7A Series Scanner

User Guide

Table of Contents

Chapter 1 Getting Started 1

Introduction 1
About This Guide 2
Barcode Scanning 2
Configuring the Scanner 3
Barcode Programming 3
Enter/Exit Setup 3
Programming Barcode Data 3
Factory Defaults 4

Chapter 2 Scan Mode 5

Manual Mode 5
Continuous Mode 6
Sense Mode 10

Chapter 3 Notification 14

Good Read Beep 14
Decode Result Notification 15
Other Settings 16
Silent Mode 16
Illumination 16

Chapter 4 Communication Settings 17

USB Interface 18
USB HID-KBW 18
Standard Keyboard 19
Emulate ALT+Keypad 19
Function Key Mapping 20
ASCII Function Key Mapping Table 21
USB Country Keyboard Types 22
Inter-Keystroke Delay 25
Convert Case 26
Emulate Numeric Keypad 27

Chapter 5 Data Formatting 28

Introduction 28

Prefix Sequence 29
Custom Prefix 30
Enable/Disable Custom Prefix 30
Set Custom Prefix 30
AIM ID Prefix 31
CODE ID Prefix 32
Restore All Default Code IDs 32
Set Code ID 32
Custom Suffix 36
Enable/Disable Custom Suffix 36
Set Custom Suffix 37
Terminating Character Suffix 38
Enable/Disable Terminating Character Suffix 38
Set Terminating Character Suffix 39

Chapter 6 Symbologies 40

Introduction 40
Global Settings 40
Enable/Disable All Symbologies 40
Code 128 41
Restore Factory Defaults 41
Enable/Disable Code 128 41
Set Length Range for Code 128 42
UCC/EAN-128 43
Restore Factory Defaults 43
Enable/Disable UCC/EAN-128 43
Set Length Range for UCC/EAN-128 44
EAN-8 45
Restore Factory Defaults 45
Enable/Disable EAN-8 45
Transmit Check Digit 45
Add-On Code 46
Add-On Code Required 47
EAN-8 Extension 47
EAN-13 48
Restore Factory Defaults 48
Enable/Disable EAN-13 48
Transmit Check Digit 48
Add-On Code 49

Add-On Code Required 50
ISSN 51
Restore Factory Defaults 51
Enable/Disable ISSN 51
ISBN 52
Restore Factory Defaults 52
Enable/Disable ISBN 52
Set ISBN Format 53
UPC-E 54
Restore Factory Defaults 54
Enable/Disable UPC-E 54
Transmit Check Digit 54
Add-On Code 55
Add-On Code Required 56
Transmit System Character 56
UPC-E Extension 57
UPC-A 58
Restore Factory Defaults 58
Enable/Disable UPC-A 58
Transmit Check Digit 59
Transmit Preamble Character 59
Add-On Code 60
Add-On Code Required 61
Interleaved 2 of 5 62
Restore Factory Defaults 62
Enable/Disable Interleaved 2 of 5 62
Check Digit Verification 63
Set Length Range for Interleaved 2 of 5 64
Matrix 2 of 5 (European Matrix 2 of 5) 65
Restore Factory Defaults 65
Enable/Disable Matrix 2 of 5 65
Check Digit Verification 66
Set Length Range for Matrix 2 of 5 67
Industrial 25 68
Restore Factory Defaults 68
Enable/Disable Industrial 25 68
Check Digit Verification 69
Set Length Range for Industrial 25 70
Code 39 71

Restore Factory Defaults 71
Enable/Disable Code 39 71
Check Digit Verification 72
Transmit Start/Stop Character 73
Enable/Disable Code 39 Full ASCII 73
Set Length Range for Code 39 74
Codabar 75
Restore Factory Defaults 75
Enable/Disable Codabar 75
Check Digit Verification 76
Start/Stop Character 77
Set Length Range for Codabar 78
Code 93 79
Restore Factory Defaults 79
Enable/Disable Code 93 79
Check Digit Verification 80
Set Length Range for Code 93 81
Code 11 82
Restore Factory Defaults 82
Enable/Disable Code 11 82
Check Digit Verification 83
Set Length Range for Code 11 84
MSI 85
Restore Factory Defaults 85
Enable/Disable MSI 85
Check Digit Verification 86
Set Length Range for MSI 87
RSS-14 (GS1 DataBar) 88
Restore Factory Defaults 88
Enable/Disable RSS-14 (GS1 DataBar) 88
Transmit Application Identifier “01” 88
RSS-Limited (GS1 DataBar Limited) 89
Restore Factory Defaults 89
Enable/Disable RSS-Limited (GS1 DataBar Limited) 89
Transmit Application Identifier “01” 89
RSS-Expand (GS1 DataBar Expanded) 90
Restore Factory Defaults 90
Enable/Disable RSS-Expand 90

Appendix **91**

Factory Defaults Table 91
AIM ID Table 98
Code ID Table 100
ASCII Table 101
Digit Barcodes 107
Save/Cancel Barcodes 110
F1~F12 111

** Enter Setup

Chapter 1 Getting Started

Introduction

The 7A Series Scanner, armed with the patented computerized image recognition system, bring about a new era of 1D barcode scanning.

The 7A Series Scanner's 1D barcode decoder chip ingeniously blends technology and advanced chip design & manufacturing, which significantly simplifies application design and delivers superior performance and solid reliability with low power consumption.

The 7A Series Scanner supports EAN-13, EAN-8, UPC-A, UPC-E, ISSN, ISBN, Codabar, Code 128, Code 93, Interleaved 2 of 5, Industrial 2 of 5, Matrix 2 of 5, RSS-14(GS1 Databar), Code 39, Code 11, MSI.

Exit Setup

** Enter Setup

About This Guide

This guide provides programming instructions for the 7A Series Scanner. Users can configure the scanner by scanning the programming barcodes included in this manual.

The 7A Series Scanner has been properly configured for most applications and can be put into use without further configuration. Users may check the ***Factory Defaults Table*** in Appendix for reference. Throughout the manual, programming barcodes marked with asterisks (**) are factory default values.

Barcode Scanning

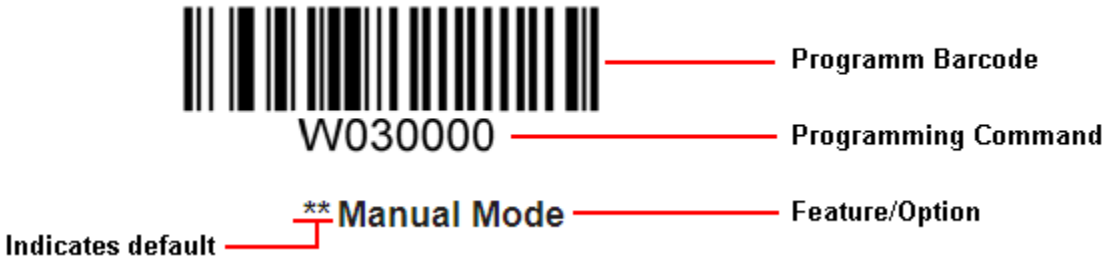
Powered by imaging technology and patented technology, the 7A Series Scanner features fast scanning and accurate decoding. When scanning a barcode, simply center the aiming beam projected by the scanner over the barcode.

Exit Setup

Configuring the Scanner

Barcode Programming

The 7A Series Scanner can be configured by scanning programming barcodes. All user programmable features/options are described along with their programming barcodes in the following sections.



Enter/Exit Setup

W010F01

** Enter Setup

W010F00

Exit Setup

Programming Barcode Data

W060F00

** Do Not Transmit Programming Barcode Data

W060F06

Transmit Programming Barcode Data

W010F01

** Enter Setup

Factory Defaults

Scanning the following barcode can restore the scanner to the factory defaults.

User may need to reset scanner when:

1. Scanner is not properly configured so that it fails to decode barcodes;

2. User forget previous configuration and want to avoid its impact;

3. Functions that are rarely used have been enabled for the time being.

WFFD980

Restore All Factory Defaults

W010F01

** Enter Setup

Chapter 2 Scan Mode

Manual Mode

Manual Mode (default): A trigger pull activates a decode session. The decode session continues until the barcode is decoded or the trigger is released or the decode session timeout expires.

W030000

** Manual Mode

Decode Session Timeout: This parameter sets the maximum time decode session continues during a scan attempt. It is programmable in 1s increments from 1s to 255s. The default timeout is 15s. If the parameter is set to 0, the decode session timeout is infinite.

M00031D

Decode Session Timeout

Example: Set the decode session timeout to 5s

1. Scan the **Enter Setup** barcode.
2. Scan the **Decode Session Timeout** barcode.
3. Scan the numeric barcode “5”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.

W010F00

Exit Setup

W010F01

** Enter Setup

Continuous Mode

Continuous Mode: A trigger press activates the scanner to scan and decode at user-specified intervals, i.e. the timeout between decodes. Each decode session lasts until barcode is decoded or the decode session timeout expires. To suspend/resume the operation, simply press the trigger.

W030002

Continuous Mode

Decode Session Timeout: This parameter sets the maximum time decode session continues during a scan attempt. It is programmable in 1s increments from 1s to 255s. The default timeout is 15s. If the parameter is set to 0, the decode session timeout is infinite.

M00031D

Decode Session Timeout

Example: Set the decode session timeout to 5s

1. Scan the **Enter Setup** barcode.
2. Scan the **Decode Session Timeout** barcode.
3. Scan the numeric barcode “5”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.

W010F01

**** Enter Setup**

Timeout between Decodes:This parameter sets the timeout between decode sessions. When a decode session ends, next session will not happen until the timeout between decodes expires. It is programmable in 0.1s increments from 0.0s to 25.5s. The default timeout is 1.0s.

M00031C

Timeout between Decodes

Example: Set the timeout between decodes to 5s

1. Scan the **Enter Setup** barcode.
2. Scan the **Timeout between Decodes** barcode.
3. Scan the numeric barcodes “5” and “0”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.

W010F00

Exit Setup

Timeout between Decodes (Same Barcode) can avoid undesired rereading of same barcode in a given period of time. This parameter sets the timeout between decodes for same barcode. It is programmable in 0.1s increments from 0.1s to 25.5s. The default timeout is 3.0s. If the parameter is set to 0, the timeout between decodes (same barcode) is infinite.

Note: This parameter is only valid when the **Disallow Rereading Same Barcode** is enabled.

M00031E

Timeout between Decodes (Same Barcode)

Allow Rereading Same Barcode: The scanner is allowed to re-read same barcode, ignoring the timeout between decodes (same barcode).

Disallow Rereading Same Barcode: The scanner is not allowed to re-read same barcode before the timeout between decodes (same barcode) expires.

W100A00

Allow Rereading Same Barcode

W100A10

**** Disallow Rereading Same Barcode**

Example: Set the timeout between decodes (same barcode) to 5s

1. Scan the **Enter Setup** barcode.
2. Scan the **Timeout between Decodes (Same Barcode)** barcode.
3. Scan the numeric barcodes “5” and “0”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.

W010F01

** Enter Setup

Security Level 0-3 level. The higher the value, the lower the error rate and efficiency.

**Level 0

Level 1

Level 2

Level 3

W010F00

Exit Setup

** Enter Setup

Sense Mode

Sense Mode: The scanner activates a decode session every time when it detects a change in ambient illumination and meets the requirement of the image stabilization timeout. Decode session continues until barcode is decoded or the decode session timeout expires.

Sense Mode

Decode Session Timeout: This parameter sets the maximum time decode session continues during a scan attempt. It is programmable in 1s increments from 1s to 255s. The default timeout is 15s. If the parameter is set to 0, the decode session timeout is infinite.

Decode Session Timeout

Example: Set the decode session timeout to 5s

1. Scan the **Enter Setup** barcode.
2. Scan the **Decode Session Timeout** barcode.
3. Scan the numeric barcode “5”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.

Exit Setup

W010F01

**** Enter Setup**

Image Stabilization Timeout: The scanner waits for the image stabilization timeout to expire before activating a decode session every time it detects a change in ambient illumination. This parameter is programmable in 0.1s increments from 0.0s to 25.5s.

M00031B

Image Stabilization Timeout

Example: Set the Image Stabilization Timeout to 5s

1. Scan the **Enter Setup** barcode.
2. Scan the **Image Stabilization Timeout** barcode.
3. Scan the numeric barcodes “5” and “0”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.

W010F00

Exit Setup

W010F01

** Enter Setup

Timeout between Decodes (Same Barcode) can avoid undesired rereading of same barcode in a given period of time. This parameter sets the timeout between decodes for same barcode. It is programmable in 0.1s increments from 0.1s to 25.5s. The default timeout is 3.0s. If the parameter is set to 0, the timeout between decodes (same barcode) is infinite.

Note: This parameter is only valid when the **Disallow Rereading Same Barcode** is enabled.

M00031E

Timeout between Decodes (Same Barcode)

Allow Rereading Same Barcode: The scanner is allowed to re-read same barcode, ignoring the timeout between decodes (same barcode).

Disallow Rereading Same Barcode: The scanner is not allowed to re-read same barcode before the timeout between decodes (same barcode) expires.

W100A00

Allow Rereading Same Barcode

W100A10

** **Disallow Rereading Same Barcode**

Example: Set the timeout between decodes (same barcode) to 5s

1. Scan the **Enter Setup** barcode.
2. Scan the **Timeout between Decodes (Same Barcode)** barcode.
3. Scan the numeric barcodes “5” and “0”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.

W010F00

Exit Setup

W010F01

** Enter Setup

Sensitivity: This parameter specifies the degree of acuteness of the scanner's response to changes in ambient illumination. The higher the sensitivity, the lower requirement in illumination change to trigger the scanner. You can select an appropriate degree of sensitivity that fits the ambient environment.

WFF0305

High Sensitivity

WFF0310

** Medium Sensitivity**

WFF0330

** Medium Sensitivity**

M00031A

Custom Sensitivity

Sensitivity levels range from 0 to 255. The smaller the number, the higher the sensitivity.

Example: Set the sensitivity level to 10

1. Scan the **Enter Setup** barcode.
2. Scan the **Custom Sensitivity** barcode.
3. Scan the numeric barcodes "1" and "0". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.

W010F00

** Enter Setup

Chapter 3 Notification

Good Read Beep

** Good Read Beep On

Good Read Beep Off

Low Frequency

** Medium Frequency

High Frequency

Beep Duration: 40ms

** Beep Duration: 80ms

Beep Duration: 120ms

Exit Setup

**** Enter Setup**

Decode Result Notification

When enabled, if a barcode does not decode, “F” is transmitted; if a barcode is decoded, “S” is appended to the barcode data as the most left character.

Enable Decode Result Notification

**** Disable Decode Result Notification**

Exit Setup

** Enter Setup

Other Settings

You can change the following parameter settings temporarily and the changes will be lost when you power down or reboot the scanner.

Silent Mode

Silent Mode On

** Silent Mode Off

Note: This feature is only applicable to decode beep and will be automatically disabled when the scanner is powered down or rebooted.

Illumination

Off

Always On

** On When Scanning

Exit Setup

** Enter Setup

Chapter 4 Communication Settings

The scanner provides USB HID interface to communicate with the host device. The host device can receive scanned data.

Exit Setup

** Enter Setup

USB Interface

USB HID-KBW

When enabled, the scanner's transmission is simulated as USB keyboard input. It works on a Plug and Play basis and no driver is required.

USB HID-KBW

Exit Setup

W010F01

** Enter Setup

Standard Keyboard

W031A00

**** Standard Keyboard**

Emulate ALT+Keypad

When **Emulate ALT+Keypad** is enabled, any ASCII character (0x00 - 0xFF) is sent over the numeric keypad no matter which keyboard type is selected. Since sending a character involves multiple keystroke emulations, this method appears less efficient.

1. ALT Make
2. Enter the number corresponding to the ASCII character on the keypad.
3. ALT Break

W031A03

Emulate ALT+Keypad

Note: It is recommended to turn on the Num Lock light on the host when using this feature.

W010F00

Exit Setup

W010F01

** Enter Setup

Function Key Mapping

When **Function Key Mapping** is enabled, function character (0x00 - 0x1F) are sent as ASCII sequences over the numeric keypad.

1. CTRL Make
2. Press function key (Refer to the **ASCII Function Key Mapping Table** on the following page)
3. CTRL Break

W031A01

Function Key Mapping

W010F00

Exit Setup

** Enter Setup

ASCII Function Key Mapping Table

ASCII Value （HEX）	Function Key	ASCII Value （HEX）	Function Key
00	2	10	P
01	A	11	Q
02	B	12	R
03	C	13	S
04	D	14	T
05	E	15	U
06	F	16	V
07	G	17	W
08	H	18	X
09	I	19	Y
0A	J	1A	Z
0B	K	1B	[
0C	L	1C	\
0D	M	1D	]
0E	N	1E	6
0F	O	1F	.

Exit Setup

W010F01

** Enter Setup

USB Country Keyboard Types

Keyboard layouts vary from country to country. All supported keyboard types are listed below.

WFF1900

** 1 - U.S.

WFF1901

2 - Belgium

WFF1902

3 - Brazil

WFF1903

4 - Canada

WFF1904

5 - Czech

WFF1905

6 - Denmark

WFF1906

7 - Finland

WFF1907

8 - France

W010F00

Exit Setup

W010F01

**** Enter Setup**

WFF1908

9 – Germany (Austria)

WFF1909

10 - Greece

WFF190A

11 - Hungary

WFF190B

12 - Israel

WFF190C

13 - Italy

WFF190D

14 - Latin America

WFF190E

15 - Netherland

WFF190F

16 - Norway

WFF1910

17 - Poland

WFF1911

18 - Portugal

W010F00

Exit Setup

W010F01

** Enter Setup

WFF1912

19 - Romania

WFF1913

20 - Russia

WFF1915

21 - Slovakia

WFF1916

22 - Spain

WFF1917

23 - Sweden

WFF1918

24 - Switzerland

WFF1919

25 - Turkey1

WFF191A

26 - Turkey 2

WFF191B

27 - UK

WFF191C

28 - Japan

W010F00

Exit Setup

**** Enter Setup**

Inter-Keystroke Delay

This parameter specifies the delay between emulated keystrokes.

**** No Delay**

Short Delay (5ms)

Medium Delay (10ms)

Long Delay (15ms)

Exit Setup

**** Enter Setup**

Convert Case

This parameter is valid when the **Standard Keyboard** or **Function Key Mapping** is enabled.

**** No Case Conversion**

Convert All to Upper Case

Convert All to Lower Case

Invert Upper and Lower Case Characters

Example: When the **Invert Upper and Lower Case Characters** feature is enabled, barcode data “AbC” is transmitted as “aBc”.

Exit Setup

W010F01

** Enter Setup

Emulate Numeric Keypad

When this feature is disabled, sending barcode data is emulated as keystroke(s) on main keyboard.

To enable this feature, scan the **Emulate Numeric Keypad** barcode. Sending a number (0-9) is emulated as keystroke on numeric keypad, whereas sending other character like “+”, “_”, “*” , “/” and “.” is still emulated as keystroke on main keyboard. However, this feature is influenced by the state of the Num Lock key on the host: if the Num Lock light on the host is ON, numbers are sent over numeric keypad, if it is OFF, numbers are sent over main keyboard.

W041A04

Emulate Numeric Keypad

W041A00

** **Do Not Emulate Numeric Keypad**

Note: Make sure the Num Lock light of the Host is turned ON when using this feature.
Emulate ALT+Keypad ON prevails over **Emulate Numeric Keypad**.

W010F00

Exit Setup

** Enter Setup

Chapter 5 Data Formatting

Introduction

After a successful barcode read, a string containing numbers, letters or symbols will be returned.

In real applications, barcode data may be found insufficient for your needs. You may wish to include additional information such as barcode type, data acquisition time or delimiter in data being scanned.

Adding extra information to printed barcodes does not seem like a sensible solution since that will increase the barcode size and make them inflexible. Instead, we come up with the idea of appending prefix and suffix to the data without making any change to barcodes. We will show you how to conduct the configuration in the following sections.

Note: Customized data: <Prefix> <Data><Suffix><Terminating Character>

Exit Setup

W010F01

** Enter Setup

Prefix Sequence

W013100

** Code ID+Custom+AIM ID

W013101

Custom+Code ID+ AIM ID

W010F00

Exit Setup

W010F01

**** Enter Setup**

Custom Prefix

Enable/Disable Custom Prefix

If custom prefix is enabled, you are allowed to append to the data a user-defined prefix that cannot exceed 5 characters.

For example, if barcode data is “123” and custom prefix is “AB”, the host will receive “AB123”.

W043104

Enable Custom Prefix

W043100

**** Disable Custom Prefix**

Set Custom Prefix

To set a custom prefix, scan the **Set Custom Prefix** barcode, the numeric barcodes corresponding to the hexadecimal value of a desired prefix and the **Save** barcode.

Note: A custom prefix cannot exceed 5 characters.

M000100

Set Custom Prefix

Example: Set the custom prefix to “CODE” (its hexadecimal value is 0x43/0x4F/0x44/0x45)

1. Scan the **Enter Setup** barcode.
2. Scan the **Set Custom Prefix** barcode.
3. Scan the numeric barcodes “4”,“3”,“4”,“F”,“4”,“4”,“4” and “5”. (See the **Digit Barcodes**section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Enable Custom Prefix** barcode.
6. Scan the **Exit Setup** barcode.

W010F00

Exit Setup

** Enter Setup

AIM ID Prefix

AIM (Automatic Identification Manufacturers) ID defines symbology identifier (For the details, see the **AIM ID Table** section in Appendix). If AIM ID prefix is enabled, the scanner will add the symbology identifier before the scanned data after decoding.

Enable AIM ID Prefix

** Disable AIM ID Prefix

Exit Setup

** Enter Setup

CODE ID Prefix

Code ID can also be used to identify barcode type. Unlike AIM ID, Code ID is user programmable. For the information of default Code ID, see the **Code ID Table** section in Appendix.

Enable CODE ID Prefix

** Disable CODE ID Prefix

Restore All Default Code IDs

Restore All Default Code IDs

Set Code ID

Code ID can only consist of one or two English letters. To set a Code ID, scan a **Set Code ID** barcode, the numeric barcodes corresponding to the hexadecimal value of a desired ID and the **Save** barcode.

Example: Set the Code ID of Code 128 to "p" (its hexadecimal value is 0x70)

1. Scan the **Enter Setup** barcode.
2. Scan the **Set Code 128 Code ID** barcode. (See the barcode on the following page)
3. Scan the numeric barcodes "7" and "0". (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Exit Setup** barcode.

Exit Setup

Set Code ID Barcodes

M000200

Set Code 128 Code ID

M000201

Set UCC/EAN-128 Code ID

M000204

Set EAN-8 Code ID

M000205

Set EAN-13 Code ID

M000206

Set ISSN Code ID

M000207

Set ISBN Code ID

M000208

Set UPC-E Code ID

M000209

Set UPC-A Code ID

W010F01

** Enter Setup

Set Code ID Barcodes (continued)

M00020A

Set Interleaved 2 of 5 Code ID

M00020F

Set Matrix 2 of 5 Code ID

M000210

Set Industrial 25 Code ID

M000212

Set Code 39 Code ID

M000213

Set Codabar Code ID

M000214

Set Code 93 Code ID

M000215

Set Code 11 Code ID

M000217

Set MSI Code ID

W010F00

Exit Setup

W010F01

** Enter Setup

Set Code ID Barcodes (continued)

M000218

Set RSS-14, Code ID

(GS1 DataBar)

M000219

Set RSS-Limited Code ID

(GS1 DataBar Limited)

M00021A

Set RSS-Expand Code ID

(GS1 DataBar Expanded)

W010F00

Exit Setup

** Enter Setup

Custom Suffix

Enable/Disable Custom Suffix

If custom suffix is enabled, you are allowed to append to the data a user-defined suffix that cannot exceed 5 characters.

For example, if barcode data is “123” and custom suffix is “AB”, the host will receive “123AB”.

Enable Custom Suffix

** Disable Custom Suffix

Exit Setup

W010F01

**** Enter Setup**

Set Custom Suffix

To set a custom suffix, scan the **Set Custom Suffix** barcode, the numeric barcodes corresponding to the hexadecimal value of a desired suffix and the **Save** barcode.

Note: A custom suffix cannot exceed 5 characters.

M000101

Set Custom Suffix

Example: Set the custom suffix to "CODE" (its hexadecimal value is 0x43/0x4F/0x44/0x45)

1. Scan the **Enter Setup** barcode.
2. Scan the **Set Custom Suffix** barcode.
3. Scan the numeric barcodes "4","3","4","F","4","4","4" and "5". (See the **Digit Barcodes**section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Enable Custom Suffix** barcode.
6. Scan the **Exit Setup** barcode.

W010F00

Exit Setup

** Enter Setup

Terminating Character Suffix

A terminating character, such as carriage return (CR) and line feed (LF), can be used to mark the end of data, which means nothing can be added after it.

A terminating character suffix cannot exceeed 5 characters.

Enable/Disable Terminating Character Suffix

This parameter determines whether to append predefined terminating character suffix to the data.

Enable Terminating Character Suffix

** **Disable Terminating Character Suffix**

Exit Setup

**** Enter Setup**

Set Terminating Character Suffix

The scanner provides a shortcut for setting the terminating character suffix to **0x0D (CR)** or **0x0D,0x0A (CRLF)** or **0x09 (Horizontal Tab)**, and enabling it by scanning the appropriate barcode below.

Terminating Character 0x0D

Terminating Character 0x0D,0x0A

Terminating Character 0x09

Set Terminating Character Suffix

To set a terminating character suffix, scan the **Set Terminating Character Suffix** barcode, the numeric barcodes corresponding to the hexadecimal value of a desired terminating character, and the **Save** barcode.

Note: A terminating character suffix cannot exceed 5 characters.

Example: Set the terminating character suffix to 0x0A (LF)

1. Scan the **Enter Setup** barcode.
2. Scan the **Set Terminating Character Suffix** barcode.
3. Scan the numeric barcodes “0” and “A”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Enable Terminating Character Suffix** barcode.
6. Scan the **Exit Setup** barcode.

Exit Setup

W010F01

** Enter Setup

Chapter 6 Symbologies

Introduction

Every symbology (barcode type) has its own unique attributes. This chapter provides programming barcodes for configuring the scanner so that it can identify various barcode symbologies. It is recommended to disable those that are rarely used in order to increase the efficiency of the scanner.

Global Settings

Enable/Disable All Symbologies

If all symbologies are disabled, the scanner can only identify programming barcodes.

WFFD981

Enable All Symbologies

WFFD982

Disable All Symbologies

W010F00

Exit Setup

** Enter Setup

Code 128

Restore Factory Defaults

Restore the Factory Defaults of Code 128

Enable/Disable Code 128

** Enable Code 128

Disable Code 128

Exit Setup

W010F01

** Enter Setup

Set Length Range for Code 128

The scanner can be configured to only decode Code 128 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the scanner only decodes Code 128 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Code 128 barcodes with that length are to be decoded.

M000301

Set the Minimum Length

M000300

Set the Maximum Length

Example: Set the scanner to decode Code128 barcodes containing between 8 and 12 characters

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes “1” and “2”.
7. Scan the **Save** barcode.
8. Scan the **Exit Setup** barcode.

W010F00

Exit Setup

** Enter Setup

UCC/EAN-128

Restore Factory Defaults

Restore the Factory Defaults of UCC/EAN-128

Enable/Disable UCC/EAN-128

** Enable UCC/EAN-128

Disable UCC/EAN-128

Decode as Code 128

Exit Setup

W010F01

** Enter Setup

Set Length Range for UCC/EAN-128

The scanner can be configured to only decode UCC/EAN-128 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the scanner only decodes UCC/EAN-128 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only UCC/EAN-128 barcodes with that length are to be decoded.

M000303

Set the Minimum Length

M000302

Set the Maximum Length

Example: Set the scanner to decode UCC/EAN-128 barcodes containing between 8 and 12 characters

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes “1” and “2”.
7. Scan the **Save** barcode.
8. Scan the **Exit Setup** barcode.

W010F00

Exit Setup

W010F01

** Enter Setup

EAN-8

Restore Factory Defaults

WFFD994

Restore the Factory Defaults of EAN-8

Enable/Disable EAN-8

W016501

**** Enable EAN-8**

W016500

Disable EAN-8

Transmit Check Digit

EAN-8 is 8 digits in length with the last one as its check digit used to verify the integrity of the data.

W046504

**** Transmit EAN-8 Check Digit**

W046500

Do Not Transmit EAN-8 Check Digit

W010F00

Exit Setup

W010F01

** Enter Setup

Add-On Code

An EAN-8 barcode can be augmented with a two-digit or five-digit add-on code to form a new one. In the examples below, the part surrounded by blue dotted line is an EAN-8 barcode while the part circled by red dotted line is add-on code.

W106510

Enable 2-Digit Add-On Code

W106500

**** Disable 2-Digit Add-On Code**

W206520

Enable 5-Digit Add-On Code

W206500

**** Disable 5-Digit Add-On Code**

Enable 2-Digit Add-On Code/ Enable 5-Digit Add-On Code: The scanner decodes a mix of EAN-8 barcodes with and without 2-digit/5-digit add-on codes.

Disable 2-Digit Add-On Code/ Disable 5-Digit Add-On Code: The scanner decodes EAN-8 and ignores the add-on code when presented with an EAN-8 plus add-on barcode. It can also decode EAN-8 barcodes without add-on codes.

**** Enter Setup**

Add-On Code Required

This parameter is only valid when **Enable 2-Digit Add-On Code** and/or **Enable 5-Digit Add-On Code** is selected.

EAN-8 Add-On Code Required

**** EAN-8 Add-On Code Not Required**

EAN-8 Extension

Disable EAN-8 Zero Extend: Transmit EAN-8 barcodes as is.

Enable EAN-8 Zero Extend: Add five leading zeros to decoded EAN-8 barcodes to extend to13 digits.

Convert EAN-8 to EAN-13: Add five leading zeros to decoded EAN-8 barcodes to make them compatible in format to EAN-13 barcodes.

Enable EAN-8 Zero Extend

**** Disable EAN-8 Zero Extend**

Convert EAN-8 to EAN-13

Exit Setup

W010F01

** Enter Setup

EAN-13

Restore Factory Defaults

' WFFD995

Restore the Factory Defaults of EAN-13

Enable/Disable EAN-13

W016601

**** Enable EAN-13**

W016600

Disable EAN-13

Transmit Check Digit

EAN-13 is 13 digits in length with the last one as its check digit used to verify the integrity of the data.

W046604

**** Transmit EAN-13 Check Digit**

W046600

Do Not Transmit EAN-13 Check Digit

W010F00

Exit Setup

W010F01

** Enter Setup

Add-On Code

An EAN-13 barcode can be augmented with a two-digit or five-digit add-on code to form a new one. In the examples below, the part surrounded by blue dotted line is an EAN-13 barcode while the part circled by red dotted line is add-on code.

W106610

Enable 2-Digit Add-On Code

W106600

**** Disable 2-Digit Add-On Code**

W206620

Enable 5-Digit Add-On Code

W206600

**** Disable 5-Digit Add-On Code**

Enable 2-Digit Add-On Code/ Enable 5-Digit Add-On Code: The scanner decodes a mix of EAN-13 barcodes with and without 2-digit/5-digit add-on codes.

Disable 2-Digit Add-On Code/ Disable 5-Digit Add-On Code: The scanner decodes EAN-13 and ignores the add-on code when presented with an EAN-13 plus add-on barcode. It can also decode EAN-13 barcodes without add-on codes.

W010F00

Exit Setup

W010F01

** Enter Setup

Add-On Code Required

This parameter is only valid when **Enable 2-Digit Add-On Code** and/or **Enable 5-Digit Add-On Code** is selected.

W086608

EAN-13 Add-On Code Required

W086600

**** EAN-13 Add-On Code Not Required**

W010F00

Exit Setup

** Enter Setup

ISSN

Restore Factory Defaults

Restore the Factory Defaults of ISSN

Enable/Disable ISSN

Enable ISSN

** Disable ISSN

Decode as EAN-13

Exit Setup

W010F01

** Enter Setup

ISBN

Restore Factory Defaults

WFFD997

Restore the Factory Defaults of ISBN

Enable/Disable ISBN

W036802

Enable ISBN

W036800

** Disable ISBN

W036801

Decode as EAN-13

W010F00

Exit Setup

** Enter Setup

Set ISBN Format

** ISBN-13

ISBN-10

Exit Setup

W010F01

** Enter Setup

UPC-E

Restore Factory Defaults

WFFD998

Restore the Factory Defaults of UPC-E

Enable/Disable UPC-E

W016901

**** Enable UPC-E**

W016900

Disable UPC-E

Transmit Check Digit

UPC-E is 8 digits in length with the last one as its check digit used to verify the integrity of the data.

W046904

**** Transmit UPC-E Check Digit**

W046900

Do Not Transmit UPC-E Check Digit

W010F00

Exit Setup

W010F01

** Enter Setup

Add-On Code

A UPC-E barcode can be augmented with a two-digit or five-digit add-on code to form a new one. In the examples below, the part surrounded by blue dotted line is a UPC-E barcode while the part circled by red dotted line is add-on code.

W106910

Enable 2-Digit Add-On Code

W106900

**** Disable 2-Digit Add-On Code**

W206920

Enable 5-Digit Add-On Code

W206900

**** Disable 5-Digit Add-On Code**

Enable 2-Digit Add-On Code/ Enable 5-Digit Add-On Code: The scanner decodes a mix of UPC-E barcodes with and without 2-digit/5-digit add-on codes.

Disable 2-Digit Add-On Code/ Disable 5-Digit Add-On Code: The scanner decodes UPC-E and ignores the add-on code when presented with a UPC-E plus add-on barcode. It can also decode UPC-E barcodes without add-on codes.

W010F00

Exit Setup

W010F01

** Enter Setup

Add-On Code Required

This parameter is only valid when **Enable 2-Digit Add-On Code** and/or **Enable 5-Digit Add-On Code** is selected.

W086908

UPC-E Add-On Code Required

W086900

**** UPC-E Add-On Code Not Required**

Transmit System Character

The first character of UPC-E barcode is the system character.

W306A10

**** Do Not Transmit System Character**

W306A20

Transmit System Character

W010F00

Exit Setup

W010F01

** Enter Setup

UPC-E Extension

Disable UPC-E Extend: Transmit UPC-E barcodes as is.

Enable UPC-E Extend: Extend UPC-E barcodes to make them compatible in length to UPC-A.

Convert UPC-E to UPC-A: Extend UPC-E barcodes to make them compatible in format to UPC-A.

WC06940

Enable UPC-E Extend

WC06900

****Disable UPC-E Extend**

WC06980

Convert UPC-E to UPC-A

W010F00

Exit Setup

W010F01

** Enter Setup

UPC-A

Restore Factory Defaults

WFFD999

Restore the Factory Defaults of UPC-A

Enable/Disable UPC-A

W036B02

**** Enable UPC-A**

W036B00

Disable UPC-A

W036B01

Decode as EAN-13

W010F00

Exit Setup

**** Enter Setup**

Transmit Check Digit

UPC-A is 13 digits in length with the last one as its check digit used to verify the integrity of the data.

**** Transmit UPC-A Check Digit**

Do Not Transmit UPC-A Check Digit

Transmit Preamble Character

Preamble characters (Country Code and System Character) can be transmitted as part of a UPC-A barcode. 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

**** System Character**

System Character & Country Code

Exit Setup

W010F01

** Enter Setup

Add-On Code

A UPC-A barcode can be augmented with a two-digit or five-digit add-on code to form a new one. In the examples below, the part surrounded by blue dotted line is a UPC-A barcode while the part circled by red dotted line is add-on code.

W206B20

Enable 2-Digit Add-On Code

W206B00

**** Disable 2-Digit Add-On Code**

W406B40

Enable 5-Digit Add-On Code

W406B00

**** Disable 5-Digit Add-On Code**

Enable 2-Digit Add-On Code/ Enable 5-Digit Add-On Code: The scanner decodes a mix of UPC-A barcodes with and without 2-digit/5-digit add-on codes.

Disable 2-Digit Add-On Code/ Disable 5-Digit Add-On Code: The scanner decodes UPC-A and ignores the add-on code when presented with a UPC-A plus add-on barcode. It can also decode UPC-A barcodes without add-on codes.

W010F00

Exit Setup

**** Enter Setup**

Add-On Code Required

This parameter is only valid when **Enable 2-Digit Add-On Code** and/or **Enable 5-Digit Add-On Code** is selected.

UPC-A Add-On Code Required

**** UPC-A Add-On Code Not Required**

Exit Setup

W010F01

** Enter Setup

Interleaved 2 of 5

Restore Factory Defaults

WFFD99A

Restore the Factory Defaults of Interleaved 2 of 5

Enable/Disable Interleaved 2 of 5

W016C01

**** Enable Interleaved 2 of 5**

W016C00

Disable Interleaved 2 of 5

W010F00

Exit Setup

W010F01

** Enter Setup

Check Digit Verification

A check digit is optional for Interleaved 2 o 5 and can be added as the last digit. It is a calculated value used to verify the integrity of the data.

Disable: The scanner transmits Interleaved 2 of 5 barcodes as is.

Do Not Transmit Check Digit After Verification: The scanner checks the integrity of all Interleaved 2 of 5 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

Transmit Check Digit After Verification: The scanner checks the integrity of all Interleaved 2 of 5 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.

W0C6C00

Disable

W0C6C04

**** Do Not Transmit Check Digit After Verification**

W0C6C0C

Transmit Check Digit After Verification

W010F00

Exit Setup

W010F01

** Enter Setup

Set Length Range for Interleaved 2 of 5

The scanner can be configured to only decode Interleaved 2 of 5 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the scanner only decodes Interleaved 2 of 5 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Interleaved 2 of 5 barcodes with that length are to be decoded.

M000307

Set the Minimum Length

M000306

Set the Maximum Length

Example: Set the scanner to decode Interleaved 2 of 5 barcodes containing between 8 and 12 characters

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes “1” and “2”.
7. Scan the **Save** barcode.
8. Scan the **Exit Setup** barcode.

W010F00

Exit Setup

W010F01

** Enter Setup

Matrix 2 of 5 (European Matrix 2 of 5)

Restore Factory Defaults

WFFD99F

Restore the Factory Defaults of Matrix 2 of 5

Enable/Disable Matrix 2 of 5

W017101

**** Enable Matrix 2 of 5**

W017100

Disable Matrix 2 of 5

W010F00

Exit Setup

** Enter Setup

Check Digit Verification

A check digit is optional for Matrix 2 of 5 and can be added as the last digit. It is a calculated value used to verify the integrity of the data.

Disable: The scanner transmits Matrix 2 of 5 barcodes as is.

Do Not Transmit Check Digit After Verification: The scanner checks the integrity of all Matrix 2 of 5 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

Transmit Check Digit After Verification: The scanner checks the integrity of all Matrix 2 of 5 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.

** Disable

Do Not Transmit Check Digit After Verification

Transmit Check Digit After Verification

Exit Setup

**** Enter Setup**

Set Length Range for Matrix 2 of 5

The scanner can be configured to only decode Matrix 2 of 5 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the scanner only decodes Matrix 2 of 5 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Matrix 2 of 5 barcodes with that length are to be decoded.

Set the Minimum Length

Set the Maximum Length

Example: Set the scanner to decode Matrix 2 of 5 barcodes containing between 8 and 12 characters

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes “1” and “2”.
7. Scan the **Save** barcode.
8. Scan the **Exit Setup** barcode.

Exit Setup

W010F01

** Enter Setup

Industrial 25

Restore Factory Defaults

WFFD9A0

Restore the Factory Defaults of Industrial 25

Enable/Disable Industrial 25

W017201

**** Enable Industrial 25**

W017200

Disable Industrial 25

W010F00

Exit Setup

W010F01

** Enter Setup

Check Digit Verification

A check digit is optional for Industrial 25 and can be added as the last digit. It is a calculated value used to verify the integrity of the data.

Disable: The scanner transmits Industrial 25 barcodes as is.

Do Not Transmit Check Digit After Verification: The scanner checks the integrity of all Industrial 25 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

Transmit Check Digit After Verification: The scanner checks the integrity of all Industrial 25 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.

W0C7200

** Disable

W0C7204

Do Not Transmit Check Digit After Verification

W0C720C

Transmit Check Digit After Verification

W010F00

Exit Setup

** Enter Setup

Set Length Range for Industrial 25

The scanner can be configured to only decode Industrial 25 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the scanner only decodes Industrial 25 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Industrial 25 barcodes with that length are to be decoded.

Set the Minimum Length

Set the Maximum Length

Example: Set the scanner to decode Industrial 25 barcodes containing between 8 and 12 characters

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes “1” and “2”.
7. Scan the **Save** barcode.
8. Scan the **Exit Setup** barcode.

Exit Setup

W010F01

** Enter Setup

Code 39

Restore Factory Defaults

WFFD9A2

Restore the Factory Defaults of Code 39

Enable/Disable Code 39

W017401

** Enable Code 39

W017400

Disable Code 39

W010F00

Exit Setup

W010F01

** Enter Setup

Check Digit Verification

A check digit is optional for Code 39 and can be added as the last digit. It is a calculated value used to verify the integrity of the data.

Disable: The scanner transmits Code 39 barcodes as is.

Do Not Transmit Check Digit After Verification: The scanner checks the integrity of all Code 39 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

Transmit Check Digit After Verification: The scanner checks the integrity of all Code 39 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.

W187400

** Disable

W187408

Do Not Transmit Check Digit After Verification

W187418

Transmit Check Digit After Verification

W010F00

Exit Setup

**** Enter Setup**

Transmit Start/Stop Character

Code 39 uses an asterisk (*) for both the start and the stop characters. You can choose whether or not to transmit the start/stop characters by scanning the appropriate barcode below.

**** Transmit Start/Stop Character**

Do Not Transmit Start/Stop Character

Enable/Disable Code 39 Full ASCII

The scanner can be configured to identify all ASCII characters by scanning the appropriate barcode below.

**** Enable Code 39 Full ASCII**

Disable Code 39 Full ASCII

Exit Setup

** Enter Setup

Set Length Range for Code 39

The scanner can be configured to only decode Code 39 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the scanner only decodes Code 39 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Code 39 barcodes with that length are to be decoded.

Set the Minimum Length

Set the Maximum Length

Example: Set the scanner to decode Code 39 barcodes containing between 8 and 12 characters.

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcode “1”.
7. Scan the numeric barcode “2”.
8. Scan the **Save** barcode.
9. Scan the **Exit Setup** barcode.

Exit Setup

Codabar

Restore Factory Defaults

WFFD9A3

Restore the Factory Defaults of Codabar

Enable/Disable Codabar

W017501

**** Enable Codabar**

W017500

Disable Codabar

W010F01

** Enter Setup

Check Digit Verification

A check digit is optional for Codabar and can be added as the last digit. It is a calculated value used to verify the integrity of the data.

Disable: The scanner transmits Codabar barcodes as is.

Do Not Transmit Check Digit After Verification: The scanner checks the integrity of all Codabar barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

Transmit Check Digit After Verification: The scanner checks the integrity of all Codabar barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.

W607500

** Disable

W607520

Do Not Transmit Check Digit After Verification

W607560

Transmit Check Digit After Verification

W010F00

Exit Setup

** Enter Setup

Start/Stop Character

** Transmit Start/Stop Character

Do Not Transmit Start/Stop Character

** ABCD/ABCD as the Start/Stop Character

ABCD/TN*E as the Start/Stop Character

abcd/abcd as the Start/Stop Character

abcd/tn*e as the Start/Stop Character

Exit Setup

** Enter Setup

Set Length Range for Codabar

The scanner can be configured to only decode Codabar barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the scanner only decodes Codabar barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Codabar barcodes with that length are to be decoded.

Set the Minimum Length

Set the Maximum Length

Example: Set the scanner to decode Codabar barcodes containing between 8 and 12 characters.

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcode “1”.
7. Scan the numeric barcode “2”.
8. Scan the **Save** barcode.
9. Scan the **Exit Setup** barcode.

Exit Setup

W010F01

** Enter Setup

Code 93

Restore Factory Defaults

WFFD9A4

Restore the Factory Defaults of Code 93

Enable/Disable Code 93

W017601

** Enable Code 93

W017600

Disable Code 93

W010F00

Exit Setup

** Enter Setup

Check Digit Verification

Check digits are optional for Code 93 and can be added as the last two digits, which are calculated values used to verify the integrity of the data.

Disable: The scanner transmits Code 93 barcodes as is.

Do Not Transmit Check Digit After Verification: The scanner checks the integrity of all Code 93 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the checks will be transmitted except the last two digits, whereas those failing them will not be transmitted.

Transmit Check Digit After Verification: The scanner checks the integrity of all Code 93 barcodes to verify that the data complies with the check digit algorithm. Barcodes passing the checks will be transmitted, whereas those failing them will not be transmitted.

Disable

** Do Not Transmit Check Digit After Verification

Transmit Check Digit After Verification

Exit Setup

**** Enter Setup**

Set Length Range for Code 93

The scanner can be configured to only decode Code 93 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the scanner only decodes Code 93 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Code 93 barcodes with that length are to be decoded.

Set the Minimum Length

Set the Maximum Length

Example: Set the scanner to decode Code 93 barcodes containing between 8 and 12 characters.

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcode “1”.
7. Scan the numeric barcode “2”.
8. Scan the **Save** barcode.
9. Scan the **Exit Setup** barcode.

Exit Setup

W010F01

** Enter Setup

Code 11

Restore Factory Defaults

WFFD9A5

Restore the Factory Defaults of Code 11

Enable/Disable Code 11

W017701

Enable Code 11

W017700

** Disable Code 11

W010F00

Exit Setup

**** Enter Setup**

Check Digit Verification

Check digits are optional for Code 11 and can be added as the last one or two digits, which are calculated values used to verify the integrity of the data.

If the **Disable** option is enabled, the scanner transmits Code 11 barcodes as is.

Disable

**** One Check Digit, MOD11**

Two Check Digits, MOD11/MOD11

Two Check Digits, MOD11/MOD9

One Check Digit, MOD11 (Len <= 10)

Two Check Digits, MOD11/MOD11 (Len > 10)

One Check Digit, MOD11 (Len <= 10)

Two Check Digits, MOD11/MOD9 (Len > 10)

Transmit Check Digit

**** Do Not Transmit Check Digit**

Exit Setup

** Enter Setup

Set Length Range for Code 11

The scanner can be configured to only decode Code 11 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the scanner only decodes Code 11 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Code 11 barcodes with that length are to be decoded.

Set the Minimum Length

Set the Maximum Length

Example: Set the scanner to decode Code 11 barcodes containing between 8 and 12 characters.

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcode “1”.
7. Scan the numeric barcode “2”.
8. Scan the **Save** barcode.
9. Scan the **Exit Setup** barcode.

Exit Setup

W010F01

** Enter Setup

MSI

Restore Factory Defaults

WFFD9A7

Restore the Factory Defaults of MSI

Enable/Disable MSI

W017901

Enable MSI

W017900

** Disable MSI

W010F00

Exit Setup

W010F01

** Enter Setup

Check Digit Verification

Check digits are optional for MSI and can be added as the last one or two digits, which are calculated values used to verify the integrity of the data.

If the **Disable** option is enabled, the scanner transmits MSI barcodes as is.

W0C7900

Disable

W0C7904

**** One Check Digit, MOD10**

W0C7908

Two Check Digits, MOD10/MOD10

W0C790C

Two Check Digits, MOD10/MOD11

W107910

Transmit Check Digit

W107900

**** Do Not Transmit Check Digit**

W010F00

Exit Setup

**** Enter Setup**

Set Length Range for MSI

The scanner can be configured to only decode MSI barcodes with lengths that fall between (inclusive) the minimum and maximum lengths.

The supported maximum length is 255 characters. If minimum length is set to be greater than maximum length, the scanner only decodes MSI barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only MSI barcodes with that length are to be decoded.

Set the Minimum Length

Set the Maximum Length

Example: Set the scanner to decode MSI barcodes containing between 8 and 12 characters.

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8”. (See the **Digit Barcodes** section in Appendix)
4. Scan the **Save** barcode. (See the **Save/Cancel Barcodes** section in Appendix)
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcode “1”.
7. Scan the numeric barcode “2”.
8. Scan the **Save** barcode.
9. Scan the **Exit Setup** barcode.

Exit Setup

W010F01

** Enter Setup

RSS-14 (GS1 DataBar)

Restore Factory Defaults

WFFD9A8

Restore the Factory Defaults of RSS-14 (GS1 DataBar)

Enable/Disable RSS-14 (GS1 DataBar)

W017A01

**** Enable RSS-14 (GS1 DataBar)**

W017A00

Disable RSS-14 (GS1 DataBar)

Transmit Application Identifier “01”

W047A04

**** Transmit Application Identifier “01”**

W047A00

Do Not Transmit Application Identifier “01”

W010F00

Exit Setup

** Enter Setup

RSS-Limited (GS1 DataBar Limited)

Restore Factory Defaults

Restore the Factory Defaults of RSS-Limited (GS1 DataBar Limited)

Enable/Disable RSS-Limited (GS1 DataBar Limited)

**** Enable RSS-Limited (GS1 DataBar Limited)**

Disable RSS-Limited (GS1 DataBar Limited)

Transmit Application Identifier “01”

**** Transmit Application Identifier “01”**

Do Not Transmit Application Identifier “01”

Exit Setup

W010F01

** Enter Setup

RSS-Expand (GS1 DataBar Expanded)

Restore Factory Defaults

WFFD9AA

Restore the Factory Defaults of RSS-Expand (GS1 DataBar Expanded)

Enable/Disable RSS-Expand

W017C01

**** Enable RSS-Expand (GS1 DataBar Expanded)**

W017C00

Disable RSS-Expand (GS1 DataBar Expanded)

W010F00

Exit Setup

** Enter Setup

Appendix

Factory Defaults Table

Parameter		Factory Default	Remark
System Settings			
Barcode Programming		Enabled	
Programming Barcode Data		Do not send	
Scan Mode		Manual Mode	
Manual Mode	Decode Session Timeout	15s	1-255s; 0: infinite.
Continuous Mode	Decode Session Timeout	15s	1-255s; 0: infinite.
	Timeout between Decodes	1.0s	0.0-25.5s
	Reread Same Barcode	Disallowed	
	Timeout between Decodes (Same Barcode)	3.0s	0.1-25.5s
Sense Mode	Decode Session Timeout	15s	1-255s; 0: infinite.
	Reread Same Barcode	Disallowed	
	Timeout between Decodes (Same Barcode)	3.0s	0.1-25.5s
	Sensitivity	Medium	
Security Level		0	
Good Read Beep		Enabled	
Good Read Beep Frequency		Medium	
Good Read Beep Duration		80ms	
Decode Result Notification		Disabled	
Silent Mode		Disabled	Temporary setting
Illumination		On When Scanning	Temporary setting

Exit Setup

** Enter Setup

Parameter		Factory Default	Remark
Communication Interfaces			
USB HID-KBW	Input Mode	Standard Keyboard	
	USB Country Keyboard Type	U.S.	
	Inter-Keystroke Delay	No delay	
	Convert Case	No Conversion	
	Emulate Numeric Keypad	Disabled	
Data Formatting			
Prefix Sequence		Code ID+Custom+AIM ID	
Custom Prefix		Disabled	
AIM ID Prefix		Disabled	
Code ID Prefix		Disabled	
Custom Suffix		Disabled	
Terminating Character Suffix		Disabled	

** Enter Setup

Parameter	Factory Default	Remark
Code 128		
Code 128	Enabled	
Minimum Length	1	No less than 1 (including check digit)
Maximum Length	80	
EAN-8		
EAN-8	Enabled	
Check Digit	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	
Extend to EAN-13	Disabled	
EAN-13		
EAN-13	Enabled	
Check Digit	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	
ISSN		
ISSN	Disabled	
ISBN		
ISBN	Disabled	
ISBN Format	ISBN-13	

Exit Setup

** Enter Setup

Parameter	Factory Default	Remark
UPC-E		
UPC-E	Enabled	
Check Digit	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	
Extend to UPC-A	Disabled	
System Character	Do not transmit	
UPC-A		
UPC-A	Enabled	
Check Digit	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	
Preamble Character	System Character	
Interleaved 2 of 5		
Interleaved 2 of 5	Enbled	
Check Digit Verification	Enabled	
Check Digit	Do not transmit	
Minimum Length	6	No less than 3 (including check digit)
Maximum Length	100	

** Enter Setup

Parameter	Factory Default	Remark
Matrix 2 of 5		
Matrix 2 of 5	Enabled	
Check Digit Verification	Disabled	
Check Digit	Do not transmit	
Minimum Length	6	No less than 2 (including check digit)
Maximum Length	80	
Industrial 25		
Industrial 25	Enabled	
Check Digit Verification	Disabled	
Check Digit	Do not transmit	
Minimum Length	6	No less than 2 (including check digit)
Maximum Length	80	
Code 39		
Code 39	Enabled	
Check Digit Verification	Disabled	
Check Digit	Do not transmit	
Start/Stop Character	Transmit	
Code 39 Full ASCII	Enabled	
Minimum Length	4	No less than 2 (including check digit)
Maximum Length	50	

Exit Setup

Parameter	Factory Default	Remark
Codabar		
Codabar	Enabled	
Check Digit Verification	Disabled	
Check Digit	Do not transmit	
Start/Stop Character	Transmit	
Start/Stop Character Format	ABCD/ABCD	
Minimum Length	4	No less than 1 (including check digit)
Maximum Length	60	
Code 93		
Code 93	Enabled	
Check Digit Verification	Enabled	
Check Digit	Do not transmit	
Minimum Length	2	No less than 1 (including check digit)
Maximum Length	80	
Code 11		
Code 11	Disabled	
Check Digit Verification	One check digit, MOD11	
Check Digit	Do not transmit	
Minimum Length	4	No less than 2 (including check digit)
Maximum Length	80	

** Enter Setup

Parameter	Factory Default	Remark
MSI		
MSI	Disabled	
Check Digit Verification	One check digit, MOD10	
Check Digit	Do not transmit	
Minimum Length	4	No less than 2 (including check digit)
Maximum Length	60	
RSS-14 (GS1 DataBar)		
RSS-14 (GS1 DataBar)	Enabled	
AI (Application Identifier)	Transmit	
RSS-Limited (GS1 DataBar Limited)		
RSS-Limited (GS1 DataBar Limited)	Enabled	
AI (Application Identifier)	Transmit	
RSS-Expand (GS1 DataBar Expanded)		
RSS-Expand (GS1 DataBar Expanded)	Enabled	

Exit Setup

** Enter Setup

AIM ID Table

Symbology	AIM ID	Remark
Code 128	]C0	Standard Code 128
UCC/EAN 128 (GS1-128)	]C1	FNC1 is the character right after the start character
EAN-8	]E4	Standard EAN-8
	]E4….]E1…	EAN-8 + 2-Digit Add-On Code
	]E4….]E2…	EAN-8 + 5-Digit Add-On Code
EAN-13	]E0	Standard EAN-13
	]E3	EAN-13 + 2/5-Digit Add-On Code
ISSN	]X5	
ISBN	]X4	
UPC-E	]E0	Standard UPC-E
	]E3	UPC-E + 2/5-Digit Add-On Code
UPC-A	]E0	Standard UPC-A
	]E3	UPC-A + 2/5-Digit Add-On Code
Interleaved 2 of 5	]I0	No check digit verification
	]I1	Transmit check digit after verification
	]I3	Do not transmit check digit after verification
Matrix 2 of 5	]X1	No check digit verification
	]X2	Transmit check digit after verification
	]X3	Do not transmit check digit after verification
Industrial 25	]S0	Not specified
Code 39	]A0	Transmit barcodes as is; Full ASCII disabled; no check digit verification
	]A1	One check digit, MOD 43; transmit check digit
	]A3	One check digit, MOD 43; do not transmit check digit
	]A4	Full ASCII enabled; no check digit verification
	]A5	Full ASCII enabled; MOD43; transmit check digit
	]A7	Full ASCII enabled; MOD43; do not transmit check digit
Codabar	]F0	Standard Codabar
	]F1	ABC Codabar
	]F2	Transmit check digit after verification
	]F4	Do not transmit check digit after verification

** Enter Setup

Symbology	AIM ID	Remark
Code 93	]G0	Not specified
Code 11	]H0	One check digit, MOD11; transmit check digit
	]H1	Two check digits, MOD11/MOD11; transmit check digit
	]H3	Do not transmit check digit after verification
	]H8	Two check digits, MOD11/MOD9; transmit check digit
	]H9	No check digit verification
MSI	]M0	One check digit, MOD10; transmit check digit
	]M1	One check digit, MOD10; do not transmit check digit
	]M7	Two check digits, MOD10 /MOD11; do not transmit check digit
	]M8	Two check digits, MOD10 /MOD11; transmit check digit
	]M9	No check digit verification
RSS-14 (GS1 DataBar) /RSS-Limited (GS1 DataBar Limited) RSS-Expand (GS1 DataBar Expanded)	]e0	Standard
	]e1	User-defined
	]e2	User-defined
	]e3	User-defined

Reference: ISO/IEC 15424:2008 Information technology – Automatic identification and data capture techniques – Data Carrier Identifiers (including Symbology Identifiers)

Exit Setup

** Enter Setup

Code ID Table

Symbology	Code ID
Code 128	j
UCC/EAN-128	u
EAN-8	g
EAN-13	d
ISSN	n
ISBN	B
UPC-E	h
UPC-A	c
Interleaved 2 of 5	e
Matrix 2 of 5(European Matrix 2 of 5)	v
Industrial 25	i
Code 39	b
Codabar	a
Code 93	y
Code 11	z
MSI	m
RSS-14 (GS1 DataBar)	D
RSS-Limited (GS1 DataBar Limited)	C
RSS-Expand (GS1 DataBar Expanded)	R

** Enter Setup

ASCII Table

Hex	Dec	Char
00	0	NUL (Null char.)
01	1	SOH (Start of Header)
02	2	STX (Start of Text)
03	3	ETX (End of Text)
04	4	EOT (End of Transmission)
05	5	ENQ (Enquiry)
06	6	ACK (Acknowledgment)
07	7	BEL (Bell)
08	8	BS (Backspace)
09	9	HT (Horizontal Tab)
0a	10	LF (Line Feed)
0b	11	VT (Vertical Tab)
0c	12	FF (Form Feed)
0d	13	CR (Carriage Return)
0e	14	SO (Shift Out)
0f	15	SI (Shift In)
10	16	DLE (Data Link Escape)
11	17	DC1 (XON) (Device Control 1)
12	18	DC2 (Device Control 2)
13	19	DC3 (XOFF) (Device Control 3)
14	20	DC4 (Device Control 4)
15	21	NAK (Negative Acknowledgment)
16	22	SYN (Synchronous Idle)
17	23	ETB (End of Trans. Block)
18	24	CAN (Cancel)
19	25	EM (End of Medium)
1a	26	SUB (Substitute)
1b	27	ESC (Escape)
1c	28	FS (File Separator)

Exit Setup

1d	29	GS (Group Separator)

** Enter Setup

Hex	Dec	Char
1e	30	RS (Request to Send)
1f	31	US (Unit Separator)
20	32	SP (Space)
21	33	! (Exclamation Mark)
22	34	" (Double Quote)
23	35	# (Number Sign)
24	36	$ (Dollar Sign)
25	37	% (Percent)
26	38	& (Ampersand)
27	39	` (Single Quote)
28	40	((Right / Closing Parenthesis)
29	41	) (Right / Closing Parenthesis)
2a	42	* (Asterisk)
2b	43	+ (Plus)
2c	44	, (Comma)
2d	45	- (Minus / Dash)
2e	46	. (Dot)
2f	47	/ (Forward Slash)
30	48	0
31	49	1
32	50	2
33	51	3
34	52	4
35	53	5
36	54	6
37	55	7
38	56	8
39	57	9
3a	58	: (Colon)

Exit Setup

** Enter Setup

Hex	Dec	Char
3b	59	; (Semi-colon)
3c	60	< (Less Than)
3d	61	= (Equal Sign)
3e	62	> (Greater Than)
3f	63	? (Question Mark)
40	64	@ (AT Symbol)
41	65	A
42	66	B
43	67	C
44	68	D
45	69	E
46	70	F
47	71	G
48	72	H
49	73	I
4a	74	J
4b	75	K
4c	76	L
4d	77	M
4e	78	N
4f	79	O
50	80	P
51	81	Q
52	82	R
53	83	S
54	84	T
55	85	U
56	86	V
57	87	W
58	88	X
59	89	Y
5a	90	Z

** Enter Setup

Hex	Dec	Char
5b	91	[(Left / Opening Bracket)
5c	92	\ (Back Slash)
5d	93	] (Right / Closing Bracket)
5e	94	^ (Caret / Circumflex)
5f	95	_ (Underscore)
60	96	' (Grave Accent)
61	97	A
62	98	B
63	99	C
64	100	d
65	101	e
66	102	f
67	103	g
68	104	h
69	105	i
6a	106	j
6b	107	k
6c	108	l
6d	109	m
6e	110	n
6f	111	o
70	112	p
71	113	q
72	114	r
73	115	s
74	116	t
75	117	u
76	118	v
77	119	w
78	120	x
79	121	y
7a	122	z

Exit Setup

** Enter Setup

Hex	Dec	Char
7b	123	{ (Left/ Opening Brace)
7c	124	| (Vertical Bar)
7d	125	} (Right/Closing Brace)
7e	126	~ (Tilde)
7f	127	DEL (Delete)

W010F01

** Enter Setup

Digit Barcodes

0 ~ 5

0

1

2

3

4

5

Exit Setup

W010F01

** Enter Setup

6~ 9

6

7

8

9

** Enter Setup

A ~ F

A

B

C

D

E

F

Exit Setup

** Enter Setup

Save/Cancel Barcodes

After reading numeric barcode(s), you need to scan the **Save** barcode to save the data. If you scan the wrong digit(s), you can either scan the **Cancel the Last Digit** barcode and then the correct digit, or scan the **Cancel All Digits** barcode and then the digits you want.

For instance, after reading the **Decode Session Timeout** barcode and numeric barcodes “1”, “2” and “3”, you scan:

Cancel the Last Digit: The last digit “3” will be removed.

Cancel All Digits: All digits “123” will be removed.

Save

Cancel the Last Digit

Cancel All Digits

W010F01

** Enter Setup

F1~F12

When the USB HID-KBW feature is enabled, scanning one of the following barcodes will send the corresponding function key.

F1~F6

F000000

F1

F000001

F2

F000002

F3

F000003

F4

F000004

F5

F000005

F6

W010F00

Exit Setup

W010F01

** Enter Setup

F7~F12

F000006

F7

F000007

F8

F000008

F9

F000009

F10

F00000A

F11

F00000B

F12