 128			
Code 128	8	Disable	*11-75*
Set Length(s) for Code 128	209, 210	Any Length	*11-77*
GS1-128 (formerly UCC/EAN-128)	14	Disable	*11-82*
ISBT 128	84	Disable	*11-84*
ISBT Concatenation	577	Disable	*11-86*
Check ISBT Table	578	Enable	*11-89*
ISBT Concatenation Redundancy	223	10	*11-91*
Code 128 Stitching	72	Disable	*11-92*
Code 128 Stitching Security Level	1205	0	*11-94*
Code 128 Marginless Mode	1208	Disable	*11-99*
Code 39			
Code 39	0	Disable	*11-101*
Trioptic Code 39	13	Disable	*11-103*
Convert Code 39 to Code 32 (Italian Pharmacy Code)	86	Disable	*11-105*
Code 32 Prefix	231	Disable	*11-107*
Set Length(s) for Code 39	18, 19	Length Within Range: 2 to 55	*11-109*
Code 39 Check Digit Verification	48	Disable	*11-113*
Transmit Code 39 Check Digit	43	Disable	*11-115*
Code 39 Full ASCII Conversion	17	Disable	*11-117*
Code 39 Stitching	70	Disable	*11-119*
Code 39 Stitching Security Level	1206	0	*11-121*
Code 39 Marginless Mode	1209	Disable	*11-126*

Table 11-1 *Parameter Defaults (Continued)*

Parameter	Parameter Number	Default	Page Number
Code 93			
Code 93	9	Disable	*11-128*
Set Length(s) for Code 93	26, 27	Length Within Range: 4 to 55	*11-130*
Code 93 Stitching	1224	Disable	*11-135*
Code 93 Stitching Security Level	1216	Level 1	*11-137*
Code 93 Marginless Mode	1223	Disable	*11-142*
Interleaved 2 of 5 (ITF)			
Interleaved 2 of 5 (ITF)	6	Disable	*11-144*
Set Lengths for I 2 of 5	22, 23	1 Length; Length = 14	*11-146*
I 2 of 5 Check Digit Verification	49	Disable	*11-151*
Transmit I 2 of 5 Check Digit	44	Disable	*11-154*
Convert I 2 of 5 to EAN 13	82	Disable	*11-156*
ITF Stitching	1204	Disable	*11-158*
ITF Stitching Security Level	1207	Level 1	*11-160*
ITF Marginless Mode	1210	Disable	*11-165*
Discrete 2 of 5 (DTF)			
Discrete 2 of 5	5	Disable	*11-167*
Set Length(s) for D 2 of 5	20, 21	1 Length; Length = 12	*11-169*
Codabar (NW - 7)			
Codabar	7	Disable	*11-174*
Set Lengths for Codabar	24, 25	Length Within Range: 5 to 55	*11-176*
CLSI Editing	54	Disable	*11-181*
NOTIS Editing	55	Disable	*11-183*
Codabar Upper or Lower Case Start/Stop Characters Detection	855	Lower Case	*11-185*
MSI			
MSI	11	Disable	*11-187*
Set Length(s) for MSI	30, 31	Length Within Range: 4 to 55	*11-189*

Table 11-1 *Parameter Defaults (Continued)*

Parameter	Parameter Number	Default	Page Number
MSI Check Digits	50	One	*11-194*
Transmit MSI Check Digit	46	Disable	*11-196*
MSI Check Digit Algorithm	51	Mod 10/Mod 10	*11-198*
Chinese 2 of 5			
Chinese 2 of 5	408	Disable	*11-200*
Inverse 1D	586	Regular	*11-202*
GS1 DataBar			
GS1 DataBar (GS1 DataBar Omnidirectional, GS1 DataBar Truncated, GS1 DataBar Stacked, GS1 DataBar Stacked Omnidirectional)	338	Disable	*11-205*
GS1 DataBar Limited	339	Disable	*11-207*
GS1 DataBar Limited Security Level	728	3	*11-211*
GS1 DataBar Expanded (GS1 DataBar Expanded, GS1 DataBar Expanded Stacked)	340	Disable	*11-209*
Convert GS1 DataBar to UPC/EAN	397	Disable	*11-215*
Composite			
Composite CC-C	341	Disable	*11-217*
Composite CC-A/B	342	Disable	*11-219*
Composite TLC-39	371	Disable	*11-221*
UPC Composite Mode	344	Never Linked	*11-223*
Composite Beep Mode	398	Beep As Each Code Type is Decoded	*11-226*
GS1-128 Emulation Mode for UCC/EAN Composite Codes	427	Disable	*11-229*
2D Symbologies			
PDF417	15	Disable	*11-231*
MicroPDF417	227	Disable	*11-233*
Code 128 Emulation	123	Disable	*11-235*
Data Matrix	292	Disable	*11-237*
Data Matrix Inverse	588	Regular	*11-239*
GS1 Data Matrix	1336	Disable	*11-242*
QR Code	293	Disable	*11-244*
QR Inverse	587	Regular	*11-246*

Table 11-1 *Parameter Defaults (Continued)*

Parameter	Parameter Number	Default	Page Number
GS1 QR	1343	Disable	*11-249*
MicroQR	573	Disable	*11-251*
Aztec	574	Disable	*11-253*
Aztec Inverse	589	Regular	*11-255*
Symbology-Specific Security Levels			
Redundancy Level	78	1	*11-258*
Security Level (UPC/EAN and Code 93)	77	1	*11-263*
Intercharacter Gap Size	381	Normal	*11-267*
Macro PDF			
Flush Macro PDF Buffer			*11-269*
Abort Macro PDF Entry			*11-270*

Disable All Code Types

To disable all symbologies, scan the bar code below. This is useful when enabling only a few code types.

Disable All Code Types

UPC/EAN

Enable/Disable UPC-A

Parameter # 1

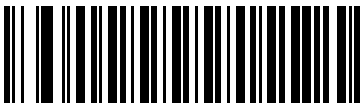
To enable or disable UPC-A, scan the appropriate bar code below.

Options:

- *Enable UPC-A
- Disable UPC-A.

***Enable UPC-A**
(01h)

Enable/Disable UPC-A (continued)



Disable UPC-A
(00h)

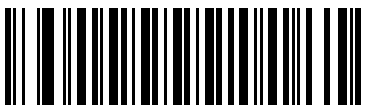
Enable/Disable UPC-E

Parameter # 2

To enable or disable UPC-E, scan the appropriate bar code below.

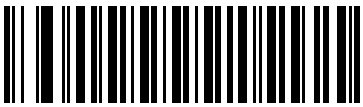
Options:

- *Enable UPC-E
- Disable UPC-E.



***Enable UPC-E**
(01h)

Enable/Disable UPC-E (continued)



Disable UPC-E
(00h)

Enable/Disable UPC-E1

Parameter # 12

UPC-E1 is disabled by default.

To enable or disable UPC-E1, scan the appropriate bar code below.

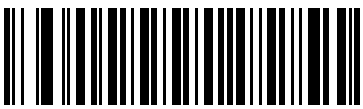
NOTE UPC-E1 is not a UCC (Uniform Code Council) approved symbology.

Options:

- Enable UPC-E1
- *Disable UPC-E1.

Enable UPC-E1
(01h)

Enable/Disable UPC-E1 (continued)



***Disable UPC-E1**
(00h)

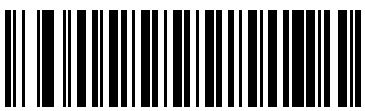
Enable/Disable EAN-8/JAN-8

Parameter # 4

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

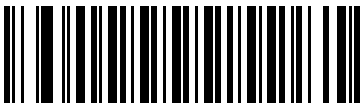
Options:

- *Enable EAN-8/JAN-8
- Disable EAN-8/JAN-8.



***Enable EAN-8/JAN-8**
(01h)

Enable/Disable EAN-8/JAN-8 (continued)



Disable EAN-8/JAN-8
(00h)

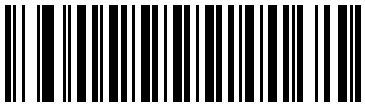
Enable/Disable EAN-13/JAN-13

Parameter # 3

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

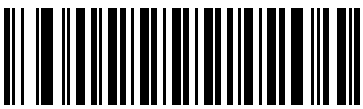
Options:

- *Enable EAN-13/JAN-13
- Disable EAN-13/JAN-13.



***Enable EAN-13/JAN-13**
(01h)

Enable/Disable EAN-13/JAN-13 (continued)



Disable EAN-13/JAN-13
(00h)

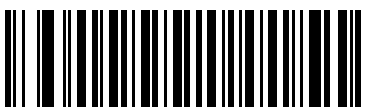
Enable/Disable Bookland EAN

Parameter # 83

To enable or disable Bookland EAN, scan the appropriate bar code below.

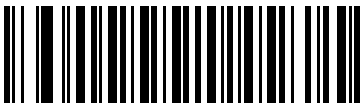
Options:

- Enable Bookland EAN
- *Disable Bookland EAN.



Enable Bookland EAN
(01h)

Enable/Disable Bookland EAN (continued)



***Disable Bookland EAN**
(00h)

✓ ***NOTE*** If Bookland EAN is enabled, select a *Bookland ISBN Format on page 11-20*. Also select either Decode UPC/EAN Supplementals, Autodiscriminate UPC/EAN Supplementals, or Enable 978/979 Supplemental Mode in *Decode UPC/EAN/JAN Supplementals on page 11-22*.

Bookland ISBN Format

Parameter # 576

If Bookland EAN is enabled, select one of the following formats for Bookland data.

Options:

- *Bookland ISBN-10 - The MP6000 reports Bookland data starting with 978 in traditional 10-digit format with the special Bookland check digit for backward-compatibility. Data starting with 979 is not considered Bookland in this mode.
- Bookland ISBN-13 - The MP6000 reports Bookland data (starting with either 978 or 979) as EAN-13 in 13-digit format to meet the 2007 ISBN-13 protocol.

***Bookland ISBN-10**
(00h)

Bookland ISBN Format (continued)

Bookland ISBN-13
(01h)

✓ ***NOTE*** For Bookland EAN to function properly, ensure Bookland EAN is enabled (see *Enable/Disable Bookland EAN on page 11-18*), then select either Decode UPC/EAN Supplementals, Autodiscriminate UPC/EAN Supplementals, or Enable 978/979 Supplemental Mode in *Decode UPC/EAN/JAN Supplementals on page 11-22*.

Decode UPC/EAN/JAN Supplementals

Parameter # 16

Supplementals are bar codes appended according to specific format conventions (e.g., UPC A+2, UPC E+2, EAN 13+2).

Options:

- Decode UPC/EAN/JAN with Supplementals - the MP6000 only decodes UPC/EAN symbols with supplemental characters, and ignores symbols without supplementals.
- *Ignore UPC/EAN/JAB with Supplementals - if the MP6000 is presented with a UPC/EAN plus supplemental symbol, the scanner decodes UPC/EAN and ignores the supplemental characters.
- Autodiscriminate UPC/EANJAN Supplementals - the MP6000 decodes UPC/EAN symbols with supplemental characters immediately. If the symbol does not have a supplemental, the MP6000 must decode the bar code the number of times set via *UPC/EAN/JAN Supplemental Redundancy on page 11-39* before transmitting its data to confirm that there is no supplemental.
- If you select one of the following **Supplemental Mode** options, the MP6000 immediately transmits EAN-13 bar codes starting with that prefix that have supplemental characters. If the symbol does not have a supplemental, the MP6000 must decode the bar code the number of times set via *UPC/EAN/JAN Supplemental Redundancy on page 11-39* before transmitting its data to confirm that there is no supplemental. The MP6000 transmits UPC/EAN bar codes that do not have that prefix immediately.
  - Enable 378/379 Supplemental Mode.
  - Enable 978/979 Supplemental Mode.

NOTE If you select 978/979 Supplemental Mode and are scanning Bookland EAN bar codes, see *Enable/Disable Bookland EAN on page 11-18* to enable Bookland EAN, and select a format using *Bookland ISBN Format on page 11-20*.

  - Enable 977 Supplemental Mode.
  - Enable 414/419/434/439 Supplemental Mode.
  - Enable 491 Supplemental Mode.
  - Enable Smart Supplemental Mode - applies to EAN-13 bar codes starting with any prefix listed previously.
  - Supplemental User-Programmable Type 1 - applies to EAN-13 bar codes starting with a 3-digit user-defined prefix. Set this 3-digit prefix using *User-Programmable Supplementals on page 11-36*.
  - Supplemental User-Programmable Type 1 and 2 - applies to EAN-13 bar codes starting with either of two 3-digit user-defined prefixes. Set the 3-digit prefixes using *User-Programmable Supplementals on page 11-36*.
  - Smart Supplemental Plus User-Programmable 1 - applies to EAN-13 bar codes starting with any prefix listed previously or the user-defined prefix set using *User-Programmable Supplementals on page 11-36*.
  - Smart Supplemental Plus User-Programmable 1 and 2 - applies to EAN-13 bar codes starting with any prefix listed previously or one of the two user-defined prefixes set using *User-Programmable Supplementals on page 11-36*.

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

Decode UPC/EAN/JAN Supplementals (continued)

Decode UPC/EAN/JAN Only With Supplementals (01h)

Decode UPC/EAN/JAN Supplementals (continued)

***Ignore Supplementals**
(00h)

Decode UPC/EAN/JAN Supplementals (continued)

Autodiscriminate UPC/EAN/JAN Supplementals (02h)

Decode UPC/EAN/JAN Supplementals (continued)

Enable 378/379 Supplemental Mode (04h)

Decode UPC/EAN/JAN Supplementals (continued)

Enable 978/979 Supplemental Mode (05h)

Decode UPC/EAN/JAN Supplementals (continued)

Enable 977 Supplemental Mode
(07h)

Decode UPC/EAN/JAN Supplementals (continued)

Enable 414/419/434/439 Supplemental Mode
(06h)

Decode UPC/EAN/JAN Supplementals (continued)

Enable 491 Supplemental Mode
(08h)

Decode UPC/EAN/JAN Supplementals (continued)

Enable Smart Supplemental Mode (03h)

Decode UPC/EAN/JAN Supplementals (continued)

Supplemental User-Programmable Type 1
(09h)

Decode UPC/EAN/JAN Supplementals (continued)

Supplemental User-Programmable Type 1 and 2
(0Ah)

Decode UPC/EAN/JAN Supplementals (continued)

Smart Supplemental Plus User-Programmable 1
(0Bh)

Decode UPC/EAN/JAN Supplementals (continued)

Smart Supplemental Plus User-Programmable 1 and 2
(0Ch)

User-Programmable Supplementals

Supplemental 1: Parameter # 579

Supplemental 2: Parameter # 580

Options:

- If you selected a Supplemental User-Programmable option from *Decode UPC/EAN/JAN Supplementals on page 11-22*, select **User-Programmable Supplemental 1** to set the 3-digit prefix. Then select the 3 digits using the numeric bar codes beginning on *page D-1*.
- Select **User-Programmable Supplemental 2** to set a second 3-digit prefix. Then select the 3 digits using the numeric bar codes beginning on *page D-1*.

User-Programmable Supplemental 1

User-Programmable Supplementals (continued)

User-Programmable Supplemental 2

UPC/EAN Redundancy

Parameter # 1225

This option adjusts the number of additional times to decode a UPC/EAN symbol before decode data is transmitted. The range is from zero to five times. The default is 1.

Scan **UPC/EAN Redundancy** below to set a decode redundancy value. Next, scan one numeric bar code in *Appendix D, NUMERIC BAR CODES*. Enter a leading zero for single digit numbers. To correct an error, or change a selection, scan *Cancel on page D-11*.

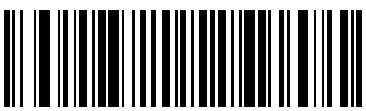
UPC/EAN Redundancy
(Range 0 - 5)

UPC/EAN/JAN Supplemental Redundancy

Parameter # 80

If you selected **Autodiscriminate UPC/EAN/JAN Supplementals**, this option adjusts the number of times to decode a symbol without supplementals before transmission. The range is from 2 to 25 times. Five or above is recommended when decoding a mix of UPC/EAN/JAN symbols with and without supplementals. The default is 10.

Scan **UPC/EAN/JAN Supplemental Redundancy** below to set a decode redundancy value. Next, scan two numeric bar codes in *Appendix D, NUMERIC BAR CODES*. Enter a leading zero for single digit numbers. To correct an error or change a selection, scan *Cancel on page D-11*.



UPC/EAN/JAN Supplemental Redundancy

Transmit UPC-A Check Digit

Parameter # 40

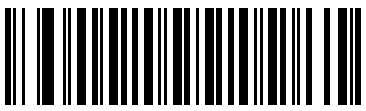
The check digit is the last character of the symbol used to verify the integrity of the data. Scan the appropriate bar code below to transmit the bar code data with or without the UPC-A check digit. It is always verified to guarantee the integrity of the data.

Options:

- *Transmit UPC-A Check Digit
- Do Not Transmit UPC-A Check Digit.

***Transmit UPC-A Check Digit**
(01h)

Transmit UPC-A Check Digit (continued)



Do Not Transmit UPC-A Check Digit (00h)

Transmit UPC-E Check Digit

Parameter # 41

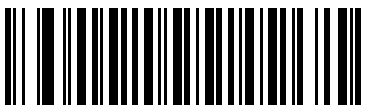
The check digit is the last character of the symbol used to verify the integrity of the data. Scan the appropriate bar code below to transmit the bar code data with or without the UPC-E check digit. It is always verified to guarantee the integrity of the data.

Options:

- *Transmit UPC-E Check Digit
- Do Not Transmit UPC-E Check Digit.

***Transmit UPC-E Check Digit**
(01h)

Transmit UPC-E Check Digit (continued)



Do Not Transmit UPC-E Check Digit (00h)

Transmit UPC-E1 Check Digit

Parameter # 42

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

Options:

- *Transmit UPC-E1 Check Digit
- Do Not Transmit UPC-E1 Check Digit.

***Transmit UPC-E1 Check Digit**
(01h)

Transmit UPC-E1 Check Digit (continued)

Do Not Transmit UPC-E1 Check Digit (00h)

UPC-A Preamble

Parameter # 34

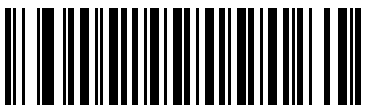
Preamble characters are part of the UPC symbol, and include Country Code and System Character. There are three options for transmitting a UPC-A preamble to the host device: transmit System Character only, transmit System Character and Country Code (“0” for USA), and transmit no preamble. Select the appropriate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

Options:

- No Preamble (<DATA>)
- *System Character (<SYSTEM CHARACTER> <DATA>)
- System Character & Country Code (< COUNTRY CODE> <SYSTEM CHARACTER> <DATA>).

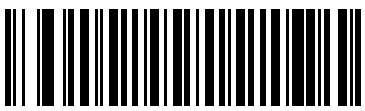
No Preamble (<DATA>)
(00h

UPC-A Preamble (continued)



***System Character (<SYSTEM CHARACTER> <DATA>)**
(01h)

UPC-A Preamble (continued)



System Character & Country Code
(< COUNTRY CODE> <SYSTEM CHARACTER> <DATA>)
(02h)

UPC-E Preamble

Parameter # 35

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.

Options:

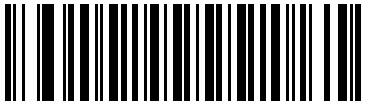
- No Preamble (<DATA>)
- *System Character (<SYSTEM CHARACTER> <DATA>)
- System Character & Country Code (< COUNTRY CODE> <SYSTEM CHARACTER> <DATA>).

No Preamble (<DATA>)
(00h)

UPC-E Preamble (continued)

***System Character (<SYSTEM CHARACTER> <DATA>)**
(01h)

UPC-E Preamble (continued)



System Character & Country Code
(< COUNTRY CODE> <SYSTEM CHARACTER> <DATA>)
(02h)

UPC-E1 Preamble

Parameter # 36

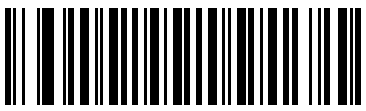
Preamble characters are part of the UPC symbol, and include Country Code and System Character. There are three options for transmitting a UPC-E1 preamble to the host device: transmit System Character only, transmit System Character and Country Code (“0” for USA), and transmit no preamble. Select the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

Options:

- No Preamble (<DATA>)
- *System Character (<SYSTEM CHARACTER> <DATA>)
- System Character & Country Code (< COUNTRY CODE> <SYSTEM CHARACTER> <DATA>).

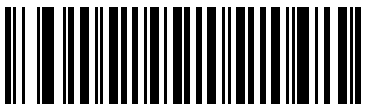
No Preamble (<DATA>)
(00h)

UPC-E1 Preamble (continued)



***System Character (<SYSTEM CHARACTER> <DATA>)**
(01h)

UPC-E1 Preamble (continued)



System Character & Country Code
(< COUNTRY CODE> <SYSTEM CHARACTER> <DATA>)
(02h)

Convert UPC-E to UPC-A

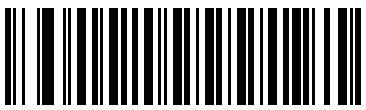
Parameter # 37

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).

Disable this to transmit UPC-E decoded data as UPC-E data, without conversion.

Options:

- Convert UPC-E to UPC-A (Enable)
- *Do Not Convert UPC-E to UPC-A (Disable).



Convert UPC-E to UPC-A (Enable)
(01h)

Convert UPC-E to UPC-A (continued)

***Do Not Convert UPC-E to UPC-A (Disable)**
(00h)

Convert UPC-E1 to UPC-A

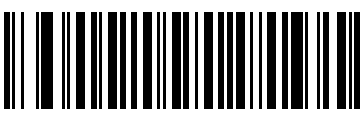
Parameter # 38

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).

Disable this to transmit UPC-E1 decoded data as UPC-E1 data, without conversion.

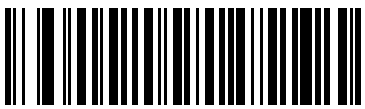
Options:

- Convert UPC-E1 to UPC-A (Enable)
- *Do Not Convert UPC-E1 to UPC-A (Disable).



Convert UPC-E1 to UPC-A (Enable)
(01h)

Convert UPC-E1 to UPC-A (continued)



*Do Not Convert UPC-E1 to UPC-A (Disable)
(00h)

EAN-8/JAN-8 Zero Extend

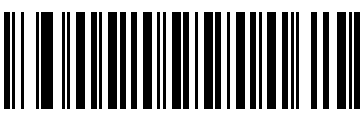
Parameter # 39

Enable this parameter to add five leading zeros to decoded EAN-8 symbols to make them compatible in format to EAN-13 symbols.

Disable this to transmit EAN-8 symbols as is.

Options:

- Enable EAN-8/JAN-8 Zero Extend
- *Disable EAN-8/JAN-8 Zero Extend.



Enable EAN-8/JAN-8 Zero Extend
(01h)

EAN-8/JAN-8 Extend (continued)

***Disable EAN-8/JAN-8 Zero Extend**
(00h)

Coerce UPC/EAN

Parameter # 915

When disabled this parameter reports *Coupon* bar codes with a *Coupon Symbol-ID*.

When enabled this parameter reports *Coupon* bar codes with a *UPC Symbol-ID*.

Options:

- Enable Coerce UPC/EAN
- *Disable Coerce UPC/EAN.

Enable Coerce UPC/EAN
(01h)

Coerce UPC/EAN (continued)

***Disable Coerce UPC/EAN**
(00h)

UPC/EAN/JAN Supplemental AIM ID Format

Parameter # 672

Scan a bar code to select one of the following options.

- **Separate AIM IDs, 1 Transmission** - UPC/EAN with supplemental transmit as:

  `]E<0 or 4><data>]E<1 or 2>[supp data]`

- **Combined AIM ID, 1 Transmission** (default) -All UPC/EAN with supplementals other than EAN-8 transmit as:

  `]E3<data+supps]`

- **Separate AIM IDs, Separate Transmissions**: Same as option **Separate AIM IDs, 1 Transmission**, except the `<data>` and `[supp data]` appear as two separate bar codes.

Options:

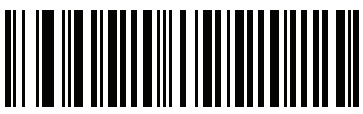
- **Separate AIM IDs, 1 Transmission**
- **Combined AIM ID, 1 Transmission**
- **Separate AIM IDs, Separate Transmissions**

Separate AIM IDs, 1 Transmission
(00h)

UPC/EAN/JAN Supplemental AIM ID Format (continued)

***Combined AIM ID, 1 Transmission (01h)**

UPC/EAN/JAN Supplemental AIM ID Format (continued)



Separate AIM IDs, Separate Transmissions (02h)

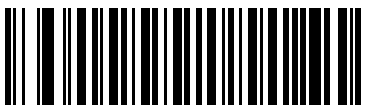
UCC Coupon Extended Code

Parameter # 85

Enable this parameter to decode UPC-A bar codes starting with digit ‘5’, EAN-13 bar codes starting with digit ‘99’, and UPC-A/GS1-128 Coupon Codes. UPCA, EAN-13, and GS1-128 must be enabled to scan all types of Coupon Codes.

Options:

- Enable UCC Coupon Extended Code
- *Disable UCC Coupon Extended Code.



Enable UCC Coupon Extended Code
(01h)

UCC Coupon Extended Cod (continued)

***Disable UCC Coupon Extended Code (00h)**

✓ ***NOTE*** See *UPC/EAN/JAN Supplemental Redundancy on page 11-39* to control autodiscrimination of the GS1-128 (right half) of a coupon code.

Coupon Report

Parameter # 730

Traditional coupon symbols (old coupon symbols) are composed of two bar codes: UPC/EAN and Code128. A new coupon symbol is composed of a single Databar Expanded bar code. The new coupon format offers more options for purchase values (up to $999.99) and supports complex discount offers such as a second purchase requirement.

An interim coupon symbol also exists that contains both types of bar codes: UPC/EAN and Databar Expanded. This format accommodates both retailers that do not recognize or use the additional information included in the new coupon symbol, as well as those who can process new coupon symbols.

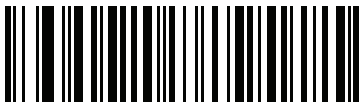
Options:

Scan a bar code below to select one of the following options for decoding coupon symbols:

- Old Coupon Symbols - Scanning an old coupon symbol reports both UPC and Code 128, scanning an interim coupon symbol reports UPC, and scanning a new coupon symbol reports nothing (no decode).
- *New Coupon Symbols - Scanning an old coupon symbol reports either UPC or Code 128, and scanning an interim coupon symbol or a new coupon symbol reports Databar Expanded.
- Both Coupon Formats - Scanning an old coupon symbol reports both UPC and Code 128, and scanning an interim coupon symbol or a new coupon symbol reports Databar Expanded.

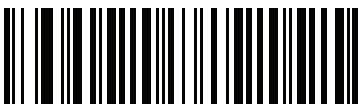
Old Coupon Symbols
(00h)

Coupon Report (continued)



***New Coupon Symbols**
(01h)

Coupon Report (continued)



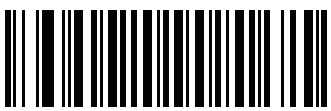
Both Coupon Formats
(02h)

ISSN EAN

Parameter # 617

Options:

- Enable ISSN EAN
- *Disable ISSN EAN.



Enable ISSN EAN
(01h)

ISSN EAN (continued)

*Disable ISSN EAN
(00h)

UPC/EAN Random Weight Check Digit

Parameter # 53

Enable or disable *Price Check Digit Calculation* for a *Variable Weight Item*. A *Variable Weight* bar code is a UPCA/EAN13 bar code starting with digit 2.

Options:

- *Disable UPC/EAN Random Weight Check Digit
- Enable UPC/EAN Random Weight Check Digit

***Disable UPC/EAN Random Weight Check Digit**
(0x00h)

UPC/EAN Random Weight Check Digit (continued)

Enable UPC/EAN Random Weight Check Digit (0x01h)

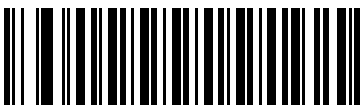
Code 128

Enable/Disable Code 128

Parameter # 8

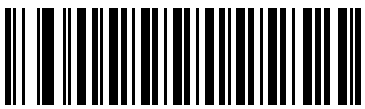
Options:

- Enable Code 128
- *Disable Code 128.



Enable Code 128
(01h)

Code 128 (continued)



*Disable Code 128
(00h)

Set Lengths for Code 128

Parameter # L1 = 209, L2 = 210

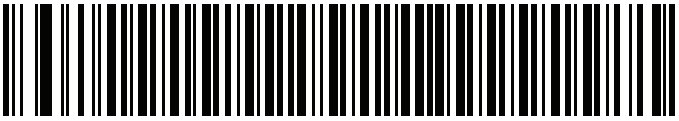
The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Code 128 to any length, one or two discrete lengths, or lengths within a specific range.

NOTE When setting lengths for different bar code types, enter a leading zero for single digit numbers.

Options:

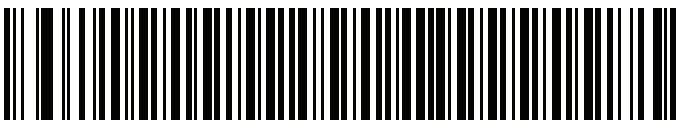
- Code 128 One Discrete Length - Select this option to decode only Code 128 symbols containing a selected length. Select the length using the numeric bar codes in *Appendix D, NUMERIC BAR CODES*. For example, to decode only Code 128 symbols with 14 characters, scan **Code 128 - One Discrete Length**, then scan **1** followed by **4**. To correct an error or change the selection, scan *Cancel on page D-11*.
- Code 128 Two Discrete Lengths - Select this option to decode only Code 128 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 Code 128 symbols containing either 2 or 14 characters, select **Code 128 - Two Discrete Lengths**, then scan **0**, **2**, **1**, and then **4**. To correct an error or change the selection, scan *Cancel on page D-11*.
- Code 128 Length Within Range - Select this option to decode a Code 128 symbol with a specific length range. Select lengths using numeric bar codes in *Appendix D, NUMERIC BAR CODES*. For example, to decode Code 128 symbols containing between 4 and 12 characters, first scan **Code 128 - Length Within Range**. Then scan **0**, **4**, **1,** and **2** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan *Cancel on page D-11*.
- *Code 128 Any Length - Select this option to decode Code 128 symbols containing any number of characters within the MP6000's capability.

Set Lengths for Code 128 (continued)



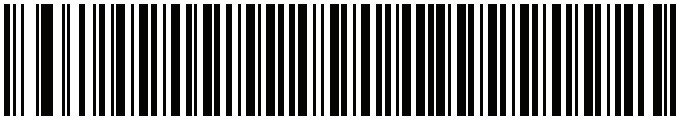
Code 128 - One Discrete Length

Set Lengths for Code 128 (continued)



Code 128 - Two Discrete Lengths

Set Lengths for Code 128 (continued)



Code 128 - Length Within Range

Set Lengths for Code 128 (continued)

*Code 128 - Any Length

Enable/Disable GS1-128 (formerly UCC/EAN-128)

Parameter # 14

Options:

- Enable GS1-128
- *Disable GS1-128.

Enable GS1-128
(01h)

Enable/Disable GS1-128 (formerly UCC/EAN-128)

***Disable GS1-128**
(00h)

Enable/Disable ISBT 128

Parameter # 84

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

Options:

- Enable ISBT 128
- *Disable ISBT 128.

Enable ISBT 128
(01h)

Enable/Disable ISBT 128 (continued)

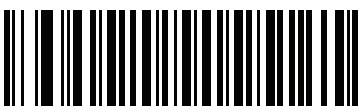
***Disable ISBT 128**
(00h)

ISBT Concatenation

Parameter # 577

Select an option for concatenating pairs of ISBT code types:

- *Disable ISBT Concatenation - The MP6000 does not concatenate pairs of ISBT codes it encounters.
- Enable ISBT Concatenation - There must be two ISBT codes in order for the MP6000 to decode and perform concatenation. The MP6000 does not decode single ISBT symbols.
- Autodiscriminate ISBT Concatenation - The MP6000 decodes and concatenates pairs of ISBT codes immediately. If only a single ISBT symbol is present, the MP6000 must decode the symbol the number of times set via *ISBT Concatenation Redundancy on page 11-91* before transmitting its data to confirm that there is no additional ISBT symbol.

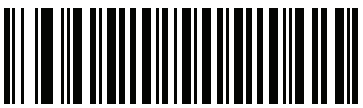


***Disable ISBT Concatenation**
(00h)

ISBT Concatenation (continued)

Enable ISBT Concatenation (01h)

ISBT Concatenation (continued)



Autodiscriminate ISBT Concatenation (02h)

Check ISBT Table

Parameter # 578

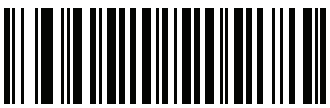
The ISBT specification includes a table that lists several types of ISBT bar codes that are commonly used in pairs. If you set **ISBT Concatenation** to **Enable**, enable **Check ISBT Table** to concatenate only those pairs found in this table. Other types of ISBT codes are not concatenated.

Options:

- *Enable Check ISBT Table
- Disable Check ISBT Table.

***Enable Check ISBT Table**
(01h)

Check ISBT Table (continued)



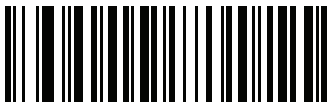
Disable Check ISBT Table (00h)

ISBT Concatenation Redundancy

Parameter # 223

If you set **ISBT Concatenation** to **Autodiscriminate,** use this parameter to set the number of times the MP6000 must decode an ISBT symbol before determining that there is no additional symbol.

Scan the bar code below, then scan two numeric bar codes in *Appendix D, NUMERIC BAR CODES* to set a value between 2 and 20. Enter a leading zero for single digit numbers. To correct an error or change a selection, scan *Cancel on page D-11*. The default is 10.



ISBT Concatenation Redundancy

Code 128 Stitching

Parameter # 72

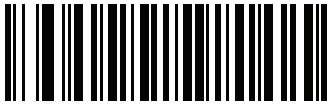
This parameter enables/disables Code 128 stitching. Enabling this parameter is helpful for decoding longer bar codes.

Options:

- *Disable Code 128 Stitching
- Enable Code 128 Stitching.

***Disable**

Code 128 Stitching (continued)



Enable

Code 128 Stitching Security Level

Parameter # 1205

This parameter sets the security level for Code 128 bar codes. Select increasing levels of security for decreasing levels of bar code quality. There is an inverse relationship between security, and digital scanner aggressiveness, so choose only that level of security necessary for any given application.

Options:

- *Security Level 0 - This default setting allows the digital scanner to operate in its most aggressive state, while providing sufficient security in decoding most "in-spec" bar codes.
- Security Level 1 - This setting eliminates most mis-decodes.
- Security Level 2 - Select this option if Security Level 1 fails to eliminate mis-decodes.
- Security Level 3 - If you selected Security Level 2 and mis-decodes still occur, select this security level.

IMPORTANT Selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the digital scanner. If you need this level of security, try to improve the quality of the bar codes.

- Security Level 4: If you selected Security Level 3 and mis-decodes still occur, select this security level.

IMPORTANT Selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the digital scanner. If you need this level of security, try to improve the quality of the bar codes.

***Level 0**

Code 128 Stitching Security Level (continued)

Level 1

Code 128 Stitching Security Level (continued)

Level 2

Code 128 Stitching Security Level (continued)

Level 3

Code 128 Stitching Security Level (continued)

Level 4

Code 128 Marginless Mode

Parameter # 1208

This parameter allows decoding a bar code with relaxed requirement regarding the size of clear margin around the bar code.

Options:

- *Disable Marginless Mode
- Enable Marginless Mode.

***Disable Marginless Mode**

Code 128 Marginless Mode (continued)

Enable Marginless Mode

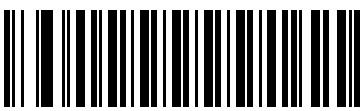
Enable/Disable Code 39

Parameter # 0

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

Options:

- Enable Code 39
- *Disable Code 39.



Enable Code 39
(01h)

Enable/Disable Code 39 (continued)

***Disable Code 39**
(00h)

NOTE You cannot enable Trioptic Code 39 and Code 39 Full ASCII simultaneously.

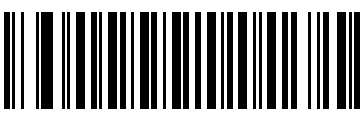
Enable/Disable Trioptic Code 39

Parameter # 13

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.

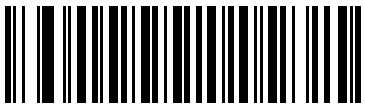
Options:

- Enable Trioptic Code 39
- *Disable Trioptic Code 39.



Enable Trioptic Code 39
(01h)

Enable/Disable Trioptic Code 39 (continued)



*Disable Trioptic Code 39
(00h)

Convert Code 39 to Code 32

Parameter # 86

Code 32 is a variant of Code 39 used by the Italian pharmaceutical industry.

NOTE Code 39 must be enabled for this parameter to function.

Options:

- Enable Convert Code 39 to Code 32
- *Disable Convert Code 39 to Code 32.

Enable Convert Code 39 to Code 32 (01h)

Convert Code 39 to Code 32 (continued)

*Disable Convert Code 39 to Code 32
(00h)

Code 32 Prefix

Parameter # 231

Scan the appropriate bar code 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.

Options:

- Enable Code 32 Prefix
- *Disable Code 32 Prefix.

Enable Code 32 Prefix
(01h)

Code 32 Prefix (continued)

***Disable Code 32 Prefix**
(00h)

Set Lengths for Code 39

Parameter # L1 = 18, L2 = 19

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** are the preferred options. The range for Code 39 lengths is 0 - 55.

NOTE When setting lengths for different bar code types, enter a leading zero for single digit numbers.

Options:

- Code 39 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 on page D-11*.
- Code 39 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 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 on page D-11*.
- *Code 39 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** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan *Cancel on page D-11*.
- Code 39 Any Length - Select this option to decode Code 39 symbols containing any number of characters within the MP6000's capability.

Code 39 - One Discrete Length

Set Lengths for Code 39 (continued)

Code 39 - Two Discrete Lengths

Set Lengths for Code 39 (continued)

*Code 39 - Length Within Range

Set Lengths for Code 39 (continued)

Code 39 - Any Length

Code 39 Check Digit Verification

Parameter # 48

Enable this feature to check 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.

Options:

- Enable Code 39 Check Digit
- *Disable Code 39 Check Digit.

Enable Code 39 Check Digit (01h)

Code 39 Check Digit Verification (continued)

*Disable Code 39 Check Digit
(00h)

Transmit Code 39 Check Digit

Parameter # 43

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

Options:

- Transmit Code 39 Check Digit (Enable)
- *Do Not Transmit Code 39 Check Digit (Disable).

Transmit Code 39 Check Digit (Enable)
(01h)

Transmit Code 39 Check Digit (continued)

***Do Not Transmit Code 39 Check Digit (Disable)**
(00h)

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

Code 39 Full ASCII Conversion

Parameter # 17

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 bar code below.

Options:

- Enable Code 39 Full ASCII
- *Disable Code 39 Full ASCII.

Enable Code 39 Full ASCII
(01h)

Code 39 Full ASCII Conversion (continued)

***Disable Code 39 Full ASCII**
(00h)

NOTE You cannot enable Trioptic Code 39 and Code 39 Full ASCII 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 the *Character Sets on page E-1***.**

Code 39 Stitching

Parameter # 70

This parameter enables/disables Code 39 stitching. Enabling this parameter is helpful for decoding longer bar codes.

Options:

- Enable Code 39 Stitching
- *Disable Code 39 Stitching.

***Disable**

Code 39 Stitching (continued)

Enable

Code 39 Stitching Security Level

Parameter # 1206

This parameter sets the security level for Code 39 bar codes. Select increasing levels of security for decreasing levels of bar code quality. There is an inverse relationship between security, and digital scanner aggressiveness, so choose only that level of security necessary for any given application.

Options:

- *Security Level 0 - This default setting allows the digital scanner to operate in its most aggressive state, while providing sufficient security in decoding most "in-spec" bar codes.
- Security Level 1 - This setting eliminates most mis-decodes.
- Security Level 2 - Select this option if Security Level 1 fails to eliminate misdecodes.
- Security Level 3 - If you selected Security Level 2, and mis-decodes still occur, select this security level.

IMPORTANT Selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the digital scanner. If you need this level of security, try to improve the quality of the bar codes.

- Security Level 4: If you selected Security Level 3 and mis-decodes still occur, select this security level.

IMPORTANT Selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the digital scanner. If you need this level of security, try to improve the quality of the bar codes.

***Level 0**

Code 39 Stitching Security Level (continued)

Level 1

Code 39 Stitching Security Level (continued)

Level 2

Code 39 Stitching Security Level (continued)

Level 3

Code 39 Stitching Security Level (continued)

Level 4

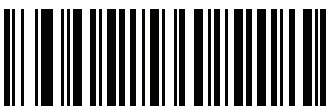
Code 39 Marginless Mode

Parameter # 1209

This parameter allows decoding a bar code with relaxed requirement regarding the size of clear margin around the bar code.

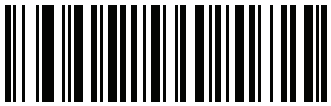
Options:

- Enable Marginless Mode
- *Disable Marginless Mode.



***Disable Marginless Mode**

Code 39 Marginless Mode (continued)



Enable Marginless Mode

Code 93

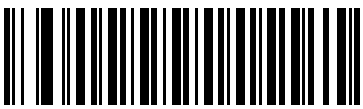
Enable/Disable Code 93

Parameter # 9

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

Enable Code 93
(01h)

Code 93 (continued)



***Disable Code 93**
(00h)

Set Lengths for Code 93

Parameter # L1 = 26, L2 = 27

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. The range for Code 93 lengths is 0 - 55.

Options:

- Code 93 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 on page D-11*.
- Code 93 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 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 on page D-11*.
- *Code 93 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** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan *Cancel on page D-11*.
- Code 93 Any Length - Scan this option to decode Code 93 symbols containing any number of characters within the MP6000's capability.

Set Lengths for Code 93 (continued)

Code 93 - One Discrete Length

Set Lengths for Code 93 (continued)

Code 93 - Two Discrete Lengths

Set Lengths for Code 93 (continued)

*Code 93 - Length Within Range

Set Lengths for Code 93 (continued)

Code 93 - Any Length

Code 93 Stitching

Parameter # 1224

This parameter enables Code 93 stitching. This is helpful for decoding longer bar codes.

Options:

- Enable Code 93 Stitching
- *Disable Code 93 Stitching.

***Disable**

Code 93 Stitching (continued)

Enable

Code 93 Stitching Security Level

Parameter # 1216

This parameter sets the security level for Code 93 bar codes. Select increasing levels of security for decreasing levels of bar code quality. There is an inverse relationship between security, and digital scanner aggressiveness, so choose only that level of security necessary for any given application.

Options:

- Security Level 0: This setting allows the digital scanner to operate in its most aggressive state, while providing sufficient security in decoding most "in-spec" bar codes.
- *Security Level 1: This default setting eliminates most mis-decodes.
- Security Level 2: Select this option if Security Level 1 fails to eliminate mis-decodes.
- Security Level 3: If you selected Security Level 2 and mis-decodes still occur, select this security level.

IMPORTANT Selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the digital scanner. If you need this level of security, try to improve the quality of the bar codes.

- Security Level 4: If you selected Security Level 3 and mis-decodes still occur, select this security level.

IMPORTANT Selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the digital scanner. If you need this level of security, try to improve the quality of the bar codes.

Level 0

Code 93 Stitching Security Level (continued)

*Level 1

Code 93 Stitching Security Level (continued)

Level 2

Code 93 Stitching Security Level (continued)

Level 3

Code 93 Stitching Security Level (continued)

Level 4

Code 93 Marginless Mode

Parameter # 1223

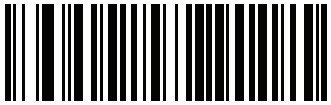
This parameter allows decoding a bar code with relaxed requirement regarding the size of clear margin around the bar code.

Options:

- Enable Marginless Mode
- *Disable Marginless Mode.

***Disable Marginless Mode**

Code 93 Marginless Mode (continued)



Enable Marginless Mode

Interleaved 2 of 5 (ITF)

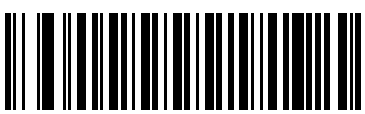
Enable/Disable Interleaved 2 of 5

Parameter # 6

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

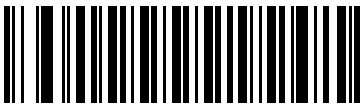
Options:

- Enable Interleaved 2 of 5
- *Disable Interleaved 2 of 5.



Enable Interleaved 2 of 5
(01h)

Interleaved 2 of 5 (ITF) (continued)



***Disable Interleaved 2 of 5 (00h)**

Set Lengths for Interleaved 2 of 5 (I 2 of 5)

Parameter # L1 = 22, L2 = 23

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. The range for Interleaved 2 of 5 lengths is 0 - 55.

Options:

- *I 2 of 5 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 on page D-11*.
- I 2 of 5 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 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 on page D-11*.
- I 2 of 5 Length Within Range - Select this option to decode an I 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 I 2 of 5 symbols containing between 4 and 12 characters, first scan **I 2 of 5 - Length Within Range**. Then scan **0**, **4**, **1,** and **2** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan *Cancel on page D-11*.
- I 2 of 5 Any Length - Scan this option to decode I 2 of 5 symbols containing any number of characters within the MP6000's 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 transmit as a complete scan, yielding less data than is encoded in the bar code. To prevent this, select specific lengths (I 2 of 5 - One Discrete Length, Two Discrete Lengths) for I 2 of 5 applications.

Set Lengths for Interleaved 2 of 5 (continued)

*I 2 of 5 - One Discrete Length

Set Lengths for Interleaved 2 of 5 (continued)

I 2 of 5 - Two Discrete Lengths

Set Lengths for Interleaved 2 of 5 (continued)

I 2 of 5 - Length Within Range

Set Lengths for Interleaved 2 of 5 (continued)

I 2 of 5 - Any Length

I 2 of 5 Check Digit Verification

Parameter # 49

Enable this feature to check 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.

Options:

- *Disable I 2 of 5 Check Digit Verification
- USS Check Digit
- OPCC Check Digit.

***Disable**
(00h)

I 2 of 5 Check Digit Verification (continued)

USS Check Digit
(01h)

I 2 of 5 Check Digit Verification (continued)

OPCC Check Digit
(02h)

Transmit I 2 of 5 Check Digit

Parameter # 44

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

Options:

- Transmit I 2 of 5 Check Digit (Enable)
- *Do Not Transmit I 2 of 5 Check Digit (Disable).

Transmit I 2 of 5 Check Digit (Enable)
(01h)

Transmit I 2 of 5 Check Digit (continued)

*Do Not Transmit I 2 of 5 Check Digit (Disable)
(00h)

Convert I 2 of 5 to EAN-13

Parameter # 82

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.

Options:

- Convert I 2 of 5 to EAN-13 (Enable)
- *Do Not Convert I 2 of 5 to EAN-13 (Disable).

Convert I 2 of 5 to EAN-13 (Enable)
(01h)

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

*Do Not Convert I 2 of 5 to EAN-13 (Disable)
(00h)

Interleaved 2 of 5 Stitching

Parameter # 1204

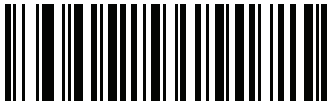
This parameter enables Interleaved 2 of 5 stitching. This helpful for decoding longer bar codes.

Options:

- Enable Interleaved 2 of 5 Stitching
- *Disable Interleaved 2 of 5 Stitching.

***Disable**

Interleaved 2 of 5 Stitching (continued)



Enable

Interleaved 2 of 5 Stitching Security Level

Parameter # 1207

This parameter sets the security level for Interleaved 2 of 5 bar codes. Select increasing levels of security for decreasing levels of bar code quality. There is an inverse relationship between security and digital scanner aggressiveness, so choose only that level of security necessary for any given application.

Options:

- Security Level 0 - This setting allows the digital scanner to operate in its most aggressive state, while providing sufficient security in decoding most "in-spec" bar codes.
- *Security Level 1 - This default setting eliminates most mis-decodes.
- Security Level 2 - Select this option if Security Level 1 fails to eliminate mis-decodes.
- Security Level 3 - If you selected Security Level 2 and mis-decodes still occur, select this security level.

IMPORTANT Selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the digital scanner. If you need this level of security, try to improve the quality of the bar codes.

- Security Level 4: If you selected Security Level 3 and mis-decodes still occur, select this security level.

IMPORTANT Selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the digital scanner. If you need this level of security, try to improve the quality of the bar codes.

Level 0

Interleaved 2 of 5 Stitching Security Level (continued)

*Level 1

Interleaved 2 of 5 Stitching Security Level (continued)

Level 2

Interleaved 2 of 5 Stitching Security Level (continued)

Level 3

Interleaved 2 of 5 Stitching Security Level (continued)

Level 4

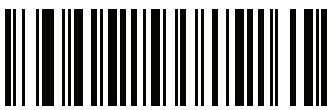
Interleaved 2 of 5 Marginless Mode

Parameter # 1210

This parameter allows decoding a bar code with relaxed requirement regarding the size of clear margin around the bar code

Options:

- Enable Marginless Mode
- *Disable Marginless Mode.



***Disable Marginless Mode**

Interleaved 2 of 5 Marginless Mode (continued)

Enable Marginless Mode

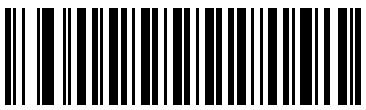
Discrete 2 of 5 (DTF/D 2 of 5)

Enable/Disable Discrete 2 of 5

Parameter # 5

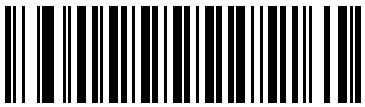
Options:

- Enable Discrete 2 of 5
- *Disable Discrete 2 of 5.



Enable Discrete 2 of 5
(01h)

Discrete 2 of 5 (DTF) (continued)



*Disable Discrete 2 of 5
(00h)

Set Lengths for Discrete 2 of 5

Parameter # L1 = 20, L2 = 21

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. The range for Discrete 2 of 5 lengths is 0 - 55.

Options:

- *D 2 of 5 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**, then scan **1** followed by **4**. To correct an error or to change the selection, scan *Cancel on page D-11*.
- D 2 of 5 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 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 on page D-11*.
- D 2 of 5 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** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan *Cancel on page D-11*.
- D 2 of 5 Any Length - Scan this option to decode D 2 of 5 symbols containing any number of characters within the MP6000's 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 transmit as a complete scan, yielding less data than is encoded in the bar code. To prevent this, select specific lengths (**D 2 of 5 - One Discrete Length, Two Discrete Lengths**) for D 2 of 5 applications.

Set Lengths for Discrete 2 of 5 (continued)

*D 2 of 5 - One Discrete Length

Set Lengths for Discrete 2 of 5 (continued)

D 2 of 5 - Two Discrete Lengths

Set Lengths for Discrete 2 of 5 (continued)

D 2 of 5 - Length Within Range

Set Lengths for Discrete 2 of 5 (continued)

D 2 of 5 - Any Length

Codabar (NW - 7)

Enable/Disable Codabar

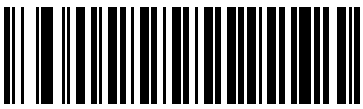
Parameter # 7

Options:

- Enable Codabar
- *Disable Codabar.

Enable Codabar
(01h)

Codabar (NW - 7) (continued)



*Disable Codabar
(00h)

Set Lengths for Codabar

Parameter # L1 = 24, L2 = 25

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. The range for Codabar lengths is 5 - 55.

Options:

- Codabar 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 on page D-11*.
- Codabar 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 on page D-11*.
- ***Codabar Length Within Range** - Select this option to decode a Codabar symbol with a specific length range. Select lengths using numeric bar codes in *Appendix D, NUMERIC BAR CODES*. For example, to decode Codabar symbols containing between 4 and 12 characters, first scan **Codabar - Length Within Range**. Then scan **0**, **4**, **1,** and **2** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan *Cancel on page D-11*.
- Codabar Any Length - Scan this option to decode Codabar symbols containing any number of characters within the MP6000's capability.

Set Lengths for Codabar (continued)

Codabar - One Discrete Length

Set Lengths for Codabar (continued)

Codabar - Two Discrete Lengths

Set Lengths for Codabar (continued)

*Codabar - Length Within Range

Set Lengths for Codabar (continued)

Codabar - Any Length

CLSI Editing

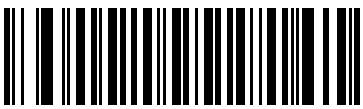
Parameter # 54

Enable this parameter to strip the start and stop characters and insert 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.

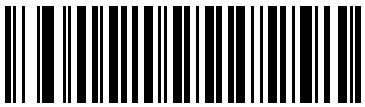
Options:

- Enable CLSI Editing
- *Disable CLSI Editing.



Enable CLSI Editing
(01h)

CLSI Editing (continued)



*Disable CLSI Editing
(00h)

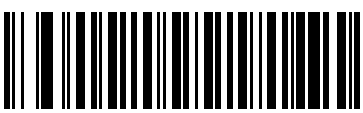
NOTIS Editing

Parameter # 55

Enable this parameter to strip the start and stop characters from a decoded Codabar symbol. Enable this feature if the host system requires this data format.

Options:

- Enable NOTIS Editing
- *Disable NOTIS Editing.



Enable NOTIS Editing
(01h)

NOTIS Editing (continued)

*Disable NOTIS Editing
(00h)

Codabar Upper or Lower Case Start/Stop Characters Detection

Parameter # 855

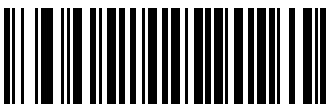
Select whether to detect upper case or lower case Codabar start/stop characters.

Options:

- Upper Case
- *Lower Case.

Upper Case
(00h)

Codabar Upper or Lower Case Start/Stop Characters Detection (continued)



*Lower Case
(01h)

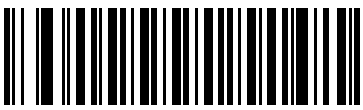
MSI

Enable/Disable MSI

Parameter # 11

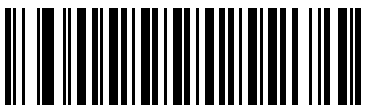
Options:

- Enable MSI
- *Disable MSI.



Enable MSI
(01h)

MSI (continued)



*Disable MSI
(00h)

Set Lengths for MSI

Parameter # L1 = 30, L2 = 31

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.

Options:

- MSI 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 on page D-11*.
- MSI 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 on page D-11*.
- *MSI 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** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan *Cancel on page D-11*.
- MSI Any Length - Scan this option to decode MSI symbols containing any number of characters within the MP6000's capability.

Set Lengths for MSI (continued)

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

MSI - One Discrete Length

Set Lengths for MSI (continued)

MSI - Two Discrete Lengths

Set Lengths for MSI (continued)

*MSI - Length Within Range

Set Lengths for MSI (continued)

MSI - Any Length

MSI Check Digits

Parameter # 50

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** bar code to enable verification of the second check digit.

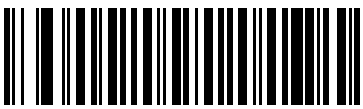
See *MSI Check Digit Algorithm on page 11-198* for the selection of second digit algorithms.

Options:

- *One MSI Check Digit
- Two MSI Check Digits.

***One MSI Check Digit**
(00h)

MSI Check Digits (continued)



Two MSI Check Digits
(01h)

Transmit MSI Check Digit(s)

Parameter # 46

Scan a bar code below to transmit MSI data with or without the check digit.

Options:

- Transmit MSI Check Digit(s) (Disable)
- *Do Not Transmit MSI Check Digit(s) (Disable).

Transmit MSI Check Digit(s) (Enable)
(01h)

Transmit MSI Check Digit(s) (continued)

*Do Not Transmit MSI Check Digit(s) (Disable)
(00h)

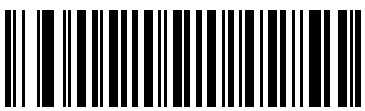
MSI Check Digit Algorithm

Parameter # 51

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

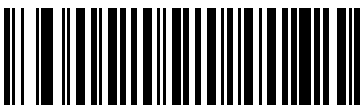
Options:

- MOD 10/MOD 11
- *MOD 10/MOD 10.



MOD 10/MOD 11
(00h)

MSI Check Digit Algorithm (continued)



*MOD 10/MOD 10
(01h)

Chinese 2 of 5

Enable/Disable Chinese 2 of 5

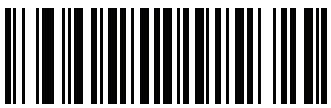
Parameter # 408

Options:

- Enable Chinese 2 of 5
- *Disable Chinese 2 of 5.

Enable Chinese 2 of 5
(01h)

Chinese 2 of 5 (continued)



*Disable Chinese 2 of 5
(00h)

Inverse 1D

Parameter # 586

This parameter sets the 1D inverse decoder setting.

Options:

- *Regular Only - the MP6000 decodes regular 1D bar codes only.
- Inverse Only - the MP6000 decodes inverse 1D bar codes only.
- Inverse Autodetect - the MP6000 decodes both regular and inverse 1D bar codes.

***Regular**
(00h)

Inverse 1D (continued)

Inverse Only
(01h)

Inverse 1D (continued)

Inverse Autodetect
(02h)

GS1 DataBar

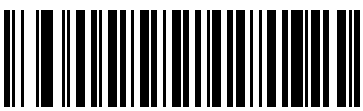
Parameter # 338

When **Enable GS1 DataBar** is scanned, the following GS1 DataBar types are supported:

- GS1 DataBar Omnidirectional
- GS1 DataBar Truncated
- GS1 DataBar Stacked
- GS1 DataBar Stacked Omnidirectional.

Options:

- Enable GS1 DataBar
- *Disable GS1 DataBar



Enable GS1 DataBar
(01h)

GS1 DataBar (continued)

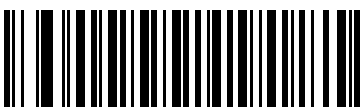
*Disable GS1 DataBar
(00h)

GS1 DataBar Limited

Parameter # 339

Options:

- Enable GS1 DataBar Limited
- *Disable GS1 DataBar Limited.



Enable GS1 DataBar Limited (01h)

GS1DataBar Limited (continued)

*Disable GS1 DataBar Limited
(00h)

GS1 DataBar Expanded

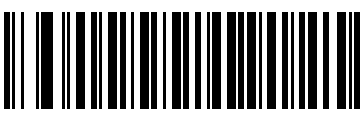
Parameter # 340

When **Enable GS1 DataBar Expanded** is scanned, the following GS1 DataBar Expanded types are supported:

- GS1 DataBar Expanded
- GS1 DataBar Expanded Stacked.

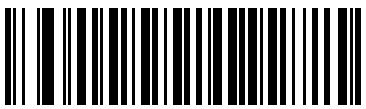
Options:

- Enable GS1 DataBar Expanded
- *Disable GS1 DataBar Expanded.



Enable GS1 DataBar Expanded (01h)

GS1 DataBar Expanded (continued)



***Disable GS1 DataBar Expanded**
(00h)

GS1 DataBar Limited Security Level

Parameter # 728

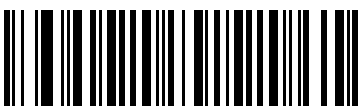
The MP6000 offers four levels of decode security for GS1 DataBar Limited bar codes. There is an inverse relationship between security and digital scanner aggressiveness. Increasing the level of security may result in reduced aggressiveness in scanning, so only choose the level of security necessary.

- Level 1 - No clear margin required. This complies with the original GS1 standard, yet might result in erroneous[1] decoding of the DataBar Limited bar code 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 scanner 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
(01h)

1.May result in erroneous decoding due to Databar Limited and UPC symbologies.

GS1 DataBar Limited Security Level (continued)

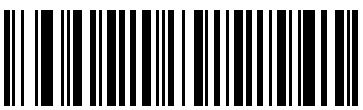


Security Level 2
(02h)

GS1 DataBar Limited Security Level (continued)

***Security Level 3**
(03h)

GS1 DataBar Limited Security Level (continued)



Security Level 4
(04h)

Convert GS1 DataBar to UPC/EAN

Parameter # 397

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 bar code 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 bar code 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.

Options:

- Enable Convert GS1 DataBar to UPC/EAN
- *Disable Convert GS1 DataBar to UPC/EAN.

Enable Convert GS1 DataBar to UPC/EAN
(01h)

Convert GS1 DataBar to UPC/EAN (continued)

***Disable Convert GS1 DataBar to UPC/EAN**
(00h)

Composite

Composite CC-C

Parameter # 341

Options:

- Enable CC-C
- *Disable CC-C.

Enable CC-C
(01h)

Composite (continued)

*Disable CC-C
(00h)

Composite CC-A/B

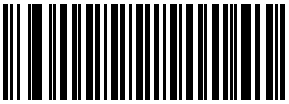
Parameter # 342

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

NOTE If you enable this code type, also see *UPC Composite Mode on page 11-223*.

Options:

- Enable CC-A/B
- *Disable CC-A/B.



Enable CC-A/B
(01h)

Composite CC-A/B (continued)

*Disable CC-A/B
(00h)

Composite TLC-39

Parameter # 371

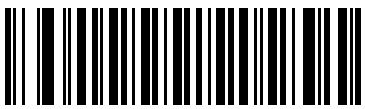
Scan a bar code below to enable or disable Composite bar codes of type TLC-39.

Options:

- Enable TLC39
- *Disable TLC39.

Enable TLC39
(01h)

Composite TLC-39 (continued)



*Disable TLC39
(00h)

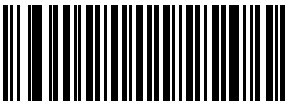
UPC Composite Mode

Parameter # 344

If you enable *Composite CC-A/B on page 11-219*, select an option for linking UPC symbols with a 2D symbol during transmission as if they were one symbol.

Options:

- *UPC Never Linked - Transmit UPC bar codes regardless of whether a 2D symbol is detected.
- UPC Always Linked - Transmit UPC bar codes and the 2D portion.
  If 2D is not present, the UPC bar code does not transmit.
- Autodiscriminate UPC Composites - The MP6000 determines if there is a 2D portion, then transmits the UPC, as well as the 2D portion if present.

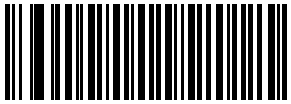


***UPC Never Linked**
(00h)

UPC Composite Mode (continued)

UPC Always Linked
(01h)

UPC Composite Mode (continued)



Autodiscriminate UPC Composites
(02h)

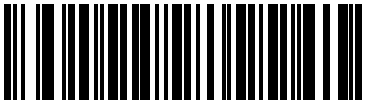
Composite Beep Mode

Parameter # 398

To select the number of decode beeps when a composite bar code is decoded, scan the appropriate bar code.

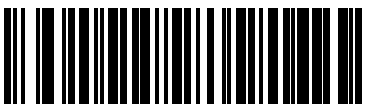
Options:

- Single Beep After Both are Decoded
- *Beep as Each Code Type is Decoded
- Double Beep After Both are Decoded.



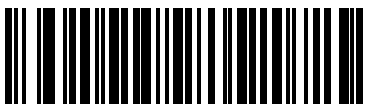
Single Beep After Both are Decoded (00h)

Composite Beep Mode (continued)



***Beep as Each Code Type is Decoded**
(01h)

Composite Beep Mode (continued)



Double Beep After Both are Decoded (02h)

GS1-128 Emulation Mode for UCC/EAN Composite Codes

Parameter # 427

Options:

- Enable GS1-128 Emulation Mode for UCC/EAN Composite Codes
- *Disable GS1-128 Emulation Mode for UCC/EAN Composite Codes.

Enable GS1-128 Emulation Mode for UCC/EAN Composite Codes (01h)

GS1-128 Emulation Mode for UCC/EAN Composite Codes (continued)

***Disable GS1-128 Emulation Mode for UCC/EAN Composite Codes (00h)**

2D Symbologies

Enable/Disable PDF417

Parameter # 15

Enable or disable PDF417.

Options:

- Enable PDF417
- *Disable PDF417.

Enable PDF417
(01h)

2D Symbologies (continued)

***Disable PDF417**
(00h)

Enable/Disable MicroPDF417

Parameter # 227

Enable or disable MicroPDF417.

Options:

- Enable MicroPDF417
- *Disable MicroPDF417.

Enable MicroPDF417
(01h)

Enable/Disable MicroPDF417 (continued)

***Disable MicroPDF417**
(00h)

Code 128 Emulation

Parameter # 123

Enable this parameter to transmit data from certain MicroPDF417 symbols as Code 128. *AIM Code ID Character (01h) on page 5-127* must be enabled for this parameter to work.

Enable Code 128 Emulation to transmit these MicroPDF417 symbols with one of the following prefixes:

]C1	if the first codeword is 903-905
]C2	if the first codeword is 908 or 909
]C0	if the first codeword is 910 or 911

Disable Code 128 Emulation to transmit these MicroPDF417 symbols with one of the following prefixes:

]L3	if the first codeword is 903-905
]L4	if the first codeword is 908 or 909
]L5	if the first codeword is 910 or 911

Enable or disable Code 128 Emulation.

✓ ***NOTE*** Linked MicroPDF codewords 906, 907, 912, 914, and 915 are not supported. Use GS1 Composites instead.

Options:

- Enable Code 128 Emulation
- *Disable Code 128 Emulation.

Enable Code 128 Emulation
(01h)

Code 128 Emulation (continued)

*Disable Code 128 Emulation
(00h)

Data Matrix

Parameter # 292

Options:

- Enable Data Matrix
- *Disable Data Matrix.

Enable Data Matrix
(01h)

Data Matrix (continued)

***Disable Data Matrix**
(00h)

Data Matrix Inverse

Parameter # 588

This parameter sets the Data Matrix inverse decoder setting.

Options:

- *Regular Only - The MP6000 decodes regular Data Matrix bar codes only.
- Inverse Only - The MP6000 decodes inverse Data Matrix bar codes only.
- Inverse Autodetect - The MP6000 decodes both regular and inverse Data Matrix bar codes.

***Regular Only**
(00h)

Data Matrix Inverse (continued)

Inverse Only
(01h)

Data Matrix Inverse (continued)

Inverse Autodetect
(02h)

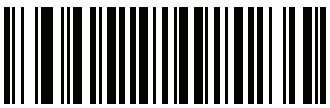
GS1 Data Matrix

Parameter # 1336

Enable or disable GS1 Data Matrix.

Options:

- Enable
- *Disable.



Enable GS1 Data Matrix (01h)

GS1 Data Matrix

***Disable GS1 Data Matrix**
(00h)

QR Code

Parameter # 293

Enable or disable QR Code.

Options:

- Enable QR Code
- *Disable QR Code.

Enable QR Code
(01h)

QR Code (continued)

***Disable QR Code**
(00h)

QR Inverse

Parameter # 587

This parameter sets the QR inverse decoder setting.

Options:

- *Regular Only - the MP6000 decodes regular QR bar codes only.
- Inverse Only - the MP6000 decodes inverse QR bar codes only.
- Inverse Autodetect - the MP6000 decodes both regular and inverse QR bar codes.

***Regular Only**
(00h)

QR Inverse (continued)

Inverse Only
(01h)

QR Inverse (continued)

Inverse Autodetect
(02h)

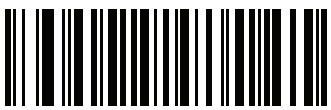
GS1 QR

Parameter # 1343

Enable or disable GS1 QR.

Options:

- Enable GS1 QR
- *Disable GS1 QR.



Enable GS1 QR
(01h)

GS1 QR (continued)

***Disable GS1 QR**
(00h)

MicroQR

Parameter # 573

Enable or disable MicroQR.

Options:

- Enable MicroQR
- *Disable MicroQR.

Enable MicroQR
(01h)

MicroQR (continued)

*Disable MicroQR
(00h)

Aztec

Parameter # 574

Enable or disable Aztec.

Options:

- Enable Aztec
- *Disable Aztec.

Enable Aztec
(01h)

Aztec (continued)

*Disable Aztec
(00h)

Aztec Inverse

Parameter # 589

This parameter sets the Aztec inverse decoder setting.

Options:

- *Regular Only - the MP6000 decodes regular Aztec bar codes only.
- Inverse Only - the MP6000 decodes inverse Aztec bar codes only.
- Inverse Autodetect - the MP6000 decodes both regular and inverse Aztec bar codes.

***Regular Only**
(00h)

Aztec Inverse (continued)

Inverse Only
(01h)

Aztec Inverse (continued)

Inverse Autodetect
(02h)

Redundancy Level

Parameter # 78

The MP6000 offers four levels of decode redundancy. Select higher redundancy levels for decreasing levels of bar code quality. As redundancy levels increase, the MP6000's aggressiveness decreases.

Select the redundancy level appropriate for the bar code quality.

Options:

- *Redundancy Level 1
- Redundancy Level 2
- Redundancy Level 3
- Redundancy Level 4.

Redundancy Level 1

The following code types must be successfully read twice before being decoded:

Table 11-2 *Redundancy Level 1 Codes*

Code Type	Code Length
Codabar	8 characters or less
MSI	4 characters or less
D 2 of 5	8 characters or less
I 2 of 5	8 characters or less

Redundancy Level 2

The following code types must be successfully read twice before being decoded:

Table 11-3 *Redundancy Level 2 Codes*

Code Type	Code Length
All	All

Redundancy Level 3

Code types other than the following must be successfully read twice before being decoded. The following codes must be read three times:

Table 11-4 *Redundancy Level 3 Codes*

Code Type	Code Length
MSI	4 characters or less
D 2 of 5	8 characters or less
I 2 of 5	8 characters or less
Codabar	8 characters or less

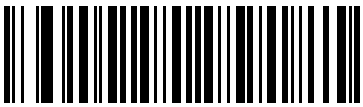
Redundancy Level 4

The following code types must be successfully read three times before being decoded:

Table 11-5 *Redundancy Level 4 Codes*

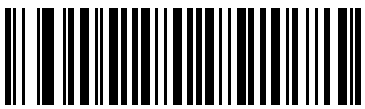
Code Type	Code Length
All	All

Redundancy Level (continued)



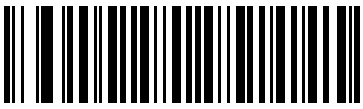
***Redundancy Level 1**
(01h)

Redundancy Level (continued)



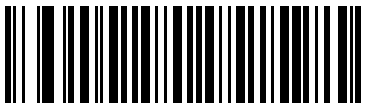
Redundancy Level 2
(02h)

Redundancy Level (continued)



Redundancy Level 3
(03h)

Redundancy Level (continued)



Redundancy Level 4
(04h)

Security Level

Parameter # 77

The MP6000 offers four levels of decode security for delta bar codes, which include UPC/EAN and Code 93. Select increasing levels of security for decreasing levels of bar code quality. There is an inverse relationship between security and digital scanner aggressiveness, so choose only that level of security necessary for any given application.

Options:

- Security Level 0 **-** This setting allows the MP6000 to operate in its most aggressive state, while providing sufficient security in decoding most “in-spec” bar codes.
- *Security Level 1 **-** This default setting eliminates most misdecodes.
- Security Level 2 **-** Select this option if Security level 1 fails to eliminate misdecodes.
- Security Level 3 **-** If you selected Security Level 2 and misdecodes still occur, select this security level. Be advised, selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the MP6000. If you need this level of security, try to improve the quality of the bar codes.

Security Level 0
(00h)

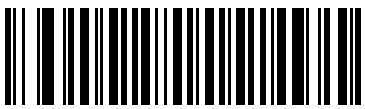
Security Level (continued)

*Security Level 1
(01h)

Security Level (continued)

Security Level 2
(02h)

Security Level (continued)



Security Level 3
(03h)

Intercharacter Gap Size

Parameter # 381

The Code 39 and Codabar symbologies have an intercharacter gap that is typically quite small. Due to various bar code-printing technologies, this gap can grow larger than the maximum size allowed, preventing the MP6000 from decoding the symbol. If this problem occurs, scan the **Large Intercharacter Gaps** parameter to tolerate these out-of-specification bar codes.

Options:

- *Normal Intercharacter Gaps
- Large Intercharacter Gaps.

***Normal Intercharacter Gaps**
(06h)

Intercharacter Gap Size (continued)

Large Intercharacter Gaps (0Ah)

Macro PDF Features

Macro PDF is a special feature for concatenating multiple PDF symbols into one file. The scanner can decode symbols that are encoded with this feature, and can store more than 64 Kb of decoded data stored in up to 50 MacroPDF 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. If, when scanning a mixed sequence, the MP6000 emits two long low beeps (Low/Low) this indicates an inconsistent file ID or inconsistent symbology error.

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 12 DRIVER'S LICENSE SET UP

Introduction

The MP6000 is capable of parsing out information from standard US driver's licenses and certain other American Association of Motor Vehicle Administrators (AAMVA) compliant ID cards. This is achieved using internally embedded algorithms, where scanning bar codes activates algorithms internally embedded in the digital scanner to produce formatted data. Use the formatted data for age verification, credit card application information, and more.

This chapter describes how to program the MP6000 to read and use the data contained in the 2D bar codes on US driver's licenses and AAMVA compliant ID cards.

Table 12-1 *DL Parsing Parameter Table*

Parameter	Default	Page Number
DL Parsing Parameters		
Driver's License Parsing	No Driver's License Parsing	*12-5*
Driver's License Parse Field Bar Codes Begin New Driver's License Parse Rule Save Driver's License Parse Rule Quit Entering Driver's License Rule Erase Driver's License Parse Rules First Name Middle Name/Initial Last Name Name Suffix Name Prefix Expiration Date Birth Date Issue Date ID Number (Formatted)	N/A	*12-8*

Table 12-1 *DL Parsing Parameter Table (Continued)*

Parameter			Default	Page Number
AAMVA Parse Field Bar Codes			N/A	*12-21*
AAMVA Issuer ID	Weight (Pounds)	AKA Birth Date		
Full Name	Weight (Kilograms)	Issue Timestamp		
Last Name	Eye Color	Number of Duplicates		
First Name	Hair Color	Medical Codes		
Middle Name / Initial	License Expiration Date	Organ Donor		
Name Suffix	Birth Date	Nonresident		
Name Prefix	Gender	Customer ID		
Mailing Address Line 1	License Issue Date	Weight Range		
Mailing Address Line 2	License Issue State	Document Discriminator		
Mailing Address City	Social Security Number	Country		
Mailing Address State	Permit Class	Federal Commission Codes		
Mailing Address Postal Code	Permit Expiration Date	Place of Birth		
Home Address Line 1	Permit ID Number	Audit Information		
Home Address Line 2	Permit Issue Date	Inventory Control		
Home Address City	Permit Restrictions	Race / Ethnicity		
Home Address State	Permit Endorsements	Std Vehicle Class		
Home Address Postal Code	AKA Social Security Name	Std Endorsements		
License ID Number	AKA Full Name	Std Restrictions		
License Class	AKA Last Name	Class Description		
License Restrictions	AKA First Name	Endorsement Description		
License Endorsements	AKA Middle Name / Initial	Restrictions Description		
Height (Feet and/or Inches)	AKA Name Suffix	Height in Inches		
Height (Centimeters)	AKA Name Prefix	Height in Centimeters		
Set Default Parameter			N/A	*12-91*
Output Gender as M or F			N/A	*12-92*
Date Format			CCYYMMDD	*12-93*
*CCYYMMDD	YYDDMM			
CCYYDDMM	MMDDYY			
MMDDCCYY	MMYYDD			
MMCCYYDD	DDMMYY			
DDMMCCYY	DDYYMM			
DDCCYYMM	No Separator			
YYMMDD				
Send Keystroke				
Control Characters			N/A	*12-106*
Send Control A	Send Control L	Send Control V		
Send Control B	Send Control M	Send Control W		
Send Control C	Send Control N	Send Control X		
Send Control D	Send Control O	Send Control Y		
Send Control E	Send Control P	Send Control Z		
Send Control F	Send Control Q	Send Control [		
Send Control G	Send Control R	Send Control \		
Send Control H	Send Control S	Send Control]		
Send Control I	Send Control T	Send Control 6		
Send Control J	Send Control U	Send Control -		
Send Control K				

Table 12-1 *DL Parsing Parameter Table (Continued)*

Parameter	Default	Page Number
Keyboard Characters Send Space, Send !, Send ", Send #, Send $, Send %, Send &, Send ', Send (, Send), Send *, Send +, Send ,, Send -, Send ., Send /, Send 0, Send 1, Send 2, Send 3, Send 4, Send 5, Send 6, Send 7, Send 8, Send 9, Send :, Send ;, Send <, Send =, Send >, Send ?, Send @, Send A, Send B, Send C, Send D, Send E, Send F, Send G, Send H, Send I, Send J, Send K, Send L, Send M, Send N, Send O, Send P, Send Q, Send R, Send S, Send T, Send U, Send V, Send W, Send X, Send Y, Send Z, Send [, Send \, Send], Send ^, Send _, Send `, Send a, Send b, Send c, Send d, Send e, Send f, Send g, Send h, Send i, Send j, Send k, Send l, Send m, Send n, Send o, Send p, Send q, Send r, Send s, Send t, Send u, Send v, Send w, Send x, Send y, Send z, Send {, Send |, Send }, Send ~, Send Tab Key, Send Enter Key		*12-137*
Parsing Rule Example When the sample bar codes are scanned in the numbered sequence (followed by a driver's license bar code) this example programs the scanner to extract and transmit first, middle, and last names; mailing address line 1; mailing address line 2; mailing address city; mailing address state; mailing address postal code; and, date of birth. 1 Embedded Driver's License Parsing 2 Begin New Driver's License Parse Rule 3 First Name 4 Send Space 5 Middle Name / Initial 6 Send Space 7 Last Name 8 Send Enter Key 9 Mailing Address Line 1 10 Send Space 11 Mailing Address Line 2 12 Send Enter Key 13 Mailing Address City 14 Send Space 15 Mailing Address State 16 Send Space 17 Mailing Address Postal Code 18 Send Enter Key 19 Birth Date 20 Send Enter Key 21 Save Driver's Licence Parse Rule	N/A	*12-234*

Table 12-1 *DL Parsing Parameter Table (Continued)*

Parameter	Default	Page Number
Embedded Driver's License Parsing ADF Example When the sample bar codes are scanned in the numbered sequence this example creates a parsing rule for parsed data configured to result in the format: Last Name, First Name. 1 Begin New Driver's License Parse Rule 2 Last Name 3 Send , 4 Send Space 5 First Name 6 Save Driver's Licence Parse Rule Then, in order to limit the full name to 15 characters, create the following ADF rule: 1 Begin New Rule 2 Criterion: Parsed Driver's License 3 Action: Send Next 15 Characters 4 Save Rule For a license belonging to Michael Williams, the parsed data is Williams, Michael and Williams, Micha after applying the previous ADF rule.	N/A	*12-255*

Driver's License Parsing

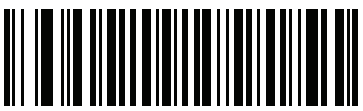
To enable driver's license parsing on the digital scanner, scan the **Embedded Driver's License Parsing** bar code. This does not require Zebra software (.DLL).

Scan the bar codes on the following pages in the order indicating the sequence of data fields that the digital scanner outputs. See *Parsing Driver's License Data Fields (Embedded Driver's License Parsing) on page 12-7* for more information.

No Driver's License Parsing

***No Driver's License Parsing**

Embedded Driver's License Parsing



Embedded Driver's License Parsing

Parsing Driver's License Data Fields (Embedded Driver's License Parsing)

To begin programming a parsing rule:

1. Scan *Begin New Driver's License Parse Rule on page 12-8*.
2. Scan any of the field bar codes on the following pages, or ***Send Keystroke (Control Characters and Keyboard Characters) on page 12-106*** to complete the parsing rule.
3. After entering the entire rule, scan *Save Driver's License Parse Rule on page 12-9* to save the rule.

> ***NOTE*** Only ONE driver's license parsing rule may be stored in memory at any time. Saving a new rule replaces the prior rule.

To abort the programming sequence at any time during programming, scan *Quit Entering Driver's License Rule on page 12-10*. Any previously saved rule is retained.

To erase a programmed saved rule, scan *Erase Driver's License Parse Rules on page 12-11*.

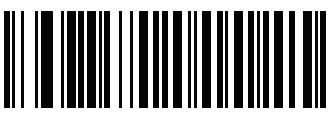
Embedded Driver's License Parsing Criteria - Code Type

After specifying the fields and their order for the parsed driver's license, you can also apply standard ADF rules to the parsed data using the **Parsed Driver's License** criterion bar code in the *Advanced Data Formatting Programmer Guide.*

> ***NOTE*** Only create standard ADF rules on parsed driver's license data when configured for Embedded Driver's License Parsing.

See *Embedded Driver's License Parsing ADF Example on page 12-255* for a sample ADF rule using this code type criterion.

Driver's License Parse Field Bar Codes



Begin New Driver's License Parse Rule

Driver's License Parse Field Bar Codes (continued)

Save Driver's License Parse Rule

Driver's License Parse Field Bar Codes (continued)

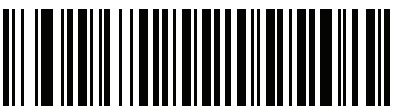
Quit Entering Driver's License Rule

Driver's License Parse Field Bar Codes (continued)

Erase Driver's License Parse Rules

Driver's License Parse Field Bar Codes (continued)

The parse fields currently supported begin below. Not all IDs present data in the same format. For example, some IDs may have separate fields for first name, last name, and middle initial, and others may have a single field with the entire name. In addition, some IDs may expire on the subject's birth date and the actual expiration date field may only indicate the year. In order to present data in a consistent format, the following nine bar codes return data that may be calculated from the actual data contained within the ID bar code.



First Name

Driver's License Parse Field Bar Codes (continued)

Middle Name/Initial

Driver's License Parse Field Bar Codes (continued)

Last Name

Driver's License Parse Field Bar Codes (continued)

Name Suffix

Driver's License Parse Field Bar Codes (continued)

Name Prefix

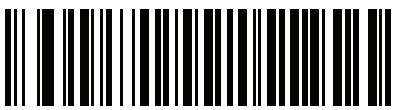
Driver's License Parse Field Bar Codes (continued)

Expiration Date

Driver's License Parse Field Bar Codes (continued)

Birth Date

Driver's License Parse Field Bar Codes (continued)



Issue Date

Driver's License Parse Field Bar Codes (continued)

ID Number (Formatted)

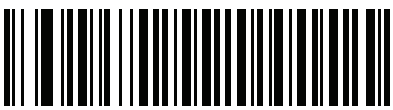
AAMVA Parse Field Bar Codes

AAMVA Issuer ID

AAMVA Parse Field Bar Codes (continued)

Full Name

AAMVA Parse Field Bar Codes (continued)



Last Name

AAMVA Parse Field Bar Codes (continued)

First Name

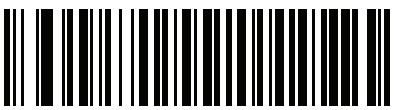
AAMVA Parse Field Bar Codes (continued)

Middle Name / Initial

AAMVA Parse Field Bar Codes (continued)

Name Suffix

AAMVA Parse Field Bar Codes (continued)



Name Prefix

AAMVA Parse Field Bar Codes (continued)

Mailing Address Line 1

AAMVA Parse Field Bar Codes (continued)

Mailing Address Line 2

AAMVA Parse Field Bar Codes (continued)

Mailing Address City

AAMVA Parse Field Bar Codes (continued)

Mailing Address State

AAMVA Parse Field Bar Codes (continued)

Mailing Address Postal Code

AAMVA Parse Field Bar Codes (continued)

Home Address Line 1

AAMVA Parse Field Bar Codes (continued)

Home Address Line 2

AAMVA Parse Field Bar Codes (continued)

Home Address City

AAMVA Parse Field Bar Codes (continued)

Home Address State

AAMVA Parse Field Bar Codes (continued)

Home Address Postal Code

AAMVA Parse Field Bar Codes (continued)

License ID Number

AAMVA Parse Field Bar Codes (continued)

License Class

AAMVA Parse Field Bar Codes (continued)

License Restrictions

AAMVA Parse Field Bar Codes (continued)

License Endorsements

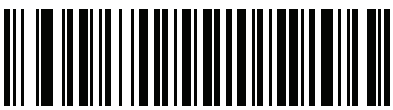
AAMVA Parse Field Bar Codes (continued)

Height (Feet and/or Inches)

AAMVA Parse Field Bar Codes (continued)

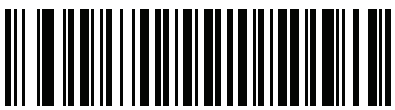
Height (Centimeters)

AAMVA Parse Field Bar Codes (continued)



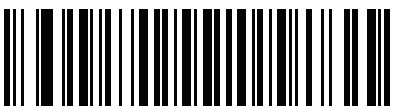
Weight (Pounds)

AAMVA Parse Field Bar Codes (continued)



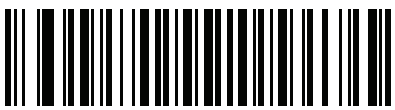
Weight (Kilograms)

AAMVA Parse Field Bar Codes (continued)



Eye Color

AAMVA Parse Field Bar Codes (continued)

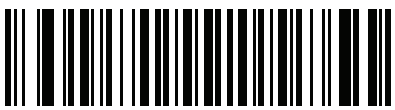


Hair Color

AAMVA Parse Field Bar Codes (continued)

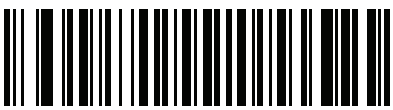
License Expiration Date

AAMVA Parse Field Bar Codes (continued)



Birth Date

AAMVA Parse Field Bar Codes (continued)



Gender

AAMVA Parse Field Bar Codes (continued)

License Issue Date

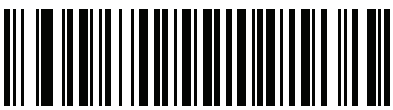
AAMVA Parse Field Bar Codes (continued)

License Issue State

AAMVA Parse Field Bar Codes (continued)

Social Security Number

AAMVA Parse Field Bar Codes (continued)



Permit Class

AAMVA Parse Field Bar Codes (continued)

Permit Expiration Date

AAMVA Parse Field Bar Codes (continued)

Permit ID Number

AAMVA Parse Field Bar Codes (continued)

Permit Issue Date

AAMVA Parse Field Bar Codes (continued)

Permit Restrictions

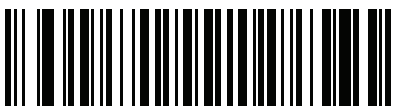
AAMVA Parse Field Bar Codes (continued)

Permit Endorsements

AAMVA Parse Field Bar Codes (continued)

AKA Social Security Name

AAMVA Parse Field Bar Codes (continued)



AKA Full Name

AAMVA Parse Field Bar Codes (continued)

AKA Last Name

AAMVA Parse Field Bar Codes (continued)

AKA First Name

AAMVA Parse Field Bar Codes (continued)

AKA Middle Name / Initial

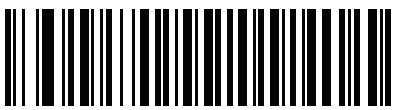
AAMVA Parse Field Bar Codes (continued)

AKA Name Suffix

AAMVA Parse Field Bar Codes (continued)

AKA Name Prefix

AAMVA Parse Field Bar Codes (continued)



AKA Birth Date

AAMVA Parse Field Bar Codes (continued)

Issue Timestamp

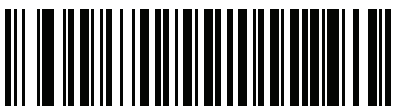
AAMVA Parse Field Bar Codes (continued)

Number of Duplicates

AAMVA Parse Field Bar Codes (continued)

Medical Codes

AAMVA Parse Field Bar Codes (continued)

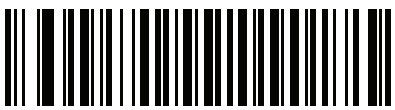


Organ Donor

AAMVA Parse Field Bar Codes (continued)

Nonresident

AAMVA Parse Field Bar Codes (continued)



Customer ID

AAMVA Parse Field Bar Codes (continued)

Weight Range

AAMVA Parse Field Bar Codes (continued)

Document Discriminator

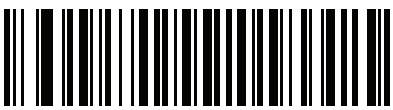
AAMVA Parse Field Bar Codes (continued)

Country

AAMVA Parse Field Bar Codes (continued)

Federal Commission Codes

AAMVA Parse Field Bar Codes (continued)



Place of Birth

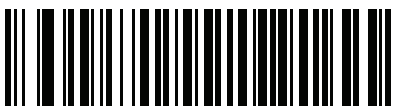
AAMVA Parse Field Bar Codes (continued)

Audit Information

AAMVA Parse Field Bar Codes (continued)

Inventory Control

AAMVA Parse Field Bar Codes (continued)



Race / Ethnicity

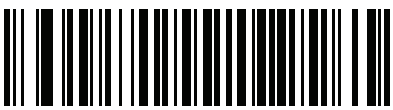
AAMVA Parse Field Bar Codes (continued)

Std Vehicle Class

AAMVA Parse Field Bar Codes (continued)

Std Endorsements

AAMVA Parse Field Bar Codes (continued)

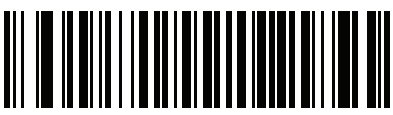


Std Restrictions

AAMVA Parse Field Bar Codes (continued)

Class Description

AAMVA Parse Field Bar Codes (continued)

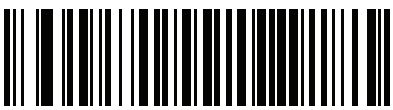


Endorsement Description

AAMVA Parse Field Bar Codes (continued)

Restrictions Description

AAMVA Parse Field Bar Codes (continued)



Height in Inches

AAMVA Parse Field Bar Codes (continued)

Height in Centimeters

Parser Version ID Bar Codes

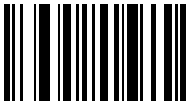
Include this field to emit embedded parser software version identification.

Parser Version ID

User Preferences

Set Default Parameter

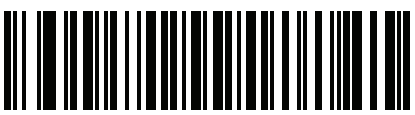
Scan this bar code to return all parameters to the default values listed in *Table A-1 on page A-1*.



***Set All Defaults**

Output Gender as M or F

Scan this bar code to report the gender as **M** or **F** instead of a numeric value**.**



Output gender as M or F

Date Format

Use these bar codes to select the date format that is displayed. Date fields include the following:

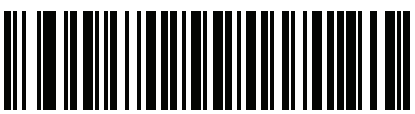
- **CCYY** = 4-digit year (**CC**=2-digit century [00-99], **YY**=2-digit year in the century [00-99])
- **MM** = 2-digit month [01-12]
- **DD** = 2-digit day of the month [00-31]

The default is Date Format **CCYYMMDD**.

NOTE To specify a date separator, i.e., a character separating each field of the date, scan the **Send <character>** bar code that corresponds to the alphanumeric character to use as the date separator immediately following the date format bar code. To select no date separator, scan the **No Separator** DL parsing rule immediately following the date format bar code.

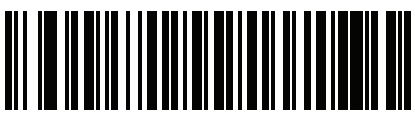
***CCYYMMDD**

Date Format (continued)



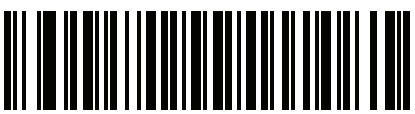
CCYYDDMM

Date Format (continued)



MMDDCCYY

Date Format (continued)



MMCCYYDD

Date Format (continued)

DDMMCCYY

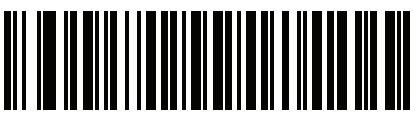
Date Format (continued)

DDCCYYMM

Date Format (continued)

YYMMDD

Date Format (continued)



YYDDMM

Date Format (continued)

MMDDYY

Date Format (continued)

MMYYDD

Date Format (continued)

DDMMYY

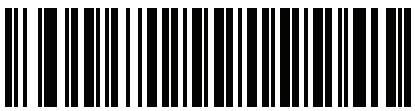
Date Format (continued)

DDYYMM

Date Format (continued)

No Separator

Scan this bar code immediately following a date format bar code to use no separator character between the date fields.



No Separator

Send Keystroke (Control Characters and Keyboard Characters)

Control Characters

Scan a **Send** bar code for the keystroke to send.

Send Control A

Control Characters (continued)

Send Control B

Control Characters (continued)

Send Control C

Control Characters (continued)

Send Control D

Control Characters (continued)

Send Control E

Control Characters (continued)

Send Control F

Control Characters (continued)

Send Control G

Control Characters (continued)

Send Control H

Control Characters (continued)

Send Control I

Control Characters (continued)

Send Control J

Control Characters (continued)

Send Control K

Control Characters (continued)

Send Control L

Control Characters (continued)

Send Control M

Control Characters (continued)

Send Control N

Control Characters (continued)

Send Control O

Control Characters (continued)

Send Control P

Control Characters (continued)

Send Control Q

Control Characters (continued)

Send Control R

Control Characters (continued)

Send Control S

Control Characters (continued)

Send Control T

Control Characters (continued)

Send Control U

Control Characters (continued)

Send Control V

Control Characters (continued)

Send Control W

Control Characters (continued)

Send Control X

Control Characters (continued)

Send Control Y

Control Characters (continued)

Send Control Z

Control Characters (continued)

Send Control [

Control Characters (continued)

**Send Control **

Control Characters (continued)

Send Control]

Control Characters (continued)

Send Control 6

Control Characters (continued)

Send Control -

Keyboard Characters

Scan a **Send** bar code for the keyboard characters to send.

Send Space

Keyboard Characters (continued)

Send !

Keyboard Characters (continued)

Send "

Keyboard Characters (continued)

Send #

Keyboard Characters (continued)

Send $

Keyboard Characters (continued)

Send %

Keyboard Characters (continued)

Send &

Keyboard Characters (continued)

Send ‘

Keyboard Characters (continued)

Send (

Keyboard Characters (continued)

Send)

Keyboard Characters (continued)

Send *

Keyboard Characters (continued)

Send +

Keyboard Characters (continued)

Send ,

Keyboard Characters (continued)

Send -

Keyboard Characters (continued)

Send .

Keyboard Characters (continued)

Send /

Keyboard Characters (continued)

Send 0

Keyboard Characters (continued)

Send 1

Keyboard Characters (continued)

Send 2

Keyboard Characters (continued)

Send 3

Keyboard Characters (continued)

Send 4

Keyboard Characters (continued)

Send 5

Keyboard Characters (continued)

Send 6

Keyboard Characters (continued)

Send 7

Keyboard Characters (continued)

Send 8

Keyboard Characters (continued)

Send 9

Keyboard Characters (continued)

Send :

Keyboard Characters (continued)

Send ;

Keyboard Characters (continued)

Send <

Keyboard Characters (continued)

Send =

Keyboard Characters (continued)

Send >

Keyboard Characters (continued)

Send ?

Keyboard Characters (continued)

Send @

Keyboard Characters (continued)

Send A

Keyboard Characters (continued)

Send B

Keyboard Characters (continued)

Send C

Keyboard Characters (continued)

Send D

Keyboard Characters (continued)

Send E

Keyboard Characters (continued)

Send F

Keyboard Characters (continued)

Send G

Keyboard Characters (continued)

Send H

Keyboard Characters (continued)

Send I

Keyboard Characters (continued)

Send J

Keyboard Characters (continued)

Send K

Keyboard Characters (continued)

Send L

Keyboard Characters (continued)

Send M

Keyboard Characters (continued)

Send N

Keyboard Characters (continued)

Send O

Keyboard Characters (continued)

Send P

Keyboard Characters (continued)

Send Q

Keyboard Characters (continued)

Send R

Keyboard Characters (continued)

Send S

Keyboard Characters (continued)

Send T

Keyboard Characters (continued)

Send U

Keyboard Characters (continued)

Send V

Keyboard Characters (continued)

Send W

Keyboard Characters (continued)

Send X

Keyboard Characters (continued)

Send Y

Keyboard Characters (continued)

Send Z

Keyboard Characters (continued)

Send [

Keyboard Characters (continued)

**Send **

Keyboard Characters (continued)

Send]

Keyboard Characters (continued)

Send ^

Keyboard Characters (continued)

Send _

Keyboard Characters (continued)

Send `

Keyboard Characters (continued)

Send a

Keyboard Characters (continued)

Send b

Keyboard Characters (continued)

Send c

Keyboard Characters (continued)

Send d

Keyboard Characters (continued)

Send e

Keyboard Characters (continued)

Send f

Keyboard Characters (continued)

Send g

Keyboard Characters (continued)

Send h

Keyboard Characters (continued)

Send i

Keyboard Characters (continued)

Send j

Keyboard Characters (continued)

Send k

Keyboard Characters (continued)

Send I

Keyboard Characters (continued)

Send m

Keyboard Characters (continued)

Send n

Keyboard Characters (continued)

Send o

Keyboard Characters (continued)

Send p

Keyboard Characters (continued)

Send q

Keyboard Characters (continued)

Send r

Keyboard Characters (continued)

Send s

Keyboard Characters (continued)

Send t

Keyboard Characters (continued)

Send u

Keyboard Characters (continued)

Send v

Keyboard Characters (continued)

Send w

Keyboard Characters (continued)

Send x

Keyboard Characters (continued)

Send y

Keyboard Characters (continued)

Send z

Keyboard Characters (continued)

Send {

Keyboard Characters (continued)

Send |

Keyboard Characters (continued)

Send }

Keyboard Characters (continued)

Send ~

Keyboard Characters (continued)

Send Tab Key

Keyboard Characters (continued)

Send Enter Key

Parsing Rule Example

Scan the following bar codes in sequence to program the scanner to extract and transmit first, middle, and last names; mailing address line 1; mailing address line 2; mailing address city; mailing address state; mailing address postal code; and, date of birth. Then, scan a driver's license bar code.

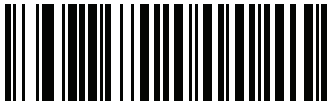
NOTE This example applies to RS-232. To use this example with a USB interface, scan *Enable Function Key Mapping on page 1-41* in place of the **Send Control M (Carriage Return)** bar codes.

1

Embedded Driver's License Parsing

Parsing Rule Example (continued)

2



Begin New Driver's License Parse Rule

Parsing Rule Example (continued)

3

First Name

Parsing Rule Example (continued)

4

Send Space

Parsing Rule Example (continued)

5

Middle Name / Initial

Parsing Rule Example (continued)

6

Send Space

Parsing Rule Example (continued)

7

Last Name

Parsing Rule Example (continued)

8

Send Enter Key

Parsing Rule Example (continued)

9

Mailing Address Line 1

Parsing Rule Example (continued)

10

Send Space

Parsing Rule Example (continued)

11

Mailing Address Line 2

Parsing Rule Example (continued)

12

Send Enter Key

Parsing Rule Example (continued)

13

Mailing Address City

Parsing Rule Example (continued)

14

Send Space

Parsing Rule Example (continued)

15

Mailing Address State

Parsing Rule Example (continued)

16

Send Space

Parsing Rule Example (continued)

17

Mailing Address Postal Code

Parsing Rule Example (continued)

18

Send Enter Key

Parsing Rule Example (continued)

19

Birth Date

Parsing Rule Example (continued)

20

Send Enter Key

Parsing Rule Example (continued)

21

Save Driver's Licence Parse Rule

Embedded Driver's License Parsing ADF Example

This example creates a parsing rule for parsed data configured to result in the format:

Last Name, First Name

1

Begin New Driver's License Parse Rule

Embedded Driver's License Parsing ADF Example (continued)

2

Last Name

Embedded Driver's License Parsing ADF Example (continued)

3

Send ,

Embedded Driver's License Parsing ADF Example (continued)

4

Send Space

Embedded Driver's License Parsing ADF Example (continued)

5

First Name

Embedded Driver's License Parsing ADF Example (continued)

6

Save Driver’s Licence Parse Rule

Embedded Driver's License Parsing ADF Example (continued)

Then, in order to limit the full name to 15 characters, create the following ADF rule:

1

Begin New Rule

Embedded Driver's License Parsing ADF Example (continued)

2

Criterion: Parsed Driver's License

Embedded Driver's License Parsing ADF Example (continued)

3

Action: Send Next 15 Characters

Embedded Driver's License Parsing ADF Example (continued)

4

Save Rule

For a license belonging to Michael Williams, the parsed data is Williams, Michael and Williams, Micha after applying the previous ADF rule.

CHAPTER 13 ADVANCED DATA FORMATTING

Introduction

Advanced Data Formatting (ADF) is a means of customizing data before transmission to the host device. Use ADF to edit scan data to suit requirements. Implement ADF by scanning a related series of bar codes which program the MP6000 with ADF rules.

For information and programming bar codes for ADF, refer to the *Advanced Data Formatting Programmer Guide*, p/n 72E-69680-xx.

APPENDIX A STANDARD DEFAULT PARAMETERS

Table A-1 *Standard Default Parameters Table*

Parameter	Parameter Number	Default	Page Number
USB Host Parameters			
USB Device Type	n/a	IBM Table Top	*1-3*
USB Country Keyboard Types - Country Codes	n/a	North American Standard USB Keyboard	*1-9*
USB Keystroke Delay	n/a	No Delay	*1-14*
Simulated Caps Lock	n/a	Disable	*1-17*
USB CAPS Lock Override	n/a	Disable	*1-20*
Scan Disable Mode	n/a	Full Disable	*1-21*
USB Ignore Unknown Characters	n/a	Enable	*1-24*
USB Convert Unknown to Code 39	n/a	Disable	*1-26*
USB Ignore Beep Directive	n/a	Ignore	*1-29*
USB Ignore Type Directive	n/a	Ignore	*1-31*
Honor Direct I/O Beeps		Honor	*1-32*
Emulate Keypad	n/a	Disable	*1-34*
Emulate Keypad with Leading Zero	n/a	Disable	*1-36*
USB Keyboard FN 1 Substitution	n/a	Disable	*1-39*

1 User selection is required to configure this interface and this is the most common selection.
RS-232 Device Port Configuration Parameter Notes (see *RS-232 Device Port Configuration on page A-4*):
2 Setting applies specifically to the Aux1 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
3 Setting applies specifically to the Aux2 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
4 Inherit means the default is based on the device assigned to the auxiliary port (see *RS-232 Device Port Configuration on page A-4*).

Table A-1 *Standard Default Parameters Table (Continued)*

Parameter	Parameter Number	Default	Page Number
Function Key Mapping	n/a	Disable	*1-40*
Convert Case	n/a	Disable	*1-42*
USB Static CDC	n/a	Enable	*1-45*
USB HID Polling Interval	n/a	8 msec	*1-54*
Fast HID Keyboard	n/a	Disable	*1-57*
Quick Keypad Emulation	n/a	Disable	*1-59*
IBM USB Scale Default Response Status	1286	2-byte - Extended Scale Status Disabled	*1-61*
IBM Specification Version	n/a	Version 2.2	*1-64*
RS-232 Host Parameters			
RS-232 Host Types	n/a	Standard[1]	*2-7*
Baud Rate	n/a	9600	*2-18*
Parity Type	n/a	None	*2-25*
Stop Bits	n/a	1	*2-26*
Data Bits	n/a	8-bit	*2-29*
Check Receive Errors	n/a	Enable	*2-30*
Hardware Handshaking	n/a	None	*2-33*
Software Handshaking	n/a	None	*2-39*
Host Serial Response Timeout	n/a	2 Sec	*2-44*
RTS Line State	n/a	Low RTS	*2-49*
Beep on <BEL>	n/a	Disable	*2-52*
Intercharacter Delay	n/a	0 msec	*2-53*
Wincor-Nixdorf Beep/LED Options	n/a	Normal Operation	*2-58*
Ignore Unknown Characters	n/a	Send Bar Code	*2-61*
NCR Use Prefix	1238	Enabled	*2-64*
NCR Prefix	n/a	1002 (STX)	*2-65*
NCR Suffix	n/a	1003 (ETX)	*2-66*

1 User selection is required to configure this interface and this is the most common selection.
RS-232 Device Port Configuration Parameter Notes (see *RS-232 Device Port Configuration on page A-4*):
2 Setting applies specifically to the Aux1 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
3 Setting applies specifically to the Aux2 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
4 Inherit means the default is based on the device assigned to the auxiliary port (see *RS-232 Device Port Configuration on page A-4*).

Table A-1 *Standard Default Parameters Table (Continued)*

Parameter	Parameter Number	Default	Page Number
NCR Use Block Check Character	1239	Enabled	*2-68*
NCR Interface	1240	Follow System	*2-69*
NCR Scale Beep After Weight Request	1353	Disable	*2-72*
IBM RS-485 Host Parameters			
Port Address	n/a	None Selected	*3-3*
Scale Port Address	n/a	None Selected	*3-7*
Convert Unknown to Code 39	n/a	Disable	*3-12*
Ignore Beep Directive	n/a	Ignore	*3-14*
Ignore Configuration Directive	n/a	Ignore	*3-16*
Scan Disable Mode	1214	Full Disable	*3-17*
Scale Parameters			
Legal Scale Units	995	n/a	*4-3*
Legal Scale Dampening Filter Setting	996	Low Vibration Sensitivity	*4-6*
Scale Enable	1197	Enable	*4-9*
Scale Reset	6009	n/a	*4-11*
Scale Display Configuration	986	Disable	*4-13*
Scale Enforce Zero Return	987	Disable	*4-15*
Scale Beep After Weight Request	988	Disable	*4-17*
Scale Port Address	n/a	Not Selected	See *Scale Port Address on page 3-7*
Ignore Scale Pole Directives	1242	Ignore	*4-18*
Maximum Initial Zero Setting Range	1285	15% maximum weight capacity	*4-20*
Maximum Scale Zeroing Weight Limit	1366	60	*4-22*
User Preferences			
Set Default Parameter	n/a	Set Defaults	*5-5*
Parameter Bar Code Scanning	236	Enable	*5-8*
Beep After Good Decode	56	Enable	*5-10*

1 User selection is required to configure this interface and this is the most common selection.
RS-232 Device Port Configuration Parameter Notes (see *RS-232 Device Port Configuration on page A-4*):
2 Setting applies specifically to the Aux1 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
3 Setting applies specifically to the Aux2 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
4 Inherit means the default is based on the device assigned to the auxiliary port (see *RS-232 Device Port Configuration on page A-4*).

Table A-1 *Standard Default Parameters Table (Continued)*

Parameter	Parameter Number	Default	Page Number
Beeper Tone	145	Medium	5-14
Beeper Volume	140	Highest	5-22
Beeper Duration	628	Medium	5-24
Suppress Power-up Beeps	721	Do not suppress	5-30
Tone/Volume Button Enable	1287	Enable Tone, Enable Volume	5-26
Decode Session Timeout	136	9.9 Sec	5-32
Timeout Between Decodes, Same Symbol	137	0.5 Sec	5-33
Fuzzy 1D Processing	514	Enable	5-39
Mobile Phone Display Mode	716	Disable	5-41
Same Symbol Report Timeout	1284	Disable	5-34
Swipe Frame Timeout	1226	15 ms	5-36
Presentation Frame Timeout	1227	35 ms	5-37
Cell Phone Frame Timeout	1228	35 ms	5-38
PDF Prioritization	719	Disable	5-43
PDF Prioritization Timeout	720	300 ms	5-45
Center Object Detect	1128	Enable	5-47
Center IR Sensitivity	1219	Medium	5-49
Stitching Type	1229	Swipe Stitching	5-51
Scanning Usage Mode	1230	Cashier/Trained User	5-53
RS-232 Device Port Configuration	1246	Aux 1 Sensormatic and Aux 2 RS-232 Scanner	5-56
RS-232 Auxiliary Port Scale Protocol	1247	SASI	5-61
Aux1 Baud[2]	1328	15/Inherit[4]	5-66
Aux1 Data Bits[2]	1331	3/Inherit[4]	5-73
Aux1 Stop Bits[2]	1329	2/Inherit[4]	5-76
Aux1 Parity[2]	1330	6/Inherit[4]	5-79
Aux2 Baud[3]	1332	15/Inherit[4]	5-85

1 User selection is required to configure this interface and this is the most common selection.
RS-232 Device Port Configuration Parameter Notes (see *RS-232 Device Port Configuration on page A-4*):
2 Setting applies specifically to the Aux1 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
3 Setting applies specifically to the Aux2 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
4 Inherit means the default is based on the device assigned to the auxiliary port (see *RS-232 Device Port Configuration on page A-4*).

Table A-1 *Standard Default Parameters Table (Continued)*

Parameter	Parameter Number	Default	Page Number
Aux2 Data Bits[3]	1335	3/Inherit[4]	*5-92*
Aux2 Stop Bits[3]	1333	2/Inherit[4]	*5-95*
Aux2 Parity[3]	1334	6/Inherit[4]	*5-98*
Third Party Scale Parameters			
Third Party Scale Third Party Scale LED Pin Third Party Scale Zero Pin	1294 1295 1296	Disable Third Party Scale Active High Active High	*5-105* *5-107* *5-109*
Exclude Decode Field Of Views	1249	Include All Fields Of View	*5-110*
Illumination Configurations	1250	Full Brightness on Both Vertical and Horizontal	*5-114*
PID Type	1281	Host Type Unique	*5-121*
Continuous Bar Code Read	649	Disable	*5-124*
Miscellaneous Options			
Transmit Code ID Character	45	None	*5-128*
Prefix Value	99, 105	7013 <CR><LF>	*5-129*
Suffix 1 Value Suffix 2 Value	98, 104 100, 106	7013 <CR><LF>	*5-129*
Scan Data Transmission Format	235	Data as is	*5-133*
FN1 Substitution Values	103 109	7013 <CR> <LF>	*5-141*
Copy Statistics to a Staging Flash Drive	1137	Enable	*5-143*
EAS Parameters			
Operating Modes	977	Disable	*6-4* to *6-14*
Miscellaneous Parameters			
Sensormatic Deactivation Timeout	982	10 sec	*6-15*
Sensormatic EAS Deactivation	979	Enable	*6-17*
Sensormatic Soft Tag Beeps	984	Soft Tag Beep 1	*6-20*
Sensormatic Hard Tag Beeps	985	Hard Tag Beep 1	*6-23*
Sensormatic Detected Any Time Beep	980	Enable	*6-25*

1 User selection is required to configure this interface and this is the most common selection.
RS-232 Device Port Configuration Parameter Notes (see *RS-232 Device Port Configuration on page A-4*):
2 Setting applies specifically to the Aux1 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
3 Setting applies specifically to the Aux2 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
4 Inherit means the default is based on the device assigned to the auxiliary port (see *RS-232 Device Port Configuration on page A-4*).

Table A-1 *Standard Default Parameters Table (Continued)*

Parameter	Parameter Number	Default	Page Number
Sensormatic Deactivation Fail Beep	1213	Disable	*6-27*
Sensormatic Request Communication Message	978	Enable	*6-30*
Sensormatic Request Voltage Message	1130	Enable	*6-32*
Sensormatic Request Scan Time Message	1136	Enable	*6-34*
Checkpoint Interlock Polarity	983	Active Low	*6-37*
EAS Deactivation Override Button	981	Enable	*6-38*
Auxiliary Parameters			
Host Protocol	n/a	Zebra Scanner Auto Switch	*7-9*
Baud Rate	n/a	9600	*7-10*
Data Bits	n/a	8 Data Bits	*7-18*
Stop Bits	n/a	One Stop	*7-20*
Parity	n/a	No Parity	*7-23*
Host RTS State	n/a	Low RTS	*7-25*
Auxiliary Scanner Decode with Unknown Type	1124	Send Unknown as Code 39	*7-3*
Symbology Parameters			
Disable All Code Types			*11-7*
UPC/EAN			
UPC-A	1	Enable	*11-8*
UPC-E	2	Enable	*11-10*
UPC-E1	12	Disable	*11-13*
EAN-8/JAN 8	4	Enable	*11-14*
EAN-13/JAN 13	3	Enable	*11-16*
Bookland EAN	83	Disable	*11-19*
Bookland ISBN Format	576	ISBN-10	*11-20*
Decode UPC/EAN/JAN Supplementals (2 and 5 digits)	16	Ignore	*11-24*

1 User selection is required to configure this interface and this is the most common selection.
RS-232 Device Port Configuration Parameter Notes (see *RS-232 Device Port Configuration on page A-4*):
2 Setting applies specifically to the Aux1 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
3 Setting applies specifically to the Aux2 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
4 Inherit means the default is based on the device assigned to the auxiliary port (see *RS-232 Device Port Configuration on page A-4*).

Table A-1 *Standard Default Parameters Table (Continued)*

Parameter	Parameter Number	Default	Page Number
User-Programmable Supplementals Supplemental 1: Supplemental 2:	 579 580	n/a	*11-36*
UPC/EAN Redundancy	1225	1	*11-38*
UPC/EAN/JAN Supplemental Redundancy	80	10	*11-39*
Transmit UPC-A Check Digit	40	Enable	*11-40*
Transmit UPC-E Check Digit	41	Enable	*11-42*
Transmit UPC-E1 Check Digit	42	Enable	*11-44*
UPC-A Preamble	34	System Character	*11-47*
UPC-E Preamble	35	System Character	*11-50*
UPC-E1 Preamble	36	System Character	*11-53*
Convert UPC-E to A	37	Disable	*11-56*
Convert UPC-E1 to A	38	Disable	*11-58*
EAN-8/JAN-8 Zero Extend	39	Disable	*11-60*
Coerce UPC/EAN	915	Disable	*11-62*
UPC/EAN/JAN Supplemental Aim ID Format	672	Combined AIM ID, 1 Transmission	*11-64*
UCC Coupon Extended Code	85	Disable	*11-67*
Coupon Report	730	New Coupon Symbols	*11-69*
ISSN EAN	617	Disable	*11-72*
UPC/EAN Random Weight Check Digit	53	Disable	*11-73*
Code 128			
Code 128	8	Disable	*11-76*
Set Length(s) for Code 128	209, 210	Any Length	*11-81*
GS1-128 (formerly UCC/EAN-128)	14	Disable	*11-83*
ISBT 128	84	Disable	*11-85*
ISBT Concatenation	577	Disable	*11-86*
Check ISBT Table	578	Enable	*11-89*

1 User selection is required to configure this interface and this is the most common selection.
RS-232 Device Port Configuration Parameter Notes (see *RS-232 Device Port Configuration on page A-4*):
2 Setting applies specifically to the Aux1 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
3 Setting applies specifically to the Aux2 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
4 Inherit means the default is based on the device assigned to the auxiliary port (see *RS-232 Device Port Configuration on page A-4*).

Table A-1 *Standard Default Parameters Table (Continued)*

Parameter	Parameter Number	Default	Page Number
ISBT Concatenation Redundancy	223	10	*11-91*
Code 128 Stitching	72	Disable	*11-92*
Code 128 Stitching Security Level	1205	0	*11-94*
Code 128 Marginless Mode	1208	Disable	*11-99*
Code 39			
Code 39	0	Disable	*11-102*
Trioptic Code 39	13	Disable	*11-104*
Convert Code 39 to Code 32 (Italian Pharmacy Code)	86	Disable	*11-106*
Code 32 Prefix	231	Disable	*11-108*
Set Length(s) for Code 39	18, 19	Length Within Range: 2 to 55	*11-111*
Code 39 Check Digit Verification	48	Disable	*11-114*
Transmit Code 39 Check Digit	43	Disable	*11-116*
Code 39 Full ASCII Conversion	17	Disable	*11-118*
Code 39 Stitching	70	Disable	*11-119*
Code 39 Stitching Security Level	1206	0	*11-121*
Code 39 Marginless Mode	1209	Disable	*11-126*
Code 93			
Code 93	9	Disable	*11-129*
Set Length(s) for Code 93	26, 27	Length Within Range: 4 to 55	*11-133*
Code 93 Stitching	1224	Disable	*11-135*
Code 93 Stitching Security Level	1216	Level 1	*11-138*
Code 93 Marginless Mode	1223	Disable	*11-142*
Interleaved 2 of 5 (ITF)			
Interleaved 2 of 5 (ITF)	6	Disable	*11-145*
Set Lengths for I 2 of 5	22, 23	1 Length; Length = 14	*11-147*
I 2 of 5 Check Digit Verification	49	Disable	*11-151*

1 User selection is required to configure this interface and this is the most common selection.
RS-232 Device Port Configuration Parameter Notes (see *RS-232 Device Port Configuration on page A-4*):
2 Setting applies specifically to the Aux1 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
3 Setting applies specifically to the Aux2 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
4 Inherit means the default is based on the device assigned to the auxiliary port (see *RS-232 Device Port Configuration on page A-4*).

Table A-1 *Standard Default Parameters Table (Continued)*

Parameter	Parameter Number	Default	Page Number
Transmit I 2 of 5 Check Digit	44	Disable	*11-155*
Convert I 2 of 5 to EAN 13	82	Disable	*11-157*
ITF Stitching	1204	Disable	*11-158*
ITF Stitching Security Level	1207	Level 1	*11-161*
ITF Marginless Mode	1210	Disable	*11-165*
Discrete 2 of 5 (DTF)			
Discrete 2 of 5	5	Disable	*11-168*
Set Length(s) for D 2 of 5	20, 21	1 Length; Length = 12	*11-170*
Codabar (NW - 7)			
Codabar	7	Disable	*11-175*
Set Lengths for Codabar	24, 25	Length Within Range: 5 to 55	*11-179*
CLSI Editing	54	Disable	*11-182*
NOTIS Editing	55	Disable	*11-184*
Codabar Upper or Lower Case Start/Stop Characters Detection	855	Lower Case	*11-186*
MSI			
MSI	11	Disable	*11-188*
Set Length(s) for MSI	30, 31	Length Within Range: 4 to 55	*11-192*
MSI Check Digits	50	One	*11-194*
Transmit MSI Check Digit	46	Disable	*11-197*
MSI Check Digit Algorithm	51	Mod 10/Mod 10	*11-199*
Chinese 2 of 5			
Chinese 2 of 5	408	Disable	*11-201*
Inverse 1D	586	Regular	*11-202*
GS1 DataBar			

1 User selection is required to configure this interface and this is the most common selection.
RS-232 Device Port Configuration Parameter Notes (see *RS-232 Device Port Configuration on page A-4*):
2 Setting applies specifically to the Aux1 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
3 Setting applies specifically to the Aux2 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
4 Inherit means the default is based on the device assigned to the auxiliary port (see *RS-232 Device Port Configuration on page A-4*).

Table A-1 *Standard Default Parameters Table (Continued)*

Parameter	Parameter Number	Default	Page Number
GS1 DataBar (GS1 DataBar Omnidirectional, GS1 DataBar Truncated, GS1 DataBar Stacked, GS1 DataBar Stacked Omnidirectional)	338	Disable	*11-206*
GS1 DataBar Limited	339	Disable	*11-208*
GS1 DataBar Expanded (GS1 DataBar Expanded, GS1 DataBar Expanded Stacked)	340	Disable	*11-210*
GS1 DataBar Limited Security Level	728	3	*11-213*
Convert GS1 DataBar to UPC/EAN	397	Disable	*11-216*
Composite			
Composite CC-C	341	Disable	*11-218*
Composite CC-A/B	342	Disable	*11-220*
Composite TLC-39	371	Disable	*11-222*
UPC Composite Mode	344	Never Linked	*11-223*
Composite Beep Mode	398	Beep As Each Code Type is Decoded	*11-227*
GS1-128 Emulation Mode for UCC/EAN Composite Codes	427	Disable	*11-230*
2D Symbologies			
PDF417	15	Disable	*11-232*
MicroPDF417	227	Disable	*11-234*
Code 128 Emulation	123	Disable	*11-236*
Data Matrix	292	Disable	*11-238*
Data Matrix Inverse	588	Regular	*11-239*
GS1 Data Matrix	1336	Disable	*11-243*
QR Code	293	Disable	*11-245*
QR Inverse	587	Regular	*11-246*
GS1 QR	1343	Disable	*11-250*
MicroQR	573	Disable	*11-252*

1 User selection is required to configure this interface and this is the most common selection.
RS-232 Device Port Configuration Parameter Notes (see *RS-232 Device Port Configuration on page A-4*):
2 Setting applies specifically to the Aux1 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
3 Setting applies specifically to the Aux2 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
4 Inherit means the default is based on the device assigned to the auxiliary port (see *RS-232 Device Port Configuration on page A-4*).

Table A-1 *Standard Default Parameters Table (Continued)*

Parameter	Parameter Number	Default	Page Number
Aztec	574	Disable	*11-254*
Aztec Inverse	589	Regular	*11-255*
Symbology-Specific Security Levels			
Redundancy Level	78	1	*11-259*
Security Level (UPC/EAN and Code 93)	77	1	*11-264*
Intercharacter Gap Size	381	Normal	*11-267*
Macro PDF			
Flush Macro PDF Buffer		n/a	*11-269*
Abort Macro PDF Entry		n/a	*11-270*

1 User selection is required to configure this interface and this is the most common selection.
RS-232 Device Port Configuration Parameter Notes (see *RS-232 Device Port Configuration on page A-4*):
2 Setting applies specifically to the Aux1 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
3 Setting applies specifically to the Aux2 port. (See *AUXILIARY SCANNER BAR CODES on page 7-1* for more information.)
4 Inherit means the default is based on the device assigned to the auxiliary port (see *RS-232 Device Port Configuration on page A-4*).

APPENDIX B PROGRAMMING REFERENCE

Symbol Code Identifiers

Table B-1 *Symbol 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, ISBT 128, ISBT 128 Concatenated
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	GS1-128
L	Bookland EAN
M	Trioptic Code 39
N	Coupon Code
R	GS1 DataBar Family
T	UCC Composite, TLC 39
U	Chinese 2 of 5
X	ISSN EAN, PDF417, Macro PDF417, Micro PDF417

Table B-1 *Symbol Code Characters (Continued)*

Code Character	Code Type
z	Aztec, Aztec Rune
P00	Data Matrix
P01	QR Code, MicroQR
P0X	Signature Capture

AIM Code Identifiers

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

] = Flag Character (ASCII 93)
c = Code Character (see *Table B-2*)
m = Modifier Character (see *Table B-3*)

Table B-2 *Aim Code Characters*

Code Character	Code Type
A	Code 39, Code 39 Full ASCII, Code 32
C	Code 128, ISBT 128, ISBT 128 Concatenated, GS1-128, Coupon (Code 128 portion)
d	Data Matrix
E	UPC/EAN, Coupon (UPC portion)
e	GS1 DataBar Family
F	Codabar
G	Code 93
H	Code 11
I	Interleaved 2 of 5
L	PDF417, Macro PDF417, Micro PDF417
L2	TLC 39
M	MSI
Q	QR Code, MicroQR
S	Discrete 2 of 5, IATA 2 of 5
z	Aztec, Aztec Rune
X	Bookland EAN, ISSN EAN, Trioptic Code 39, Chinese 2 of 5, Signature Capture

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

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 bar code with check character W, **A+I+MI+DW**, is transmitted as **]A7**AIMID where 7 = (3+4).	
Trioptic Code 39	0	No option specified at this time. Always transmit 0.
	Example: A Trioptic bar code 412356 is transmitted as **]X0**412356	
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 bar code with Function 1 character ^{FNC1} in the first position, AIMID is transmitted as **]C1**AIMID	
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 bar code without check digit, 4123, is transmitted as **]I0**4123	
Codabar	0	No check digit processing.
	1	Reader has checked check digit.
	3	Reader has stripped check digit before transmission.
	Example: A Codabar bar code without check digit, 4123, is transmitted as **]F0**4123	
Code 93	0	No options specified at this time. Always transmit 0.
	Example: A Code 93 bar code 012345678905 is transmitted as **]G0**012345678905	
MSI	0	Check digits are sent.
	1	No check digit is sent.
	Example: An MSI bar code 4123, with a single check digit checked, is transmitted as **]M1**4123	

Table B-3 *Modifier Characters (Continued)*

Code Type	Option Value	Option
D 2 of 5	0	No options specified at this time. Always transmit 0.
	Example: A D 2 of 5 bar code 4123, is transmitted as **]S0**4123	
UPC/EAN	0	Standard data packet in full EAN format, i.e. 13 digits for UPC-A, UPC-E, and EAN-13 (not including supplemental data).
	1	Two digit supplemental data only.
	2	Five digit supplemental data only.
	3	Combined data packet comprising 13 digits from EAN-13, UPC-A or UPC-E symbol and 2 or 5 digits from supplemental symbol.
	4	EAN-8 data packet.
	Example: A UPC-A bar code 012345678905 is transmitted as **]E0**0012345678905	
Bookland EAN	0	No options specified at this time. Always transmit 0.
	Example: A Bookland EAN bar code 123456789X is transmitted as **]X0**123456789X	
ISSN EAN	0	No options specified at this time. Always transmit 0.
	Example: An ISSN EAN bar code 123456789X is transmitted as **]X0**123456789X	
Code 11	0	Single check digit
	1	Two check digits
	3	Check characters validated but not transmitted.
GS1 DataBar Family		No option specified at this time. Always transmit 0. GS1 DataBar and GS1 DataBar Limited transmit with an Application Identifier “01”. Note: In GS1-128 emulation mode, GS1 DataBar is transmitted using Code 128 rules (i.e.,]C1).
	Example: A GS1 DataBar bar code 0110012345678902 is transmitted as **]e**00110012345678902.	
EAN.UCC Composites (GS1 DataBar, GS1-128, 2D portion of UPC composite)		Native mode transmission. Note: UPC portion of composite is transmitted using UPC rules.
	0	Standard data packet.
	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.
		GS1-128 emulation Note: UPC portion of composite is transmitted using UPC rules.
	1	Data packet is a GS1-128 symbol (i.e., data is preceded with]JC1).

Table B-3 *Modifier Characters (Continued)*

Code Type	Option Value	Option
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 92_{DEC} has been doubled in transmission.
	1	Reader set to follow the ECI protocol (Extended Channel Interpretation). All data characters 92_{DEC} are doubled.
	2	Reader set for Basic Channel operation (no escape character transmission protocol). Data characters 92_{DEC} 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 bar code contains a GS1-128 symbol, and the first codeword is 903-907, 912, 914, 915.
	4	The bar code contains a GS1-128 symbol, and the first codeword is in the range 908-909.
	5	The bar code contains a GS1-128 symbol, and the first codeword is in the range 910-911.
	Example: A PDF417 bar code 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.

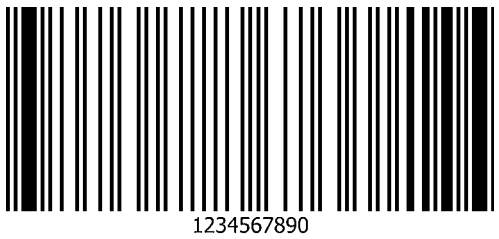
Table B-3 *Modifier Characters (Continued)*

Code Type	Option Value	Option
QR Code	0	Model 1 symbol.
	1	Model 2 / MicroQR 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.
Aztec	0	Aztec symbol.
	C	Aztec Rune symbol.

APPENDIX C SAMPLE BAR CODES

Code 39

Code 93

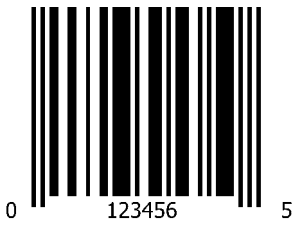


UPC/EAN

UPC-A, 100%

UPC/EAN (continued)

UPC-E

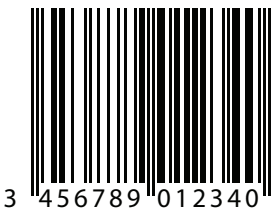


UPC/EAN (continued)

EAN-8

UPC/EAN (continued)

EAN-13, 100%



Code 128

Interleaved 2 of 5

12345678901231

GS1 DataBar

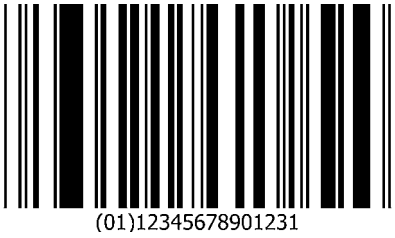
GS1 DataBar Omnidirectional

NOTE DataBar Omnidirectional must be enabled to read the bar code below (see *GS1 DataBar on page 11-205*).

0176123415623411

GS1 DataBar (continued)

GS1 DataBar Expanded

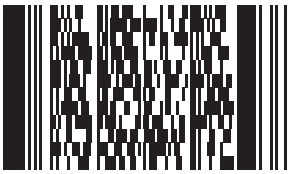


GS1 DataBar (continued)

GS1 DataBar Limited

(01)00012345678905

PDF417



12345678910abcdefghijklmnopqrstuvwxyz

Data Matrix

123456789abcdefghijklmnopqrstuvwxyz

QR Code

0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789

Aztec

0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ012345678901
23456789ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789

APPENDIX D NUMERIC BAR CODES

Numeric Bar Codes

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

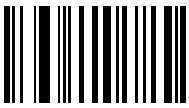
0

0

1

1

2



2

3

3

4

4

5

5

6

6

7

7

8

8

9

9

Cancel

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

Cancel

APPENDIX E ASCII CHARACTER SETS

Character Sets

You can assign the values in *Table E-1* as prefixes or suffixes for ASCII character data transmission. This table does not apply to USB.

Table E-1 *Character Sets*

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 (USB only)	$M	CR/ENTER
1014	$N	SO
1015	$O	SI

Table E-1 *Character Sets (Continued)*

Prefix/Suffix Value	Full ASCII Code 39 Encode Character	ASCII Character
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	.	.

Table E-1 *Character Sets (Continued)*

Prefix/Suffix Value	Full ASCII Code 39 Encode Character	ASCII Character
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

Table E-1 *Character Sets (Continued)*

Prefix/Suffix Value	Full ASCII Code 39 Encode Character	ASCII Character
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

Table E-1 *Character Sets (Continued)*

Prefix/Suffix Value	Full ASCII Code 39 Encode Character	ASCII Character
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 (RS-232 only)		Undefined
7013 (RS-232 only)		ENTER

INDEX

Numerics

A

B

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