

SpeechMike Premium Touch

SMP 3800 series

Scanner programming guide



Parameter Menus

Introduction

This chapter describes the programmable parameters, provides bar codes for programming, and hexadecimal equivalents for host parameter programming through SSI packets.

Operational Parameters

The SpeechMike Premium Touch Barcode is shipped with the factory default settings shown in [Table 4-1 on page 4-2](#). These factory default values are stored in non-volatile memory and are preserved even when the scan engine is powered down. Changes to the factory default values are also stored in non-volatile memory and are preserved even when the scan engine is powered down.

To change the parameter values:

- Scan the appropriate bar codes included in this chapter. The new values replace the existing memory values. The factory default parameter values can be recalled by scanning **Set Factory Defaults** on [page 4-7](#).

Parameter Programming Recommendations

When setting parameters via bar code or via SSI with the permanent flag set, the following conditions must be met:

- The system must have stable power applied to the scanner.
- The engine and host must be operating and communicating with no interference.
- Power must be maintained for at least two seconds after sending the command or scanning the parameter bar code.

If sending parameters upon every power up, ensure they are temporary. Motorola does not recommend sending permanent parameters or **Set Defaults** upon every power up. Motorola also recommends not using a hard power switch on the power supply.

Failure to meet these conditions can corrupt the scan engine's memory.

Parameter Defaults

Table 8-1 lists the factory defaults for all parameters. To change any option, scan the appropriate bar code(s).

Table 4-1 *Factory Default Table*

Parameter	Parameter Number (Hex)	Factory Default	Page Number
Set Factory Default		All Defaults	4-7
LED On Time	88h	3.0 sec	4-7
Linear Code Type Security Levels	4Eh	1	4-11
UPC/EAN			
UPC-A	01h	Enable	4-13
UPC-E	02h	Enable	4-13
UPC-E1	0Ch	Disable	4-14
EAN-8	04h	Enable	4-14
EAN-13	03h	Enable	4-15
Bookland EAN	53h	Disable	4-15
Bookland ISBN Format	F1h 40h	ISBN-10	4-15
Decode UPC/EAN Supplementals	10h	Ignore	4-17
Decode UPC/EAN Supplemental Redundancy	50h	7	4-19
UPC/EAN/JAN Supplemental AIM ID Format	F1h A0h	Combined	4-20

Table 4-1 Factory Default Table (Continued)

Parameter	Parameter Number (Hex)	Factory Default	Page Number
Transmit UPC-A Check Digit	28h	Enable	4-21
Transmit UPC-E Check Digit	29h	Enable	4-21
Transmit UPC-E1 Check Digit	2Ah	Enable	4-22
UPC-A Preamble	22h	System Character	4-22
UPC-E Preamble	23h	System Character	4-23
UPC-E1 Preamble	24h	System Character	4-24
Convert UPC-E to A	25h	Disable	4-25
Convert UPC-E1 to A	26h	Disable	4-25
EAN-8 Zero Extend	27h	Disable	4-26
UPC/EAN Security Level	4Dh	1	4-27
UCC Coupon Extended Code	55h	Disable	4-28
Coupon Report	F1h DAh	Both Coupon Formats	4-29
ISSN EAN	F1h 69h	Disable	4-30
Code 128			
Code 128	08h	Enable	4-31
Set Length(s) for Code 128	D1h D2h	1-55	4-31
GS1-128 (formerly UCC/EAN-128)	0Eh	Enable	4-33
ISBT 128	54h	Enable	4-33
ISBT Concatenation	F1h 41h	Disable	4-34
Check ISBT Table	F1h 42h	Enable	4-35
ISBT Concatenation Redundancy	DFh	10	4-35
Code 39			
Code 39	00h	Enable	4-36
Trioptic Code 39	0Dh	Disable	4-36
Convert Code 39 to Code 32	56h	Disable	4-37
Code 32 Prefix	E7h	Disable	4-37
Set Length(s) for Code 39	12h 13h	2-55	4-38
Code 39 Check Digit Verification	30h	Disable	4-39

Table 4-1 Factory Default Table (Continued)

Parameter	Parameter Number (Hex)	Factory Default	Page Number
Transmit Code 39 Check Digit	2Bh	Disable	4-39
Code 39 Full ASCII Conversion	11h	Disable	4-40
Code 93			
Code 93	09h	Disable	4-41
Set Length(s) for Code 93	1Ah 1Bh	4-55	4-41
Code 11			
Code 11	0Ah	Disable	4-43
Set Lengths for Code 11	1Ch 1Dh	4 to 55	4-43
Code 11 Check Digit Verification	34h	Disable	4-45
Transmit Code 11 Check Digit(s)	2Fh	Disable	4-46
Interleaved 2 of 5			
Interleaved 2 of 5	06h	Enable	4-47
Set Length(s) for I 2 of 5	16h 17h	14	4-47
I 2 of 5 Check Digit Verification	31h	Disable	4-49
Transmit I 2 of 5 Check Digit	2Ch	Disable	4-49
Convert I 2 of 5 to EAN 13	52h	Disable	4-50
Discrete 2 of 5			
Discrete 2 of 5	05h	Disable	4-51
Set Length(s) for D 2 of 5	14h 15h	12	4-51
Chinese 2 of 5			
Chinese 2 of 5	F0h 98h	Disable	4-53
Matrix 2 of 5			
Matrix 2 of 5	F1h 6Ah	Disable	4-54
Matrix 2 of 5 Lengths	F1h 6Bh F1h 6Ch	14	4-54
Matrix 2 of 5 Redundancy	F1h 6Dh	Disable	4-55
Matrix 2 of 5 Check Digit	F1h 6Eh	Disable	4-56

Table 4-1 Factory Default Table (Continued)

Parameter	Parameter Number (Hex)	Factory Default	Page Number
Transmit Matrix 2 of 5 Check Digit	F1h 6Fh	Disable	4-56
Inverse 1D			
Inverse 1D	F1h 4Ah	Regular	4-57
Codabar			
Codabar	07h	Disable	4-58
Set Lengths for Codabar	18h 19h	5-55	4-58
CLSI Editing	36h	Disable	4-60
NOTIS Editing	37h	Disable	4-60
MSI			
MSI	0Bh	Disable	4-61
Set Length(s) for MSI	1Eh 1Fh	6-55	4-62
MSI Check Digits	32h	One	4-63
Transmit MSI Check Digit	2Eh	Disable	4-63
MSI Check Digit Algorithm	33h	Mod 10/Mod 10	4-64
GS1 DataBar			
GS1 DataBar Omnidirectional	F0h 52h	Enable	4-65
GS1 DataBar Limited	F0h 53h	Enable	4-65
GS1 DataBar Expanded	F0h 54h	Enable	4-66
Convert GS1 DataBar to UPC/EAN	F0h 8Dh	Disable	4-66
Data Options			
Transmit Code ID Character	2Dh	None	4-67
Scan Data Transmission Format	EBh	Data as is	4-68

Set Default Parameter

Scan **Set Factory Defaults** to restore the factory default values listed in [Table 4-1 on page 4-2](#).



Set Factory Defaults

LED On Time

Parameter # 88h

This parameter sets the maximum time decode processing continues during a scan attempt. It is programmable in 0.1 second increments from 0.50 to 25.5 seconds.

To set an LED On Time, scan the bar code below. Next scan two numeric bar codes beginning on [page 4-73](#) that correspond to the desired on time. Single digit numbers must have a leading zero. For example, to set an on time of 0.5 seconds, scan the bar code below, then scan the "0", "5" and "0" bar codes; to set an on time of 10.5 seconds, scan the bar code below, then scan the "1", "0" and "5" bar codes. To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



LED On Time
(Default: 3.0 sec.)

Linear Code Type Security Level

Parameter # 4Eh

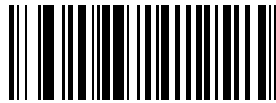
The SE655 offers four levels of decode security for linear code types (e.g. Code 39, Interleaved 2 of 5). Select higher security levels for decreasing levels of bar code quality. As security levels increase, the scan engine's aggressiveness decreases.

Select the security level appropriate for your bar code quality.

Linear Security Level 1

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

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



*Linear Security Level 1
(01h)

Linear Security Level 2

All code types must be successfully read twice before being decoded.



Linear Security Level 2
(02h)

Linear Code Type Security Level (continued)

Linear Security Level 3

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

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



Linear Security Level 3
(03h)

Linear Security Level 4

All code types must be successfully read three times before being decoded.



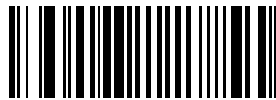
Linear Security Level 4
(04h)

UPC/EAN

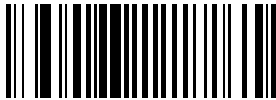
Enable/Disable UPC-A

Parameter # 01h

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



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



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

Enable/Disable UPC-E

Parameter # 02h

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



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



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

Enable/Disable UPC-E1

Parameter # 0Ch

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

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



Enable UPC-E1
(01h)

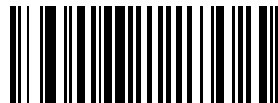


*Disable UPC-E1
(00h)

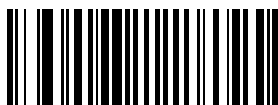
Enable/Disable EAN-8

Parameter # 04h

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



*Enable EAN-8
(01h)

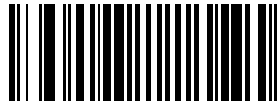


Disable EAN-8
(00h)

Enable/Disable EAN-13

Parameter # 03h

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



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



**Disable EAN-13
(00h)**

Enable/Disable Bookland EAN

Parameter # h53h

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



**Enable Bookland EAN
(01h)**



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



NOTE If you enable Bookland EAN, select a [Bookland ISBN Format on page 4-16](#). Also select either Decode UPC/EAN Supplementals, Autodiscriminate UPC/EAN Supplementals, or Enable 978/979 Supplemental Mode in [Decode UPC/EAN Supplementals on page 4-17](#).

Bookland ISBN Format

Parameter # F1h 40h

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

- **Bookland ISBN-10** - The digital scanner 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 digital scanner 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-13
(01h)



NOTE For Bookland EAN to function properly, ensure Bookland EAN is enabled (see [Enable/Disable Bookland EAN on page 4-15](#)), then select either Decode UPC/EAN Supplementals, Autodiscriminate UPC/EAN Supplementals, or Enable 978/979 Supplemental Mode in [Decode UPC/EAN Supplementals on page 4-17](#).

Decode UPC/EAN Supplementals

Parameter # 10h

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

- If you select **Ignore UPC/EAN with Supplementals**, and the scanner is presented with a UPC/EAN plus supplemental symbol, the scanner decodes UPC/EAN and ignores the supplemental characters.
- If you select **Decode UPC/EAN with Supplementals**, the scanner only decodes UPC/EAN symbols with supplemental characters, and ignores symbols without supplementals.
- If you select **Autodiscriminate UPC/EAN Supplementals**, the scanner decodes UPC/EAN symbols with supplemental characters immediately. If the symbol does not have a supplemental, the scanner must decode the bar code the number of times set via [Decode UPC/EAN Supplemental Redundancy on page 4-19](#) before transmitting its data to confirm that there is no supplemental.
- If you select one of the following **Supplemental Mode** options, the scanner immediately transmits EAN-13 bar codes starting with that prefix that have supplemental characters. If the symbol does not have a supplemental, the scanner must decode the bar code the number of times set via [Decode UPC/EAN Supplemental Redundancy on page 4-19](#) before transmitting its data to confirm that there is no supplemental. The scanner 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 4-15](#) to enable Bookland EAN, and select a format using [Bookland ISBN Format on page 4-16](#).

- **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.

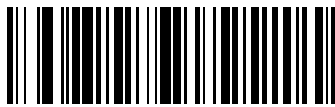
✓ **NOTE** To minimize the risk of invalid data transmission, select either to decode or ignore supplemental characters.

Decode UPC/EAN Supplementals (continued)

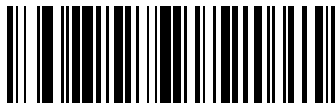
Select the desired option by scanning one of the following bar codes.



**Decode UPC/EAN With Supplementals
(01h)**



***Ignore UPC/EAN With Supplementals
(00h)**



**Autodiscriminate UPC/EAN Supplementals
(02h)**



**Enable 378/379 Supplemental Mode
(04h)**



**Enable 978/979 Supplemental Mode
(05h)**

Decode UPC/EAN Supplementals (continued)



Enable 977 Supplemental Mode
(07h)



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



Enable 491 Supplemental Mode
(08h)



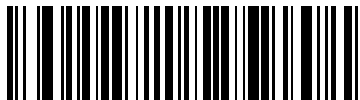
Enable Smart Supplemental Mode
(03h)

Decode UPC/EAN Supplemental Redundancy

Parameter # 50h

With *Autodiscriminate UPC/EAN Supplementals* selected, this option adjusts the number of times a symbol without supplementals are decoded before transmission. The range is from 2 to 20 times. Five or above is recommended when decoding a mix of UPC/EAN symbols with and without supplementals, and the autodiscriminate option is selected.

Scan the bar code below to select a decode redundancy value. Next scan two numeric bar codes beginning on [page 4-73](#). Single digit numbers must have a leading zero. To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



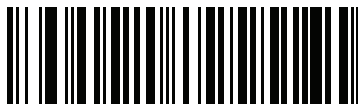
Decode UPC/EAN Supplemental Redundancy
(Default: 7)

UPC/EAN/JAN Supplemental AIM ID Format

Parameter # F1h A0h

Select an output format when reporting UPC/EAN/JAN bar codes with Supplementals with *Transmit Code ID Character on page 4-67* set to **AIM Code ID Character**:

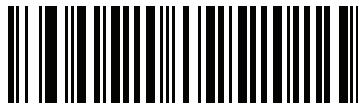
- **Separate** - transmit UPC/EAN with supplementals with separate AIM IDs but one transmission, i.e.:
]E<0 or 4><data>]E<1 or 2>[supplemental data]
- **Combined** – transmit UPC/EAN with supplementals with one AIM ID and one transmission, i.e.:
]E3<data+supplemental data>
- **Separate Transmissions** - transmit UPC/EAN with supplementals with separate AIM IDs and separate transmissions, i.e.:
]E<0 or 4><data>
]E<1 or 2>[supplemental data]



Separate
(00h)



*Combined
(01h)

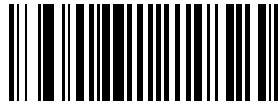


Separate Transmissions
NEW END

Transmit UPC-A Check Digit

Parameter # 28h

Scan the appropriate bar code below to transmit the symbol with or without the UPC-A check digit.



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

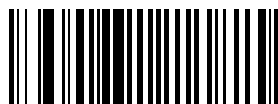


**Do Not Transmit UPC-A Check Digit
(00h)**

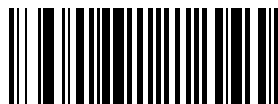
Transmit UPC-E Check Digit

Parameter # 29h

Scan the appropriate bar code below to transmit the symbol with or without the UPC-E check digit.



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



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

Transmit UPC-E1 Check Digit

Parameter # 2Ah

Scan the appropriate bar code below to transmit the symbol with or without the UPC-E1 check digit.



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



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

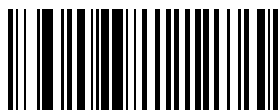
UPC-A Preamble

Parameter # 22h

Preamble characters (Country Code and System Character) can be transmitted as part of a UPC-A symbol. Select one of the following options for transmitting UPC-A preamble to the host device: transmit system character only, transmit system character and country code ("0" for USA), or transmit no preamble.



**No Preamble
(<DATA>
(00h)**



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

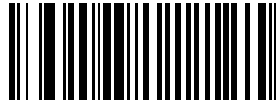


**System Character & Country Code
(< COUNTRY CODE> <SYSTEM CHARACTER> <DATA>
(02h)**

UPC-E Preamble

Parameter # 23h

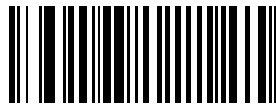
Preamble characters (Country Code and System Character) can be transmitted as part of a UPC-E symbol. Select one of the following options for transmitting UPC-E preamble to the host device: transmit system character only, transmit system character and country code ("0" for USA), or transmit no preamble.



No Preamble
(<DATA>
(00h)



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



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

UPC-E1 Preamble

Parameter # 24h

Preamble characters (Country Code and System Character) can be transmitted as part of a UPC-E1 symbol. Select one of the following options for transmitting UPC-E1 preamble to the host device: transmit system character only, transmit system character and country code ("0" for USA), or transmit no preamble.



No Preamble
(<DATA>
(00h)



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



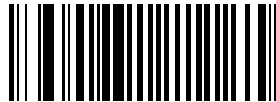
System Character & Country Code
(< COUNTRY CODE> <SYSTEM CHARACTER> <DATA>
(02h)

Convert UPC-E to UPC-A

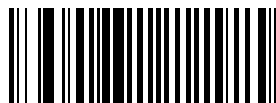
Parameter # 25h

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

Scan **DO NOT CONVERT UPC-E TO UPC-A** to transmit UPC-E (zero suppressed) decoded data.



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



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

Convert UPC-E1 to UPC-A

Parameter # 26h

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

Scan **DO NOT CONVERT UPC-E TO UPC-A** to transmit UPC-E1 (zero suppressed) decoded data.



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



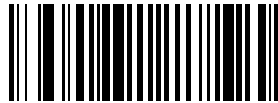
***Do Not Convert UPC-E1 to UPC-A (Disable)**
(00h)

EAN Zero Extend

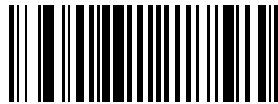
Parameter # 27h

When enabled, this parameter adds five leading zeros to decoded EAN-8 symbols to make them compatible in format to EAN-13 symbols.

Disable this parameter to transmit EAN-8 symbols as is.



**Enable EAN Zero Extend
(01h)**



***Disable EAN Zero Extend
(00h)**

UPC/EAN Security Level

Parameter # 4Dh

The SE655 offers four levels of decode security for UPC/EAN bar codes. Increasing levels of security are provided for decreasing levels of bar code quality. Select higher levels of security for decreasing levels of bar code quality. Increasing security decreases the scan engine's aggressiveness, so choose only that level of security necessary for the application.

UPC/EAN Security Level 0

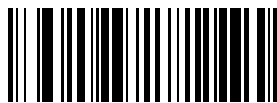
This default setting allows the scan engine to operate in its most aggressive state, while providing sufficient security in decoding most "in-spec" UPC/EAN bar codes.



UPC/EAN Security Level 0
(00h)

UPC/EAN Security Level 1

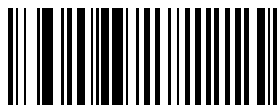
As bar code quality levels diminish, certain characters become prone to mis-decodes before others (i.e., 1, 2, 7, 8). If mis-decodes of poorly printed bar codes occur, and the mis-decodes are limited to these characters, select this security level.



*UPC/EAN Security Level 1
(01h)

UPC/EAN Security Level 2

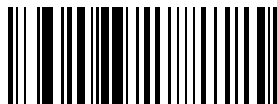
If mis-decodes of poorly printed bar codes occur, and the mis-decodes are not limited to characters 1, 2, 7, and 8, select this security level.



UPC/EAN Security Level 2
(02h)

UPC/EAN Security Level 3

If misdecodes still occur after selecting Security Level 2, select this security level. Be advised, selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selection of this level of security significantly impairs the decoding ability of the scan engine. If this level of security is necessary, try to improve the quality of the bar codes.



UPC/EAN Security Level 3
(03h)

UCC Coupon Extended Code

Parameter # 55h

The UCC Coupon Extended Code is an additional bar code adjacent to a UCC Coupon Code. To enable or disable UCC Coupon Extended Code, scan the appropriate bar code below.



**Enable UCC Coupon Extended Code
(01h)**



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

Coupon Report

Parameter # F1h DAh

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.

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)**



**New Coupon Symbols
(01h)**

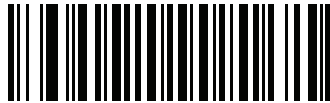


***Both Coupon Formats
(02h)**

ISSN EAN

Parameter # F1h 69h

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



Enable ISSN EAN
(01h)



***Disable ISSN EAN**
(00h)

Code 128

Enable/Disable Code 128

Parameter # 08h

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



*Enable Code 128
(01h)



Disable Code 128
(00h)

Set Lengths for Code 128

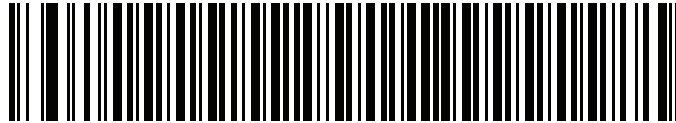
Parameter # L1 = D1h L2 = D2h

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.

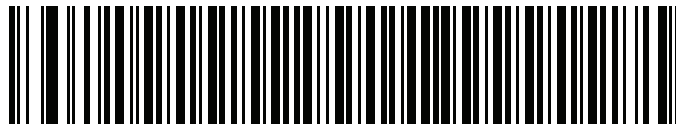
✓ **NOTE** When setting lengths for different bar code types, enter a leading zero for single digit numbers.

- **One Discrete Length** - Select this option to decode only Code 128 symbols containing a selected length. Select the length using the numeric bar codes beginning on [page 4-73](#). 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 4-74](#).
- **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 beginning on [page 4-73](#). 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 4-74](#).
- **Length Within Range** - Select this option to decode a Code 128 symbol with a specific length range. Select lengths using numeric bar codes beginning on [page 4-73](#). 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 4-74](#).
- **Any Length** - Select this option to decode Code 128 symbols containing any number of characters within the digital scanner's capability.

Set Lengths for Code 128 (continued)



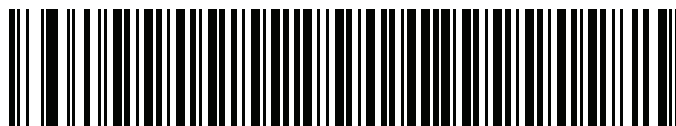
Code 128 - One Discrete Length



Code 128 - Two Discrete Lengths



Code 128 - Length Within Range

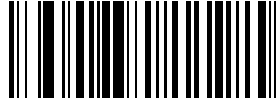


*Code 128 - Any Length

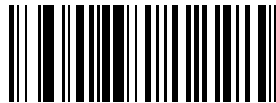
Enable/Disable GS1-128 (formerly UCC/EAN-128)

Parameter # 0Eh

To enable or disable GS1-128, scan the appropriate bar code below. (See [Appendix A, Miscellaneous Code Information](#) for details on [GS1-128 \(formerly UCC/EAN-128\)](#).)



***Enable GS1-128
(01h)**



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

Enable/Disable ISBT 128

Parameter # 54h

To enable or disable ISBT 128, scan the appropriate bar code below.



***Enable ISBT 128
(01h)**



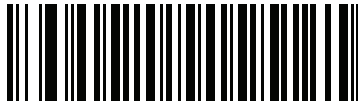
**Disable ISBT 128
(00h)**

ISBT Concatenation

Parameter # F1h 41h

Select an option for concatenating pairs of ISBT code types:

- If you select **Disable ISBT Concatenation**, the digital scanner does not concatenate pairs of ISBT codes it encounters.
- If you select **Enable ISBT Concatenation**, there must be two ISBT codes in order for the digital scanner to decode and perform concatenation. The digital scanner does not decode single ISBT symbols.
- If you select **Autodiscriminate ISBT Concatenation**, the digital scanner decodes and concatenates pairs of ISBT codes immediately. If only a single ISBT symbol is present, the digital scanner must decode the symbol the number of times set via [ISBT Concatenation Redundancy on page 4-35](#) before transmitting its data to confirm that there is no additional ISBT symbol



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



**Enable ISBT Concatenation
(01h)**



**Autodiscriminate ISBT Concatenation
(00h)**

Check ISBT Table

Parameter # F1h 42h

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.



*Enable Check ISBT Table
(01h)



Disable Check ISBT Table
(00h)

ISBT Concatenation Redundancy

Parameter # DFh

If you set **ISBT Concatenation** to **Autodiscriminate**, use this parameter to set the number of times the digital scanner 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 [Numeric Bar Codes on page 4-73](#) 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 4-74](#). The default is 10.



ISBT Concatenation Redundancy

Code 39

Enable/Disable Code 39

Parameter # 00h

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



***Enable Code 39
(01h)**



**Disable Code 39
(00h)**

Enable/Disable Trioptic Code 39

Parameter # 0Dh

Trioptic Code 39 is a variant of Code 39 used in marking computer tape cartridges. Trioptic Code 39 symbols always contain six characters.

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



**Enable Trioptic Code 39
(01h)**



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



NOTE Trioptic Code 39 and Code 39 Full ASCII cannot be enabled simultaneously. If the Enable Trioptic Code 39 setting is not accepted*, disable Code 39 Full ASCII and try again.

* An SSI parameter entry error, event ID 07h, is sent to the host if packeted data communication is enabled to inform the user that the parameter change was not accepted.

Convert Code 39 to Code 32 (Italian Pharma Code)

Parameter # 56h

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

✓ **NOTE** Code 39 must be enabled in order for this parameter to function.



Enable Convert Code 39 to Code 32
(01h)



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

Code 32 Prefix

Parameter # E7h

Enable this parameter to add the prefix character "A" to all Code 32 bar codes. Convert Code 39 to Code 32 (Italian Pharma Code) must be enabled for this parameter to function.



Enable Code 32 Prefix
(01h)



*Disable Code 32 Prefix
(00h)

Set Lengths for Code 39

Parameter # L1 = 12h L2 = 13h

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Lengths for Code 39 may be set for 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. To set lengths via serial commands, see [Setting Code Lengths Via Serial Commands on page A-7](#).

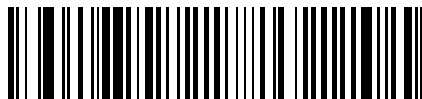
✓ **NOTE** When setting lengths, single digit numbers must always be preceded by a leading zero.

One Discrete Length - This option limits decodes to only those Code 39 symbols containing a selected length. Lengths are selected from the numeric bar codes beginning on [page 4-73](#). For example, to decode only Code 39 symbols with 14 characters, scan **Code 39 - One Discrete Length**, then scan 1 followed by 4. To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



Code 39 - One Discrete Length

Two Discrete Lengths - This option limits decodes to only those Code 39 symbols containing either of two selected lengths. Lengths are selected from the numeric bar codes beginning on [page 4-73](#). For example, to decode only those Code 39 symbols containing either 2 or 14 characters, select **Code 39 - Two Discrete Lengths**, then scan 0, 2, 1, and then 4. To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



Code 39 - Two Discrete Lengths

Length Within Range - This option limits decodes to only those Code 39 symbols within a specified range. 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. Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



Code 39 - Length Within Range

Any Length - Scan this option to decode Code 39 symbols containing any number of characters.

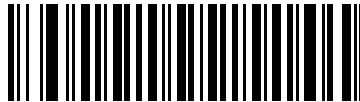


Code 39 - Any Length

Code 39 Check Digit Verification

Parameter # 30h

When this feature is enabled, the scan engine checks the integrity of all Code 39 symbols to verify that the data complies with specified check digit algorithm. Only those Code 39 symbols which include a modulo 43 check digit are decoded. Only enable this feature if your Code 39 symbols contain a module 43 check digit.



**Verify Code 39 Check Digit
(01h)**



***Do Not Verify Code 39 Check Digit
(00h)**

Transmit Code 39 Check Digit

Parameter # 2Bh

Scan this symbol to transmit the check digit with the data.



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

Scan this symbol to transmit data without the check digit.



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

Enable/Disable Code 39 Full ASCII

Parameter # 11h

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.



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



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



NOTE Trioptic Code 39 and Code 39 Full ASCII cannot be enabled simultaneously. If the Enable Trioptic Code 39 setting is not accepted*, disable Code 39 Full ASCII and try again.

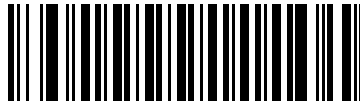
*An SSI parameter entry error, event ID 07h, is sent to the host if packeted data communication is enabled to inform the user that the parameter change was not accepted.

Code 93

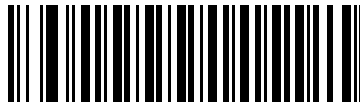
Enable/Disable Code 93

Parameter # 09h

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



Enable Code 93
(01h)



*Disable Code 93
(00h)

Set Lengths for Code 93

Parameter # L1 = 1Ah L2 = 1Bh

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Lengths for Code 93 may be set for any length, one or two discrete lengths, or lengths within a specific range. To set lengths via serial commands, see [Setting Code Lengths Via Serial Commands on page A-7](#).

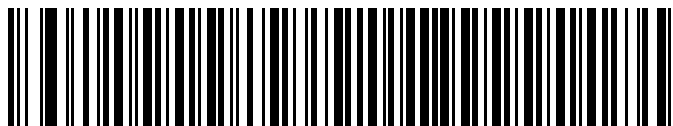
One Discrete Length - Select this option to decode only those codes containing a selected length. For example, select **Code 93 One Discrete Length**, then scan **1, 4**, to limit the decoding to only Code 93 symbols containing 14 characters. Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



Code 93 - One Discrete Length

Set Lengths for Code 93 (continued)

Two Discrete Lengths - Select this option to decode only those codes containing two selected lengths. For example, select **Code 93 Two Discrete Lengths**, then scan **0, 2, 1, 4**, to limit the decoding to only Code 93 symbols containing 2 or 14 characters. Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



Code 93 - Two Discrete Lengths

Length Within Range - This option sets the unit to decode a code type within a specified range. For example, to decode Code 93 symbols containing between 4 and 12 characters, first scan **Code 93 Length Within Range**, then scan **0, 4, 1** and **2** (single digit numbers must always be preceded by a leading zero). Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



Code 93 - Length Within Range

Any Length - Scan this option to decode Code 93 symbols containing any number of characters.



Code 93 - Any Length

Code 11

Enable/Disable Code 11

Parameter # 0Ah

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



Enable Code 11
(01h)



***Disable Code 11**
(00h)

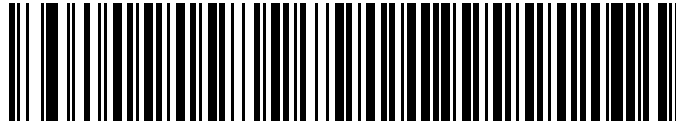
Set Lengths for Code 11

Parameter # L1 = 1Ch L2 = 1Dh

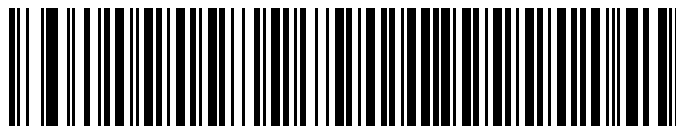
The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Code 11 to any length, one or two discrete lengths, or lengths within a specific range.

- **One Discrete Length** - Select this option to decode only Code 11 symbols containing a selected length. Select the length using the numeric bar codes beginning on [page 4-73](#). For example, to decode only Code 11 symbols with 14 characters, scan **Code 11 - One Discrete Length**, then scan **1** followed by **4**. To correct an error or to change the selection, scan [Cancel on page 4-74](#).
- **Two Discrete Lengths** - Select this option to decode only Code 11 symbols containing either of two selected lengths. Select lengths using the numeric bar codes beginning on [page 4-73](#). For example, to decode only those Code 11 symbols containing either 2 or 14 characters, select **Code 11 - Two Discrete Lengths**, then scan **0, 2, 1,** and then **4**. To correct an error or to change the selection, scan [Cancel on page 4-74](#).
- **Length Within Range** - Select this option to decode a Code 11 symbol with a specific length range. Select lengths using numeric bar codes beginning on [page 4-73](#). For example, to decode Code 11 symbols containing between 4 and 12 characters, first scan **Code 11 - Length Within Range**. Then scan **0, 4, 1,** and **2** (single digit numbers must always be preceded by a leading zero). To correct an error or change the selection, scan [Cancel on page 4-74](#).
- **Any Length** - Scan this option to decode Code 11 symbols containing any number of characters within the scan engine capability.

Set Lengths for Code 11 (continued)



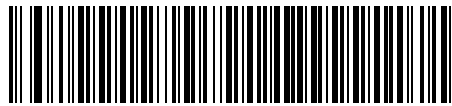
Code 11 - One Discrete Length



Code 11 - Two Discrete Lengths



Code 11 - Length Within Range



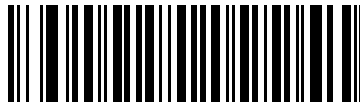
Code 11 - Any Length

Code 11 Check Digit Verification

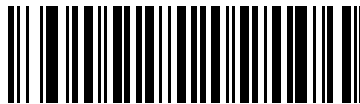
Parameter # 34h

This feature allows the scan engine to check the integrity of all Code 11 symbols to verify that the data complies with the specified check digit algorithm. This selects the check digit mechanism for the decoded Code 11 bar code. The options are to check for one check digit, check for two check digits, or disable the feature.

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



***Disable
(00h)**



**One Check Digit
(01h)**

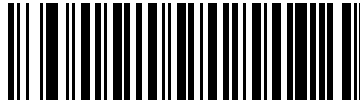


**Two Check Digits
(02h)**

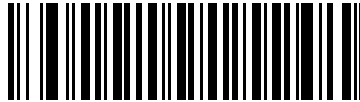
Transmit Code 11 Check Digits

Parameter # 2Fh

This feature selects whether or not to transmit the Code 11 check digit(s).



Transmit Code 11 Check Digit(s) (Enable)
(01h)



***Do Not Transmit Code 11 Check Digit(s) (Disable)**
(00h)

✓ **NOTE** Code 11 Check Digit Verification must be enabled for this parameter to function.

Interleaved 2 of 5

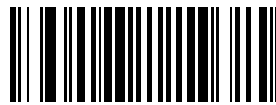
Enable/Disable Interleaved 2 of 5

Parameter # 06h

To enable or disable Interleaved 2 of 5, scan the appropriate bar code below.



*Enable Interleaved 2 of 5
(01h)



Disable Interleaved 2 of 5
(00h)

Set Lengths for Interleaved 2 of 5

Parameter # L1 = 16h L2 = 17h

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Lengths for I 2 of 5 may be set for any length, one or two discrete lengths, or lengths within a specific range. To set lengths via serial commands, see *Setting Code Lengths Via Serial Commands* on page B-8.

✓ **NOTE** When setting lengths, single digit numbers must always be preceded by a leading zero.

One Discrete Length - Select this option to decode only those codes containing a selected length. For example, select **I 2 of 5 One Discrete Length**, then scan **1, 4**, to decode only I 2 of 5 symbols containing 14 characters. Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



I 2 of 5 - One Discrete Length

Set Lengths for Interleaved 2 of 5 (continued)

Two Discrete Lengths - Select this option to decode only those codes containing two selected lengths. For example, select **I 2 of 5 Two Discrete Lengths**, then scan **0, 6, 1, 4**, to decode only I 2 of 5 symbols containing 6 or 14 characters. Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



I 2 of 5 - Two Discrete Lengths

Length Within Range - Select this option to decode only codes within a specified range. 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** (single digit numbers must always be preceded by a leading zero). Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



I 2 of 5 - Length Within Range

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

✓ **NOTE** Selecting this option may lead to misdecodes for I 2 of 5 codes.



I 2 of 5 - Any Length

I 2 of 5 Check Digit Verification

Parameter # 31h

When enabled, this parameter checks the integrity of an I 2 of 5 symbol to ensure it complies with a specified algorithm, either USS (Uniform Symbology Specification), or OPCC (Optical Product Code Council).



***Disable
(00h)**



**USS Check Digit
(01h)**



**OPCC Check Digit
(02h)**

Transmit I 2 of 5 Check Digit

Parameter # 2Ch

Scan this symbol to transmit the check digit with the data.



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

Scan this symbol to transmit data without the check digit.



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

Convert I 2 of 5 to EAN-13

Parameter # 52h

This parameter converts a 14 character I 2 of 5 code into EAN-13, and transmits to the host as EAN-13. To accomplish this, I 2 of 5 must be enabled, one length must be set to 14, and the code must have a leading zero and a valid EAN-13 check digit.



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



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

Discrete 2 of 5

Enable/Disable Discrete 2 of 5

Parameter # 05h

To enable or disable Discrete 2 of 5, scan the appropriate bar code below.



Enable Discrete 2 of 5
(01h)



*Disable Discrete 2 of 5
(00h)

Set Lengths for Discrete 2 of 5

Parameter # L1 = 14h L2 = 15h

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Lengths for D 2 of 5 may be set for any length, one or two discrete lengths, or lengths within a specific range. To set lengths via serial commands, see [Setting Code Lengths Via Serial Commands on page A-7](#).

One Discrete Length - Select this option to decode only those codes containing a selected length. For example, select **D 2 of 5 One Discrete Length**, then scan **1, 4**, to decode only D 2 of 5 symbols containing 14 characters. Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



D 2 of 5 - One Discrete Length

Two Discrete Lengths - Select this option to decode only those codes containing two selected lengths. For example, select **D 2 of 5 Two Discrete Lengths**, then scan **0, 2, 1, 4**, to decode only D 2 of 5 symbols containing 2 or 14 characters. Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



D 2 of 5 - Two Discrete Lengths

Set Lengths for Discrete 2 of 5 (continued)

Length Within Range - Select this option to decode codes within a specified range. For example, to decode D 2 of 5 symbols containing between 4 and 12 characters, first scan **D 2 of 5 Length Within Range**, then scan **0, 4, 1** and **2** (single digit numbers must be preceded by a leading zero). Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



D 2 of 5 - Length Within Range

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

✓ **NOTE** Selecting this option may lead to misdecodes for D 2 of 5 codes.



D 2 of 5 - Any Length

Chinese 2 of 5

Enable/Disable Chinese 2 of 5

Parameter # F0h 98h

To enable or disable Chinese 2 of 5, scan the appropriate bar code below.



Enable Chinese 2 of 5
(01h)



*Disable Chinese 2 of 5
(00h)

Matrix 2 of 5

Enable/Disable Matrix 2 of 5

Parameter # F1h 6Ah

To enable or disable Matrix 2 of 5, scan the appropriate bar code below.



Enable Matrix 2 of 5
(01h)



*Disable Matrix 2 of 5
(00h)

Set Lengths for Matrix 2 of 5

Parameter # L1 = F1h 6Bh L2 = F1h 6Ch

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 Matrix 2 of 5 to any length, one or two discrete lengths, or lengths within a specific range.

- **One Discrete Length** - Select this option to decode only Matrix 2 of 5 symbols containing a selected length. Select the length using the numeric bar codes beginning on [page 4-73](#). For example, to decode only Matrix 2 of 5 symbols with 14 characters, scan **Matrix 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 4-74](#).
- **Two Discrete Lengths** - Select this option to decode only Matrix 2 of 5 symbols containing either of two selected lengths. Select lengths using the numeric bar codes beginning on [page 4-73](#). For example, to decode only Matrix 2 of 5 symbols containing either 2 or 14 characters, select **Matrix 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 4-74](#).
- **Length Within Range** - Select this option to decode a Matrix 2 of 5 symbol with a specific length range. Select lengths using the numeric bar codes beginning on [page 4-73](#). For example, to decode Matrix 2 of 5 symbols containing between 4 and 12 characters, first scan **Matrix 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 4-74](#).
- **Any Length** - Scan this option to decode Matrix 2 of 5 symbols containing any number of characters within the digital scanner's capability.

Set Lengths for Matrix 2 of 5 (continued)

* Matrix 2 of 5 - One Discrete Length



Matrix 2 of 5 - Two Discrete Lengths



Matrix 2 of 5 - Length Within Range



Matrix 2 of 5 - Any Length

Matrix 2 of 5 Redundancy**Parameter # F1h 6Dh**

To enable or disable Matrix 2 of 5 redundancy, scan the appropriate bar code below.



Enable Matrix 2 of 5 Redundancy
(01h)



*Disable Matrix 2 of 5 Redundancy
(00h)

Matrix 2 of 5 Check Digit

Parameter # F1h 6Eh

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 Matrix 2 of 5 check digit.



**Enable Matrix 2 of 5 Check Digit
(01h)**

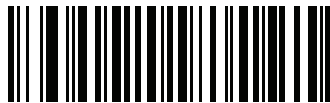


***Disable Matrix 2 of 5 Check Digit
(00h)**

Transmit Matrix 2 of 5 Check Digit

Parameter # F1h 6Fh

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



**Transmit Matrix 2 of 5 Check Digit
(01h)**



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

Inverse 1D

Parameter # F1h 4Ah

This parameter sets the 1D inverse decoder setting. Options are:

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



***Regular
(00h)**



**Inverse Only
(01h)**



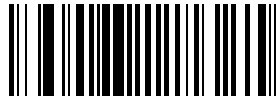
**Inverse Autodetect
(02h)**

Codabar

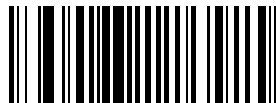
Enable/Disable Codabar

Parameter # 07h

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



**Enable Codabar
(01h)**



***Disable Codabar
(00h)**

Set Lengths for Codabar

Parameter # L1 = 18h L2 = 19h

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Lengths for Codabar may be set for any length, one or two discrete lengths, or lengths within a specific range. To set lengths via serial commands, see [Setting Code Lengths Via Serial Commands on page A-7](#).

One Discrete Length - Select this option to decode only those codes containing a selected length. For example, select **Codabar One Discrete Length**, then scan **1, 4**, to decode only Codabar symbols containing 14 characters. Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



Codabar - One Discrete Length

Two Discrete Lengths - This option sets the unit to decode only those codes containing two selected lengths. For example, select **Codabar Two Discrete Lengths**, then scan **0, 2, 1, 4**, to decode only Codabar symbols containing 6 or 14 characters. Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).

Codabar (continued)



Codabar - Two Discrete Lengths

Length Within Range - Select this option to decode a code within a specified range. 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** (single digit numbers must always be preceded by a leading zero). Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



Codabar - Length Within Range

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



Codabar - Any Length

CLSI Editing

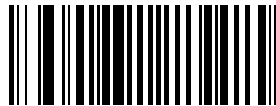
Parameter # 36h

When enabled, this parameter strips the start and stop characters and inserts a space after the first, fifth, and tenth characters of a 14-character Codabar symbol.

✓ **NOTE** Symbol length does not include start and stop characters.



Enable CLSI Editing
(01h)

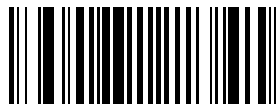


*Disable CLSI Editing
(00h)

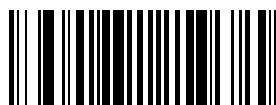
NOTIS Editing

Parameter # 37h

When enabled, this parameter strips the start and stop characters from decoded Codabar symbol.



Enable NOTIS Editing
(01h)



*Disable NOTIS Editing
(00h)

MSI

Enable/Disable MSI

Parameter # 0Bh

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



**Enable MSI
(01h)**



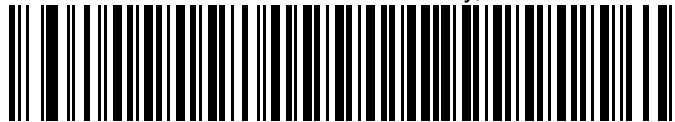
***Disable MSI
(00h)**

Set Lengths for MSI

Parameter # L1 = 1Eh L2 = 1Fh

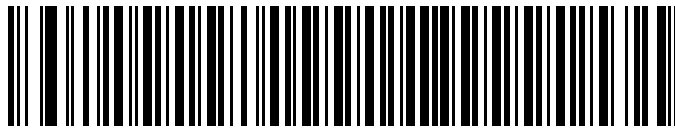
The length of a code refers to the number of characters (i.e., human readable characters) the code contains, and includes check digits. Lengths for MSI can be set for any length, one or two discrete lengths, or lengths within a specific range. See Table B-5 on page B-9 for ASCII equivalents. To set lengths via serial commands, see [Setting Code Lengths Via Serial Commands on page A-7](#).

One Discrete Length - Select this option to decode only those codes containing a selected length. For example, select **MSI - One Discrete Length**, then scan **1, 4**, to decode only MSI symbols containing 14 characters. Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



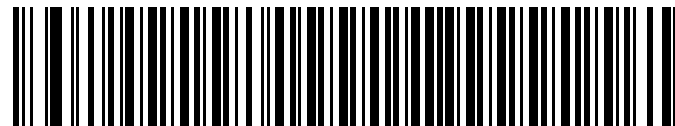
MSI - One Discrete Length

Two Discrete Lengths - Select this option to decode only those codes containing two selected lengths. For example, select **MSI - Two Discrete Lengths**, then scan **0, 6, 1, 4**, to decode only MSI symbols containing 6 or 14 characters. Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



MSI - Two Discrete Lengths

Length Within Range - Select this option to decode codes within a specified range. For example, to decode MSI symbols containing between 4 and 12 characters, first scan **MSI Length Within Range**, then scan **0, 4, 1** and **2** (single digit numbers must always be preceded by a leading zero). Numeric bar codes begin on [page 4-73](#). To change the selection or cancel an incorrect entry, scan [Cancel on page 4-74](#).



MSI - Length Within Range

Any Length - Scan this option to decode MSI Plessey symbols containing any number of characters.

✓ **NOTE** Selecting this option may lead to misdecodes for MSI codes.



MSI - Any Length

MSI Check Digits

Parameter # 32h

These check digits at the end of the bar code verify the integrity of the data. At least one check digit is always required. Check digits are not automatically transmitted with the data.



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

If two check digits are selected, also select an [MSI Check Digit Algorithm on page 4-64](#).



**Two MSI Check Digit
(01h)**

Transmit MSI Check Digit

Parameter # 2Eh

Scan this symbol to transmit the check digit with the data.



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

Scan this symbol to transmit data without the check digit.



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

MSI Check Digit Algorithm

Parameter # 33h

When the Two MSI check digits option is selected, an additional verification is required to ensure integrity. Select one of the following algorithms.



**MOD 10/ MOD 11
(00h)**



***MOD 10/ MOD 10
(01h)**

GS1-DataBar

Enable/Disable GS1 DataBar Omnidirectional

Parameter # F0h 52h

To enable or disable GS1 DataBar Omnidirectional, scan the appropriate bar code below.



***Enable GS1 DataBar Omnidirectional
(01h)**



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

Enable/Disable GS1 DataBar Limited

Parameter # F0h 53h

To enable or disable GS1 DataBar Limited, scan the appropriate bar code below.



***Enable GS1 DataBar Limited
(01h)**

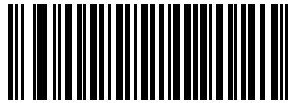


**Disable GS1 DataBar Limited
(00h)**

Enable/Disable GS1 DataBar Expanded

Parameter # F0h 54h

To enable or disable GS1 DataBar Expanded, scan the appropriate bar code below.



***Enable GS1 DataBar Expanded
(01h)**



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

Convert GS1 DataBar to UPC/EAN

Parameter # F0h 8Dh

This parameter only applies to GS1 DataBar Omnidirectional and GS1 DataBar Limited symbols. When this conversion is enabled, GS1 DataBar Omnidirectional and GS1 DataBar Limited symbols encoding a single zero as the first digit have the leading '010' stripped and the bar code reported as EAN-13.

Bar codes beginning with two or more zeros but not six zeros have the leading '0100' stripped and the bar code reported as UPC-A. The UPC-A Preamble parameter to transmit the system character and country code applies to converted bar codes. Note that neither the system character nor the check digit can be stripped.



Enable Convert GS1 DataBar to UPC/EAN



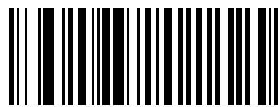
***Disable Convert GS1 DataBar to UPC/EAN**

Transmit Code ID Character

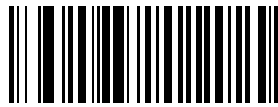
Parameter # 2Dh

A code ID character identifies the code type of a scanned bar code. This can be useful when decoding more than one code type. The code ID character is inserted between the prefix character (if selected) and the decoded symbol.

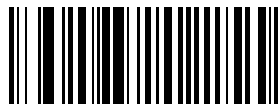
Select no code ID character, a Symbol Code ID character, or an AIM Code ID character. The Symbol Code ID characters are listed below; see [Appendix A, Miscellaneous Code Information](#) for [Symbol Code Identifiers](#) and [AIM Code Identifiers](#).



Symbol Code ID Character
(02h)



Aim Code ID Character
(01h)



*None
(00h)

Scan Data Transmission Format

Parameter # EBh

To change the Scan Data Transmission Format, scan one of the eight bar codes corresponding to the desired format.



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



**<DATA><CR><LF>
(01h)**



**<DATA> <CR>
(02h)**



**<DATA> <LF>
(03h)**

Decode Data Packet Format

Parameter # EEh

This parameter selects whether decoded data is transmitted in raw format (unpacketed), or transmitted with the packet format as defined by the serial protocol.

If the raw format is selected, ACK/NAK handshaking is disabled for decode data.



***Send Raw Decode Data
(00h)**



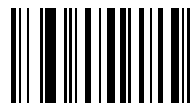
**Send Packeted Decode Data
(01h)**

Numeric Bar Codes

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



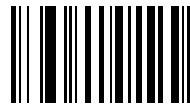
0



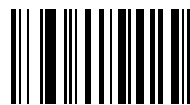
1



2



3

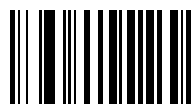


4

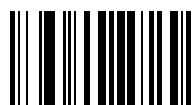


5

Numeric Bar Codes (continued)



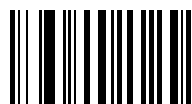
6



7



8



9

Cancel

To change the selection or cancel an incorrect entry, scan the bar code below.



Cancel