Newland

NLS-HR1250-70

1D Handheld Barcode Scanner

User Guide

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Preface

Introduction

This manual provides detailed instructions for setting up and using the NLS-HR1250-70 handheld barcode scanner (hereinafter referred to as **"HR12 scanner"** or **"the scanner"**).

Chapter Description

- ✧ *Chapter 1, Getting Started* : This chapter gives a general description of HR12 scanner including its technical parameters.
- ✧ *Chapter 2, System Settings* : This chapter introduces two methods to configure the HR12 scanner: barcode programming and command programming.
- ✧ *Chapter 3, Communication Settings* : This chapter describes how to configure USB parameters.
- ✧ *Chapter 4, Data Formatting* : This chapter describes how to use prefix and suffix to customize scanned data.
- ✧ *Chapter 5, Symbologies* : This chapter lists all compatible symbologies and describes how to configure the relevant parameters.
- ✧ *Appendix* : This chapter offers factory defaults table and a bunch of frequently used programming barcodes.

Chapter 1 Getting Started

Introduction

HR12 scanner is a 1D barcode scanner with excellent performance. Based on the UIMG® technology independently developed by Newland, HR12 scanner is able to deliver rapid image acquisition and accurate decoding; it can provide customers with best services. HR12 scanner boasts the ergonomical design that ensures easy and comfortable operation.

An illustrated introduction to the HR12 scanner is included in this chapter. If you have an HR12 device at hand, make good use of it to develop a better understanding of this manual. This chapter is written for normal users, maintenance staff and software developers.

Unpacking

Open the package and take out HR12 scanner and its accessories. Check to make sure everything on the packing list is present and intact. If any contents are damaged or missing, please keep the original package and contact your dealer immediately for after-sale service.

HR12 Scanner

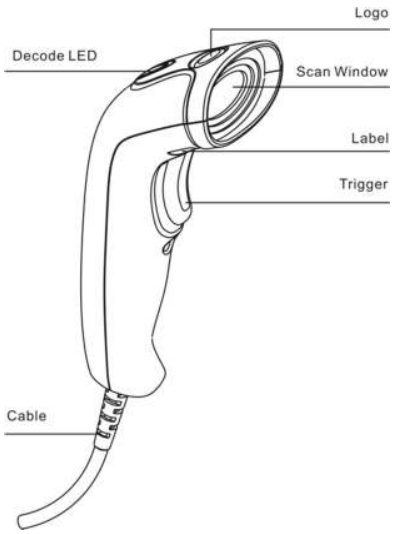


Fig. 1-1

Decode LED Definitions:

Red : The device is powered on
Green: Barcode is decoded successfully

Connect HR12 to a Host

HR12 scanner must be connected to a host device in actual application, such as PC, POS or any intelligent terminal with USB interface.

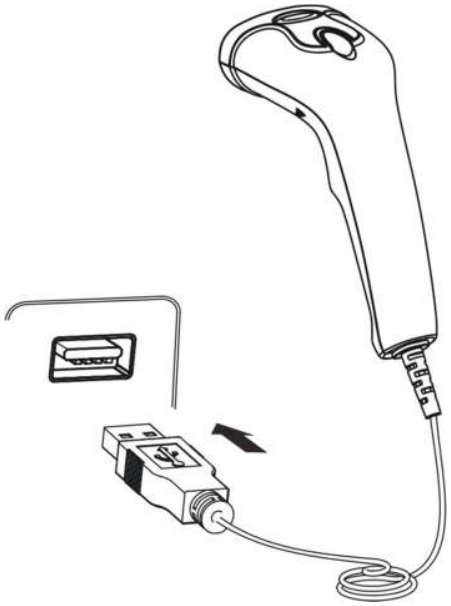


Fig. 1-2

Power on, Power off, Sleep, Reboot

Power on the scanner
Connect the scanner to a host device. Then the scanner will be turned on and automatically go into sleep mode.

Power off the scanner
Disconnect the scanner from the host.

Enter the sleep mode
If no operation is performed on the scanner for some time, the scanner will automatically enter the sleep state.

Reboot the scanner
If the scanner stops responding to input or runs abnormally, disconnect the scanner from the host device and then reconnect it.

Maintenance

- ✧ The scan window should be kept clean.
- ✧ Do not scratch the scan window of the device.
- ✧ Use soft brush to remove the stain from the scan window.
- ✧ Use the soft cloth to clean the window, such as eyeglass cleaning cloth.
- ✧ Do not spray any liquid on the scan window.
- ✧ Clean other parts of the device with water only.

Note: The warranty **DOES NOT** cover damages caused by inappropriate care and maintenance.

Dimensions (unit: mm)

Left View

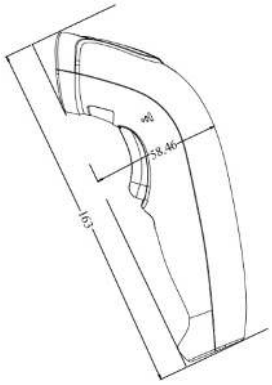


Fig. 1-3

Front View

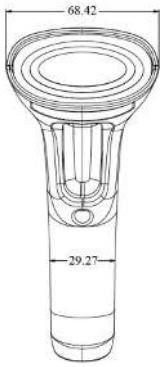


Fig. 1-4

Top View

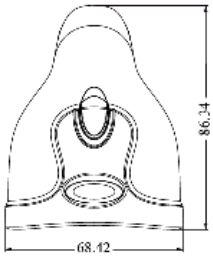


Fig. 1-5

Scanning Instructions

When the HR12 scanner is in the Manual mode (default), you can follow the steps below to scan a barcode:

1. Hold down the trigger. Then the scanner will project a red aiming beam.
2. Aim the red beam across the center of barcode, as shown in Fig.1-6.
3. Release the trigger when the red beam goes off. For a successful read, the scanner will beep and send the decoded data to the Host.

Note: For barcodes of the same batch, the scanner keeps a very high success ratio in certain distance which is regarded as the optimal scanning distance.

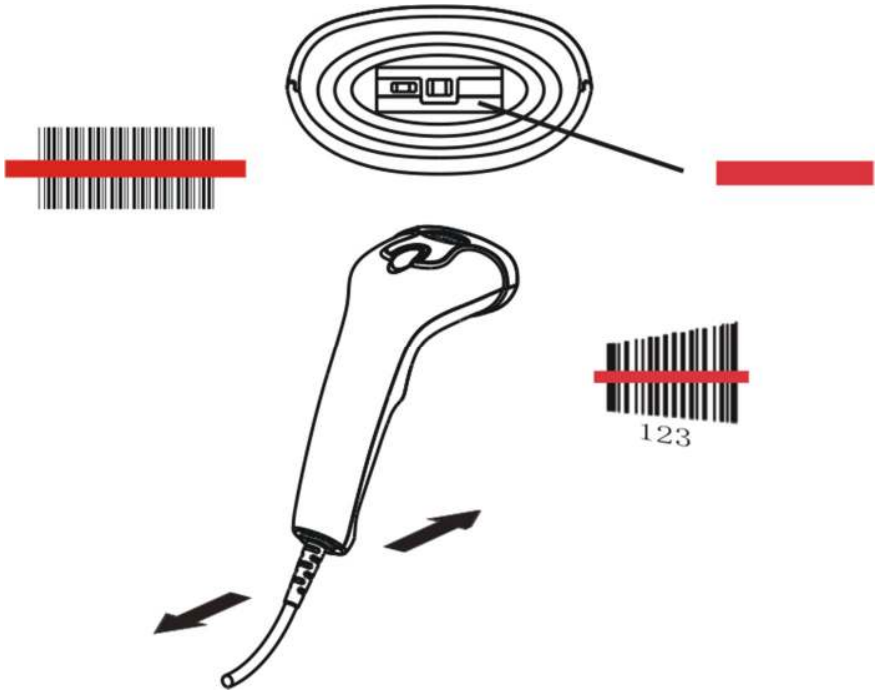


Fig. 1-6

Scan Angle

The scanner is designed to function within a certain range of scan angles. Any unreasonable deviation may cause decoding failure.

Scan angles of the scanner:

- ✧ Pitch : ±60°, 0° Roll and 0° Skew (Fig. 1-7)
- ✧ Roll : ±30°, 0° Pitch and 0° Skew (Fig. 1-8)
- ✧ Skew: ±60°, 0° Roll and 0° Pitch (Fig. 1-9)

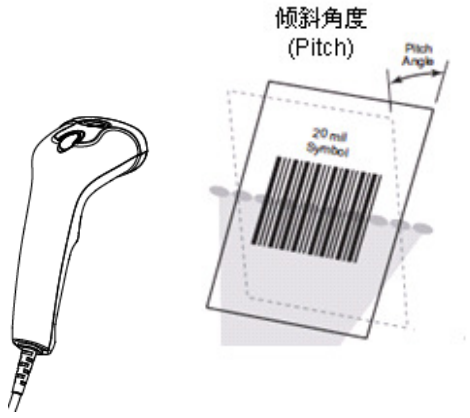


Fig. 1-7

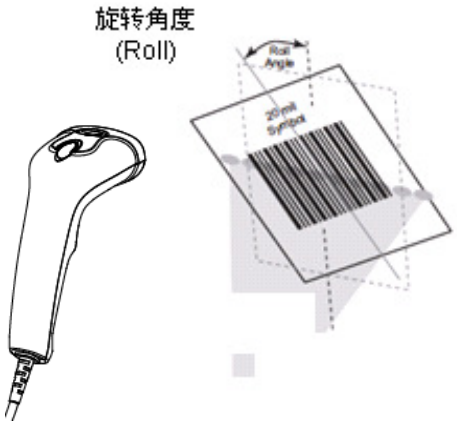


Fig. 1-8

Fig. 1-9

W010F01
** Enter Setup

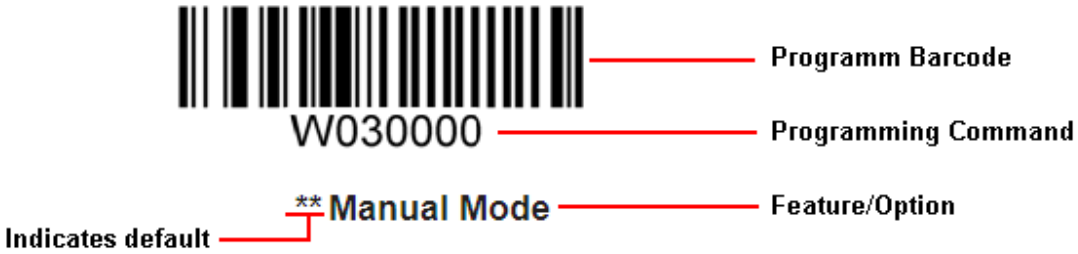
Chapter 2 System Settings

Introduction

There are two ways to configure the scanner: barcode programming and command programming.

Barcode Programming

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



Command Programming

Besides the barcode programming method, the scanner can also be configured by serial commands sent from the host device. Note that communication parameters on the scanner and the host must match so that two devices can communicate with each other. The default settings of the scanner are 9600bps, no parity check, 8 data bits, 1 stop bit, and no flow control.

W010F00
Exit Setup

Read Register

The read register command is used to read the contents of 1 to 256 contiguous registers in the scanner.

Syntax: {Prefix1} {Types} {Lens} {Address} {Datas} {FCS}

Prefix1 : 0x7E 0x00 (2 bytes)

Types : 0x07 (1 byte)

Lens : 0x01 (1 byte).

Address: 0x0000~0xFFFF (2 bytes), starting register address.

Datas : 0x00~0xFF (1 byte), number of registers to be read. When Datas=0x00, 256 contiguous registers are to be read.

FCS : CRC-CCITT checksum (2 bytes)
Computation sequence: Types+ Lens+Address+Datas;
polynomial: $X^{16}+X^{12}+X^5+1$(0x1021), initial value: 0x0000.

The following C language program is provided for reference.

```
unsigned int crc_cal_by_bit(unsigned char* ptr, unsigned int len)
{
unsigned int crc = 0;
while(len-- != 0)
{
for(unsigned char i = 0x80; i != 0; i /= 2)
{
crc *= 2;
if((crc&0x10000) !=0)
crc ^= 0x11021;
if((*ptr&i) != 0)
crc ^= 0x1021;
}
ptr++;
}
return crc;
}
```

** Enter Setup

Reply: {Prefix2} {Types} {Lens} {Datas} {FCS}

1) Success message:

Prefix2 : 0x02 0x00

Types : 0x00 (success)

Lens : Byte count of Datas returned. If Lens=0x00, that means values of 256 contiguous registers are returned.

Datas : 0x00~0xFF, data that are returned.

FCS : CRC-CCITT checksum.

2) FCS error message:

Prefix2 : 0x02 0x00

Types : 0x01 (incorrect FCS)

Lens : 0x01

Datas : 0x00

FCS : 0x04 0x01 (CRC-CCITT checksum)

3) Invalid command message (Command starting with 0x7e 0x00 is shorter than the required length or of wrong type):

Prefix2 : 0x02 0x00

Types : 0x03 (invalid command)

Lens : 0x01

Datas : 0x00

FCS : 0x6A 0x61 (CRC-CCITT checksum)

Exit Setup

** Enter Setup

Example:

Read the contents (0x35, 0x36, 0x37) of 3 contiguous registers starting from register 0x0005.

1) Read operation succeeds:

Command sent: 0x7e 0x00 0x07 0x01 0x00 0x05 0x03 0xde 0xf6

Message received: 0x02 0x00 0x00 0x03 0x35 0x36 0x37 0x2a 0xba

2) Incorrect FCS:

Command sent: 0x7e 0x00 0x07 0x01 0x00 0x05 0x03 0x33 0x34

Message received: 0x02 0x00 0x01 0x01 0x00 0x04 0x01

3) Invalid command:

Command sent: 0x7e 0x00 0x07 0x01 0x00 0x05 0x03 0x33

Message received: 0x02 0x00 0x03 0x01 0x00 0x6A 0x61

Exit Setup

** Enter Setup

Write Register

The write register command is used to write contiguous registers (1 to 256 registers) in the scanner.

Syntax: {Prefix1} {Types} {Lens} {Address} {Datas} {FCS}

Prefix1 : 0x7E 0x00 (2 bytes)

Types : 0x08 (1 byte)

Lens : 0x00~0xFF (1 byte), byte count, i.e. number of registers written. When Lens=0x00, 256 contiguous registers are to be written.

Address : 0x0000~0xFFFF (2 bytes), starting register address.

Datas : 0x00~0xFF (1~256 bytes), data to be written into the register(s)

FCS : CRC-CCITT checksum (2 bytes).
Computation sequence: Types+ Lens+Address+Datas;
polynomial: $X^{16}+X^{12}+X^5+1$ (0x1021), initial value: 0x0000.

The following C language program is provided for reference.

```
unsigned int crc_cal_by_bit(unsigned char* ptr, unsigned int len)
{
unsigned int crc = 0;
while(len-- != 0)
{
for(unsigned char i = 0x80; i != 0; i /= 2)
{
crc *= 2;
if((crc&0x10000) !=0)
crc ^= 0x11021;
if((*ptr&i) != 0)
crc ^= 0x1021;
}
ptr++;
}
return crc;
}
```

Exit Setup

Reply: {Prefix2} {Types} {Lens} {Datas} {FCS}

1) Success message:

Prefix2 : 0x02 0x00

Types : 0x00 (success)

Lens : 0x01

Datas : 0x00

FCS : 0x33 0x31 (CRC-CCITT checksum)

2) FCS error message:

Prefix2 : 0x02 0x00

Types : 0x01 (incorrect FCS)

Lens : 0x01

Datas : 0x00

FCS : 0x04 0x01 (CRC-CCITT checksum)

3) Invalid command message (Command starting with 0x7e 0x00 is shorter than the required length or of wrong type):

Prefix2 : 0x02 0x00

Types : 0x03 (invalid command)

Lens : 0x01

Datas : 0x00

FCS : 0x6A 0x61 (CRC-CCITT checksum)

** Enter Setup

Example:

Write 0x31, 0x32, 0x33, 0x34 into 4 contiguous registers starting from register 0x000a.

1) Write operation succeeds:

Command sent: 0x7e 0x00 0x08 0x04 0x00 0x26 0x31 0x32 0x33 0x34 0xcd 0xa4

Message received: 0x02 0x00 0x00 0x01 0x00 0x33 0x31

2) Incorrect FCS:

Command sent: 0x7e 0x00 0x08 0x04 0x00 0x26 0x31 0x32 0x33 0x34 0x33 0x34

Message received: 0x02 0x00 0x01 0x01 0x00 0x04 0x01

3) Invalid command:

Command sent: 0x7e 0x00 0x08 0x04 0x00 0x26 0x31 0x32 0x33 0x34 0x33

Message received: 0x02 0x00 0x03 0x01 0x00 0x6A 0x61

Exit Setup

** Enter Setup

Enable/Disable EEPROM Write

By default, EEPROM write is disabled after the device is powered up. You need to enable it before a write operation and recommendedly disable it afterwards to prevent miswriting.

Syntax: {Prefix1} {Types} {Lens} {Address} {Datas} {FCS}

Prefix1 : 0x7E 0x00

Types : 0x03 (EEPROM write enable)/ 0x00 (EEPROM write disable)

Lens : Byte count of Datas, 0x01 recommended.

Address : No specific significance.

Datas : No specific significance.

FCS : CRC-CCITT checksum (2 bytes).
Computation sequence: Types+ Lens+Address+Datas;
polynomial: $X^{16}+X^{12}+X^5+1$ (0x1021), initial value: 0x0000.

The following C language program is provided for reference.

```
unsigned int crc_cal_by_bit(unsigned char* ptr, unsigned int len)
{
unsigned int crc = 0;
while(len-- != 0)
{
for(unsigned char i = 0x80; i != 0; i /= 2)
{
crc *= 2;
if((crc&0x10000) !=0)
crc ^= 0x11021;
if((*ptr&i) != 0)
crc ^= 0x1021;
}
ptr++;
}
return crc;
}
```

Exit Setup

** Enter Setup

Reply: {Prefix2} {Types} {Lens} {Datas} {FCS}

1) Success message:

Prefix2 : 0x02 0x00

Types : 0x00 (success)

Lens : 0x01

Datas : 0x00

FCS : 0x33 0x31 (CRC-CCITT checksum)

2) FCS error message:

Prefix2 : 0x02 0x00

Types : 0x01 (incorrect FCS)

Lens : 0x01

Datas : 0x00

FCS : 0x04 0x01 (CRC-CCITT checksum)

3) Invalid command message (Command starting with 0x7e 0x00 is shorter than the required length or of wrong type):

Prefix2 : 0x02 0x00

Types : 0x03 (invalid command)

Lens : 0x01

Datas : 0x00

FCS : 0x6A 0x61 (CRC-CCITT checksum)

Exit Setup

** Enter Setup

Write EEPROM

The scanner has 512 bytes of EEPROM. The EEPROM write command is used to write data to up to 256 addresses. You need to enable EEPROM write before a write operation and recommendedly disable it afterwards to prevent miswriting. Note that writing without enabling it first will not return any error message. So it is recommended to implement EEPROM read operation after every write for verification.

Syntax: {Prefix1} {Types} {Lens} {Address} {Datas} {FCS}

Prefix1 : 0x7E 0x00

Types : 0x04

Lens : 0x00~0xFF, byte count of Datas. When Lens=0x00, 256 bytes are to be written.

Address : 0x0000~0xFFFF, starting address to write data to.

Datas : 0x00~0xFF, data to be written into the EEPROM

FCS : CRC-CCITT checksum (2 bytes).
Computation sequence: Types+ Lens+Address+Datas;
polynomial: $X^{16}+X^{12}+X^5+1$ (0x1021), initial value: 0x0000.

The following C language program is provided for reference.

```
unsigned int crc_cal_by_bit(unsigned char* ptr, unsigned int len)
{
unsigned int crc = 0;
while(len-- != 0)
{
for(unsigned char i = 0x80; i != 0; i /= 2)
{
crc *= 2;
if((crc&0x10000) !=0)
crc ^= 0x11021;
if((*ptr&i) != 0)
crc ^= 0x1021;
}
ptr++;
}
return crc;
}
```

Exit Setup

** Enter Setup

Reply: {Prefix2} {Types} {Lens} {Datas} {FCS}

1) Success message:

Prefix2 : 0x02 0x00

Types : 0x00 (success)

Lens : 0x01

Datas : 0x00

FCS : 0x33 0x31 (CRC-CCITT checksum)

2) FCS error message:

Prefix2 : 0x02 0x00

Types : 0x01 (incorrect FCS)

Lens : 0x01

Datas : 0x00

FCS : 0x04 0x01 (CRC-CCITT checksum)

3) EERPOM not responding message:

Prefix2 : 0x02 0x00

Types : 0x02 (EEPROM not responding)

Lens : 0x01

Datas : 0x00

FCS : 0x5d 0x51 (CRC-CCITT checksum)

4) Invalid command message (Command starting with 0x7e 0x00 is shorter than the required length or of wrong type):

Prefix2 : 0x02 0x00

Types : 0x03 (invalid command)

Lens : 0x01

Datas : 0x00

FCS : 0x6A 0x61 (CRC-CCITT checksum)

Exit Setup

** Enter Setup

Example:

Write 0x51, 0x52, 0x53, 0x54 into 4 contiguous addresses starting from address 0x0000.

1) Write operation succeeds:

Command sent: 0x7e 0x00 0x04 0x04 0x00 0x00 0x51 0x52 0x53 0x54 0xbc 0x17

Message received: 0x02 0x00 0x00 0x01 0x00 0x33 0x31

2) Incorrect FCS:

Command sent: 0x7e 0x00 0x04 0x03 0x00 0x00 0x51 0x52 0x53 0x54 0x33 0x34

Message received: 0x02 0x00 0x01 0x01 0x00 0x04 0x01

Exit Setup

** Enter Setup

Read EEPROM

The scanner has 512 bytes of EEPROM. The EEPROM read command is used to read the contents from 1 to 256 contiguous addresses of the EEPROM.

Syntax: {Prefix1} {Types} {Lens} {Address} {Datas} {FCS}

Prefix1 : 0x7E 0x00

Types : 0x05

Lens : 0x01

Address: 0x0000~0xFFFF (2 bytes), starting EEPROM address to read.

Datas : 0x00~0xFF, number of EEPROM addresses to be read. When Datas=0x00, 256 contiguous addresses are to be read.

FCS : CRC-CCITT checksum (2 bytes)
Computation sequence: Types+ Lens+Address+Datas;
polynomial: $X^{16}+X^{12}+X^5+1$(0x1021), initial value: 0x0000.

The following C language program is provided for reference.

```
unsigned int crc_cal_by_bit(unsigned char* ptr, unsigned int len)
{
unsigned int crc = 0;
while(len-- != 0)
{
for(unsigned char i = 0x80; i != 0; i /= 2)
{
crc *= 2;
if((crc&0x10000) !=0)
crc ^= 0x11021;
if((*ptr&i) != 0)
crc ^= 0x1021;
}
ptr++;
}
return crc;
}
```

Exit Setup

** Enter Setup

Reply: {Prefix2} {Types} {Lens} {Datas} {FCS}

1) Success message:

Prefix2 : 0x02 0x00

Types : 0x00 (success)

Lens : Byte count of Datas returned.

Datas : 0x00~0xFF, data that are returned.

FCS : CRC-CCITT checksum.

2) FCS error message:

Prefix2 : 0x02 0x00

Types : 0x01 (incorrect FCS)

Lens : 0x01

Datas : 0x00

FCS : 0x04 0x01 (CRC-CCITT checksum)

3) EERPOM not responding message:

Prefix2 : 0x02 0x00

Types : 0x02 (EEPROM not responding)

Lens : 0x01

Datas : 0x00

FCS : 0x5d 0x51 (CRC-CCITT checksum)

4) Invalid command message (Command starting with 0x7e 0x00 is shorter than the required length or of wrong type):

Prefix2 : 0x02 0x00

Types : 0x03 (invalid command)

Lens : 0x01

Datas : 0x00

FCS : 0x6A 0x61 (CRC-CCITT checksum)

Exit Setup

** Enter Setup

Example:

Read the contents (0x35 0x36 0x37) of 3 contiguous EEPROM addresses starting from address 0x0005.

1) Read operation succeeds:

Command sent: 0x7e 0x00 0x05 0x01 0x00 0x05 0x03 0x9a 0x75

Message received: 0x02 0x00 0x00 0x03 0x35 0x36 0x37 0x2a 0xba

2) Incorrect FCS:

Command sent: 0x7e 0x00 0x05 0x01 0x00 0x05 0x03 0x33 0x34

Message received: 0x02 0x00 0x01 0x01 0x00 0x04 0x01

Exit Setup

** Enter Setup

Registers

Register	*0x0000*
Bit	**Feature**
Bit 7	Reserved
Bit 6	1: Silent Mode Off 0: Silent Mode On
Bit 5-4	Reserved
Bit 3-2	Illumination: 00: Off 01: On When Scanning 10/11: Always On
Bit 1-0	Scan Mode: 00: Manual Mode 01: Command Trigger Mode 10: Continuous Mode 11: Sense Mode
Register	*0x0003*
Bit	**Feature**
Bit 7-0	Sensitivity 0x00~0xFF: 0-255 levels. The smaller the value, the higher the sensitivity.
Register	*0x0004*
Bit	**Feature**
Bit 7-0	Image Stabilization Timeout 0x00-0xFF: 0.0-25.5s
Register	*0x0005*
Bit	**Feature**
Bit 7-0	Timeout between Decodes 0x00-0xFF: 0.0-25.5s
Register	*0x0006*
Bit	**Feature**
Bit 7-0	Decode Session Timeout 0x00: Infinite time; 0x01-0xFF: 1-255s
Register	*0x0007*
Bit	**Feature**
Bit 7-0	Timeout between Decodes (Same Barcode) 0x00: Infinite time; 0x01-0xFF: 0.1-25.5s

Exit Setup

** Enter Setup

Register	*0x0009*
Bit	**Feature**
Bit 7-2	Reserved
Bit 1-0	00: USB DATAPIPE 01: USB HID-KBW 10: USB COM Port Emulation 11: USB HID-POS
Register	*0x000A*
Bit	**Feature**
Bit 7-5	Reserved
Bit 4	0: Allow Rereading Same Barcode 1: Disallow Rereading Same Barcode
Bit 3-2	Reserved
Bit 1-0	Security Level 00-03: 0-3 level. The higher the value, the lower the error rate and efficiency.
Register	*0x000F*
Bit	**Feature**
Bit 7-3	Reserved
Bit 2-1	00: Do Not Transmit Programming Barcode Data 11: Transmit Programming Barcode Data
Bit 0	0: Exit Setup 1: Enter Setup
Register	*0x0010*
Bit	**Feature**
Bit 7-0	Good Read Beep Frequency 0xDA: Low 0x4B: Medium 0x25: High
Register	*0x0011*
Bit	**Feature**
Bit 7-0	Good Read Beep Duration 0x1F: 40ms 0x3E: 80ms 0x5D: 120ms
Register	*0x0012*
Bit	**Feature**
Bit 7-3	Reserved
Bit 2	1: Good Read Beep On 0: Good Read Beep Off
Bit 1-0	Reserved

Exit Setup

** Enter Setup

Register	*0x0019*		
Bit	**Feature**		
Bit 7-0	USB Country Keyboard Types		
	00: U.S.	01: Belgium	02: Brazil
	03: Canada	04: Czech	05: Denmark
	06: Finland	07: France	08: Austria
	09: Greece	0A: Hungary	0B: Israel
	0C: Italy	0D: Latin America	0E: Netherland
	0F: Norway	10: Poland	11: Portugal
	12: Romania	13: Russia	15: Slovakia
	16: Spain	17: Sweden	18: Switzerland
	19: Turkey1	1A: Turkey2	1B: UK
	1C: Japan		
Register	*0x001A*		
Bit	**Feature**		
Bit 7-6	Inter-keystroke delay		
	00: No delay	01: Short delay (5ms)	
	10: Medium delay (10ms)	11: Long delay (15ms)	
Bit 5-3	Convert case		
	000: No Case Conversion	001: Invert Upper and Lower Case Characters	
	100/101: Convert All to Upper Case	110/111: Convert All to Lower Case	
Bit 2	1: Emulate Numeric Keypad	0: Do Not Emulate Numeric Keypad	
Bit 1-0	00: Standard Keyboard	01: Function Key Mapping	10/11: Emulate ALT+Keypad
Register	*0x0031*		
Bit	**Feature**		
Bit 7-6	Reserved		
Bit 5	1: Enable Decode Result Notification	0: Disable Decode Result Notification	
Bit 4	1: Enable Terminating Character Suffix	0: Disable Terminating Character Suffix	
Bit 3	1: Enable Custom Suffix	0: Disable Custom Suffix	
Bit 2	1: Enable Custom Prefix	0: Disable Custom Prefix	
Bit 1	1: Enable CODE ID Prefix	0: Disable CODE ID Prefix	
Bit 0	Prefix Sequence		
	1: Custom+Code ID+ AIM ID	0: Code ID+Custom+AIM ID	

Exit Setup

** Enter Setup

Register	*0x0037-0x33*
Bit	**Feature**
Bit 39-0	Set Custom Prefix
Register	*0x0042-0x3E*
Bit	**Feature**
Bit 39-0	Set Custom Suffix
Register	*0x004D-0x49*
Bit	**Feature**
Bit 39-0	Set Terminating Character Suffix
Register	*0x0061*
Bit	**Feature**
Bit 7-1	Reserved
Bit 0	1: Enable Code 128 0: Disable Code 128
Register	*0x0062*
Bit	**Feature**
Bit 7-2	Reserved
Bit 1-0	00: Disable UCC/EAN 128 01: Decode as Code 128 10/11: Enable UCC/EAN 128
Register	*0x0063*
Bit	**Feature**
Bit 7-2	Reserved
Bit 1-0	00: Disable AIM 128 01: Decode as Code 128 10/11: Enable AIM 128
Register	*0x0065*
Bit	**Feature**
Bit 7-6	EAN-8 Extension 00: Disable EAN-8 Zero Extend 01: Enable EAN-8 Zero Extend 10/11: Convert EAN-8 to EAN-13
Bit 5	1: Enable EAN-8 5-digit Add-on Code 0: Disable EAN-8 5-digit Add-on Code
Bit 4	1: Enable EAN-8 2-digit Add-on Code 0: Disable EAN-8 2-digit Add-on Code
Bit 3	1: EAN-8 Add-on Code Required 0: EAN-8 Add-on Code Not Required
Bit 2	1: Transmit EAN-8 Check Digit 0: Do Not Transmit EAN-8 Check Digit
Bit 1	Reserved
Bit 0	1: Enable EAN-8 0: Disable EAN-8

Exit Setup

** Enter Setup

Register	*0x0066*		
Bit	**Feature**		
Bit 7-6	Reserved		
Bit 5	1: Enable EAN-13 5-digit Add-on Code	0: Disable EAN-13 5-digit Add-on Code	
Bit 4	1: Enable EAN-13 2-digit Add-on Code	0: Disable EAN-13 2-digit Add-on Code	
Bit 3	1: EAN-13 Add-on Code Required	0: EAN-13 Add-on Code Not Required	
Bit 2	1: Transmit EAN-13 Check Digit	0: Do Not Transmit EAN-13 Check Digit	
Bit 1	Reserved		
Bit 0	1: Enable EAN-13	0: Disable EAN-13	
Register	*0x0067*		
Bit	**Feature**		
Bit 7-2	Reserved		
Bit 1-0	00: Disable ISSN	01: Decode as EAN-13	10/11: Enable ISSN
Register	*0x0068*		
Bit	**Feature**		
Bit 7-3	Reserved		
Bit 2	ISBN Format 1: ISBN-10	0: ISBN-13	
Bit 1-0	00: Disable ISBN	01: Decode as EAN-13	10/11: Enable ISBN
Register	*0x0069*		
Bit	**Feature**		
Bit 7-6	UPC-E Extension 00: Disable UPC-E extend 10/11: Convert UPC-E to UPC-A	01: Enable UPC-E extend	
Bit 5	1: Enable UPC-E 5-digit Add-on Code	0: Disable UPC-E 5-digit Add-on Code	
Bit 4	1: Enable UPC-E 2-digit Add-on Code	0: Disable UPC-E 2-digit Add-on Code	
Bit 3	1: UPC-E Add-on Code Required	0: UPC-E Add-on Code Not Required	
Bit 2	1: Transmit UPC-E Check Digit	0: Do Not Transmit UPC-E Check Digit	
Bit 1	Reserved		
Bit 0	1: Enable UPC-E	0: Disable UPC-E	

Exit Setup

** Enter Setup

Register	*0x006A*
Bit	**Feature**
Bit 7-6	Reserved
Bit 5-4	UPC-E System Character 01: Do not transmit system character 10/11: Transmit system character
Bit 3-2	Reserved
Bit 1-0	UPC-A Preamble Character 00: No Preamble 01: System Character 10/11: System Character & Country Code
Register	*0x006B*
Bit	**Feature**
Bit 7	Reserved
Bit 6	1: Enable UPC-A 5-digit Add-on Code 0: Disable UPC-A 5-digit Add-on Code
Bit 5	1: Enable UPC-A 2-digit Add-on Code 0: Disable UPC-A 2-digit Add-on Code
Bit 4	1: UPC-A Add-on Code Required 0: UPC-A Add-on Code Not Required
Bit 3	1: Transmit UPC-A Check Digit 0: Do Not Transmit UPC-A Check Digit
Bit 2	Reserved
Bit 1-0	00: Disable UPC-A 01: Decode as EAN-13 10/11: Enable UPC-A
Register	*0x006C*
Bit	**Feature**
Bit 7-4	Reserved
Bit 3	1: Transmit Interleaved 2 of 5 Check Digit 0: Do Not Transmit Interleaved 2 of 5 Check Digit
Bit 2	1: Enable Interleaved 2 of 5 Check Digit 0: Disable Interleaved 2 of 5 Check Digit
Bit 1	Reserved
Bit 0	1: Enable Interleaved 2 of 5 0: Disable Interleaved 2 of 5
Register	*0x006D*
Bit	**Feature**
Bit 7-4	Reserved
Bit 3	1: Transmit ITF-6 Check Digit 0: Do Not Transmit ITF-6 Check Digit
Bit 2	Reserved
Bit 1-0	00: Disable ITF-6 01: Decode as Interleaved 2 of 5 10/11: Enable ITF-6

Exit Setup

** Enter Setup

Register	*0x006E*
Bit	**Feature**
Bit 7-4	Reserved
Bit 3	1: Transmit ITF-14 Check Digit 0: Do Not Transmit ITF-14 Check Digit
Bit 2	Reserved
Bit 1-0	00: Disable ITF-14 01: Decode as Interleaved 2 of 5 10/11: Enable ITF-14
Register	*0x006F*
Bit	**Feature**
Bit 7-4	Reserved
Bit 3	1: Transmit Deutsche 14 Check Digit 0: Do Not Transmit Deutsche 14 Check Digit
Bit 2	Reserved
Bit 1-0	00: Disable Deutsche 14 01: Decode as Interleaved 2 of 5 10/11: Enable Deutsche 14
Register	*0x0070*
Bit	**Feature**
Bit 7-4	Reserved
Bit 3	1: Transmit Deutsche 12 Check Digit 0: Do Not Transmit Deutsche 12 Check Digit
Bit 2	Reserved
Bit 1-0	00: Disable Deutsche 12 01: Decode as Interleaved 2 of 5 10/11: Enable Deutsche 12
Register	*0x0071*
Bit	**Feature**
Bit 7-4	Reserved
Bit 3	1: Transmit Matrix 2 of 5 Check Digit 0: Do Not Transmit Matrix 2 of 5 Check Digit
Bit 2	1: Enable Matrix 2 of 5 Check Digit 0: Disable Matrix 2 of 5 Check Digit
Bit 1	Reserved
Bit 0	1: Enable Matrix 2 of 5 0: Disable Matrix 2 of 5
Register	*0x0072*
Bit	**Feature**
Bit 7-4	Reserved
Bit 3	1: Transmit Industrial 25 Check Digit 0: Do Not Transmit Industrial 25 Check Digit
Bit 2	1: Enable Industrial 25 Check Digit 0: Disable Industrial 25 Check Digit
Bit 1	Reserved
Bit 0	1: Enable Industrial 25 0: Disable Industrial 25

Exit Setup

** Enter Setup

Register	*0x0073*
Bit	**Feature**
Bit 7-4	Reserved
Bit 3	1: Transmit Standard 25 Check Digit 0: Do Not Transmit Standard 25 Check Digit
Bit 2	1: Enable Standard 25 Check Digit 0: Disable Standard 25 Check Digit
Bit 1	Reserved
Bit 0	1: Enable Standard 25 0: Disable Standard 25
Register	*0x0074*
Bit	**Feature**
Bit 7-6	Reserved
Bit 5	1: Enable Code 39 Full ASCII 0: Disable Code 39 Full ASCII
Bit 4	1: Transmit Code 39 Check Digit 0: Do Not Transmit Code 39 Check Digit
Bit 3	1: Enable Code 39 Check Digit 0: Disable Code 39 Check Digit
Bit 2	1: Transmit Code 39 Start/Stop Characters 0: Do Not Transmit Code 39 Start/Stop Characters
Bit 1	Reserved
Bit 0	1: Enable Code 39 0: Disable Code 39
Register	*0x0075*
Bit	**Feature**
Bit 7	Reserved
Bit 6	1: Transmit Codabar Check Digit 0: Do Not Transmit Codabar Check Digit
Bit 5	1: Enable Codabar Check Digit 0: Disable Codabar Check Digit
Bit 4-3	Codabar Start/Stop Character Format: 00: ABCD/ABCD 01: ABCD/TN*E 10: abcd/abcd 11: abcd/tn*e
Bit 2	1: Transmit Codabar Start/Stop Characters 0: Do Not Transmit Codabar Start/Stop Characters
Bit 1	Reserved
Bit 0	1: Enable Codabar 0: Disable Codabar

Exit Setup

** Enter Setup

Register	*0x0076*
Bit	**Feature**
Bit 7-4	Reserved
Bit 3	1: Transmit Code 93 Check Digit 0: Do Not Transmit Code 93 Check Digit
Bit 2	1: Enable Code 93 Check Digit 0: Disable Code 93 Check Digit
Bit 1	Reserved
Bit 0	1: Enable Code 93 0: Disable Code 93
Register	*0x0077*
Bit	**Feature**
Bit 7-6	Reserved
Bit 5	1: Transmit Code 11 Check Digit 0: Do Not Transmit Code 11 Check Digit
Bit 4-2	Code 11 Check Digit Verification: 000: Disable 001: One Check Digit, MOD11 010: Two Check Digits, MOD11/MOD11 011: Two Check Digits, MOD11/MOD9 100: One Check Digit, MOD11 (Len <= 11); Two Check Digits, MOD11/MOD11 (Len > 11) 101: One Check Digit, MOD11 (Len <= 11); Two Check Digits, MOD11/MOD9 (Len > 11)
Bit 1	Reserved
Bit 0	1: Enable Code 11 0: Disable Code 11
Register	*0x0078*
Bit	**Feature**
Bit 7-4	Reserved
Bit 3	1: Transmit Plessey Check Digit 0: Do Not Transmit Plessey Check Digit
Bit 2	1: Enable Plessey Check Digit 0: Disable Plessey Check Digit
Bit 1	Reserved
Bit 0	1: Enable Plessey 0: Disable Plessey

Exit Setup

**** Enter Setup**

Register	*0x0079*
Bit	**Feature**
Bit 7-5	Reserved
Bit 4	1: Transmit MSI-Plessey Check Digit 0: Do Not Transmit MSI-Plessey Check Digit
Bit 3-2	MSI-Plessey Check Digit Verification: 00: Disable 01: One Check Digit, MOD10 10: Two Check Digits, MOD10/MOD10 11: Two Check Digits, MOD10/MOD11
Bit 1	Reserved
Bit 0	1: Enable MSI-Plessey 0: Disable MSI-Plessey
Register	*0x007A*
Bit	**Feature**
Bit 7-3	Reserved
Bit 2	1: Transmit RSS-14 Application Identifier 0: Do Not Transmit RSS-14 Application Identifier
Bit 1	Reserved
Bit 0	1: Enable RSS-14 0: Disable RSS-14
Register	*0x007B*
Bit	**Feature**
Bit 7-3	Reserved
Bit 2	1: Transmit RSS-Limited Application Identifier 0: Do Not Transmit RSS-Limited Application Identifier
Bit 1	Reserved
Bit 0	1: Enable RSS-Limited 0: Disable RSS-Limited
Register	*0x007C*
Bit	**Feature**
Bit 7-1	Reserved
Bit 0	1: Enable RSS-Expand 0: Disable RSS-Expand

Exit Setup

** Enter Setup

Register	*0x0080*
Bit	**Feature**
Bit 7-0	Set Code 128 Maximum Length
Register	*0x0081*
Bit	**Feature**
Bit 7-0	Set Code 128 Minimum Length
Register	*0x0082*
Bit	**Feature**
Bit 7-0	Set UCC/EAN-128 Maximum Length
Register	*0x0083*
Bit	**Feature**
Bit 7-0	Set UCC/EAN-128 Minimum Length
Register	*0x0084*
Bit	**Feature**
Bit 7-0	Set AIM 128 Maximum Length
Register	*0x0085*
Bit	**Feature**
Bit 7-0	Set AIM 128 Minimum Length
Register	*0x0086*
Bit	**Feature**
Bit 7-0	Set Interleaved 2 of 5 Maximum Length
Register	*0x0087*
Bit	**Feature**
Bit 7-0	Set Interleaved 2 of 5 Minimum Length
Register	*0x0088*
Bit	**Feature**
Bit 7-0	Set Matrix 2 of 5 Maximum Length
Register	*0x0089*
Bit	**Feature**
Bit 7-0	Set Matrix 2 of 5 Minimum Length

Exit Setup

** Enter Setup

Register	*0x008A*
Bit	**Feature**
Bit 7-0	Set Industrial 25 Maximum Length
Register	*0x008B*
Bit	**Feature**
Bit 7-0	Set Industrial 25 Minimum Length
Register	*0x008C*
Bit	**Feature**
Bit 7-0	Set Standard 25 Maximum Length
Register	*0x008D*
Bit	**Feature**
Bit 7-0	Set Standard 25 Minimum Length
Register	*0x008E*
Bit	**Feature**
Bit 7-0	Set Code 39 Maximum Length
Register	*0x008F*
Bit	**Feature**
Bit 7-0	Set Code 39 Minimum Length
Register	*0x0090*
Bit	**Feature**
Bit 7-0	Set Codabar Maximum Length
Register	*0x0091*
Bit	**Feature**
Bit 7-0	Set Codabar Minimum Length
Register	*0x0092*
Bit	**Feature**
Bit 7-0	Set Code 93 Maximum Length
Register	*0x0093*
Bit	**Feature**
Bit 7-0	Set Code 93 Minimum Length

Exit Setup

** Enter Setup

Register	*0x0094*
Bit	**Feature**
Bit 7-0	Set Code 11 Maximum Length
Register	*0x0095*
Bit	**Feature**
Bit 7-0	Set Code 11 Minimum Length
Register	*0x0096*
Bit	**Feature**
Bit 7-0	Set Plessey Maximum Length
Register	*0x0097*
Bit	**Feature**
Bit 7-0	Set Plessey Minimum Length
Register	*0x0098*
Bit	**Feature**
Bit 7-0	Set MSI-Plessey Maximum Length
Register	*0x0099*
Bit	**Feature**
Bit 7-0	Set MSI-Plessey Minimum Length
Register	*0x00A1, 0x00A0*
Bit	**Feature**
Bit 15-0	Set Code 128 Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00A3, 0x00A2*
Bit	**Feature**
Bit 15-0	Set UCC/EAN-128 Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00A5, 0x00A4*
Bit	**Feature**
Bit 15-0	Set AIM 128 Code ID ASCII value of one or two English letters (lower or upper case)

Exit Setup

** Enter Setup

Register	*0x00A9, 0x00A8*
Bit	**Feature**
Bit 15-0	Set EAN-8 Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00AB, 0x00AA*
Bit	**Feature**
Bit 15-0	Set EAN-13 Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00AD, 0x00AC*
Bit	**Feature**
Bit 15-0	Set ISSN Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00B1, 0x00B0*
Bit	**Feature**
Bit 15-0	Set UPC-E Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00B3, 0x00B2*
Bit	**Feature**
Bit 15-0	Set UPC-A Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00B5, 0x00B4*
Bit	**Feature**
Bit 15-0	Set Interleaved 2 of 5 Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00B7, 0x00B6*
Bit	**Feature**
Bit 15-0	Set ITF-6 Code ID ASCII value of one or two English letters (lower or upper case)

Exit Setup

** Enter Setup

Register	*0x00B9, 0x00B8*
Bit	**Feature**
Bit 15-0	Set ITF-14 Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00BB, 0x00BA*
Bit	**Feature**
Bit 15-0	Set Deutsche 14 Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00BD, 0x00BC*
Bit	**Feature**
Bit 15-0	Set Deutsche 12 Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00BF, 0x00BE*
Bit	**Feature**
Bit 15-0	Set Matrix 2 of 5 Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00C1, 0x00C0*
Bit	**Feature**
Bit 15-0	Set Industrial 25 Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00C3, 0x00C2*
Bit	**Feature**
Bit 15-0	Set Standard 25 Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00C5, 0x00C4*
Bit	**Feature**
Bit 15-0	Set Code 39 Code ID ASCII value of one or two English letters (lower or upper case)

Exit Setup

** Enter Setup

Register	*0x00C7, 0x00C6*
Bit	**Feature**
Bit 15-0	Set Codabar Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00C9, 0x00C8*
Bit	**Feature**
Bit 15-0	Set Code 93 Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00CB, 0x00CA*
Bit	**Feature**
Bit 15-0	Set Code 11 Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00CD, 0x00CC*
Bit	**Feature**
Bit 15-0	Set Plessey Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00CF, 0x00CE*
Bit	**Feature**
Bit 15-0	Set MSI-Plessey Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00D1, 0x00D0*
Bit	**Feature**
Bit 15-0	Set RSS-14 Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00D3, 0x00D2*
Bit	**Feature**
Bit 15-0	Set RSS-Limited Code ID ASCII value of one or two English letters (lower or upper case)
Register	*0x00D5, 0x00D4*
Bit	**Feature**
Bit 15-0	Set RSS-Expand Code ID ASCII value of one or two English letters (lower or upper case)

Exit Setup

** Enter Setup

Enable/Disable Barcode Programming

Scanning the **Enter Setup**/**Exit Setup** barcode can enable/disable barcode programming. After barcode programming is enabled, you can scan a number of programming barcodes to configure your scanner.

Barcode programming is on by default. In real application, programming barcodes hardly overlap with non-programming barcodes, so it is unnecessary to disable barcode programming each time you finish the configuration.

Programming Barcode Data

Programming barcode data (e.g. WFFD980) can be transmitted to the Host. To enable this feature, scan the appropriate barcode below. By default, the scanner does not transmit programming barcode data.

When the scanner is powered down or rebooted, this feature will be automatically disabled (i.e. the scanner does not transmit programming barcode data).

Transmit Programming Barcode Data

** Do Not Transmit Programming Barcode Data

Exit Setup

** Enter Setup

Factory Defaults

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

You may need to reset your scanner when:

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

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

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

Restore All Factory Defaults

Exit Setup

** Enter Setup

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.

**** 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.

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

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. By default, the scanner rereads same barcode with no delay.

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)

W010F00
Exit Setup

5. Scan the **Exit Setup** barcode.

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.

W010F01

**** Enter Setup**

Reread Delay sets the time period before the scanner can read the same barcode a second time. It protects against accidental rereads of the same barcode. This parameter is programmable in 0.1s increments from 0.1s to 25.5s. The default delay is 3.0s. If the parameter is set to 0, the delay is infinite.

Note: This parameter only applies when the **Reread Same Barcode with a Delay** is enabled.

Reread Delay

Reread Same Barcode with No Delay: The scanner is allowed to reread same barcode, ignoring the reread delay.

Reread Same Barcode with a Delay: The scanner is not allowed to reread same barcode before the reread delay expires.

To disable rereads of same barcode, enable the **Reread Same Barcode with a Delay** and set the delay to 0.

**** Reread Same Barcode with No Delay**

Reread Same Barcode with a Delay

Example: Set the reread delay to 5s

1. Scan the **Enter Setup** barcode.
2. Scan the **Reread Delay** 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

** 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. A trigger pull can also activate a decode session. By default, the scanner rereads same barcode with no delay.

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. The default timeout is 0.4s.

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.

** Enter Setup

Reread Delay sets the time period before the scanner can read the same barcode a second time. It protects against accidental rereads of the same barcode. This parameter is programmable in 0.1s increments from 0.1s to 25.5s. The default delay is 3.0s. If the parameter is set to 0, the delay is infinite.

Note: This parameter only applies when the **Reread Same Barcode with a Delay** is enabled.

Reread Delay

Reread Same Barcode with No Delay: The scanner is allowed to reread same barcode, ignoring the reread delay.

Reread Same Barcode with a Delay: The scanner is not allowed to reread same barcode before the reread delay expires.

To disable rereads of same barcode, enable the **Reread Same Barcode with a Delay** and set the delay to 0.

** Reread Same Barcode with No Delay

Reread Same Barcode with a Delay

Example: Set the reread delay to 5s

1. Scan the **Enter Setup** barcode.
2. Scan the **Reread Delay** 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.

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

Exit Setup

**** Enter Setup**

Command Trigger Mode

Command Trigger Mode: Decode session is activated by a host command. The decode session continues until the barcode is decoded or the decode session timeout expires.

Command Trigger 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

** Enter Setup

Security Level

This parameter specifies the number of times to decode a barcode during a scan attempt. The higher the security level, the lower the error rate and decoding efficiency.

** Set Security Level to 0

Set Security Level to 1

Set Security Level to 2

Set Security Level to 3

Exit Setup

** Enter Setup

Good Read Beep

** Good Read Beep On

Good Read Beep Off

Exit Setup

** Enter Setup

Good Read Beep Frequency

Low

** Medium

High

Good Read Beep Duration

40ms

**80ms

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 3 Communication Settings

Introduction

The scanner provides a USB interface to communicate with the host device. The host device can receive scanned data and send commands to control the scanner or to access/alter the configuration information of the scanner via the USB interface.

USB HID-KBW

** USB HID-KBW

Exit Setup

W010F01

** Enter Setup

Standard Keyboard

When the USB HID-KBW feature is enabled, the scanner selects **Standard Keyboard** by default. Besides that, the other two options are provided: **Emulate ALT+Keypad** and **Function Key Mapping**.

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.

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

** 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

** Enter Setup

USB Country Keyboard Types

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

**** 1 - U.S.**

2 - Belgium

3 - Brazil

4 - Canada

5 - Czech

6 - Denmark

7 - Finland

8 - France

Exit Setup

W010F01

** Enter Setup

WFF1908

9 - 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 - Turkey2

WFF191B

27 - UK

WFF191C

28 - Japan

W010F00

Exit Setup

W010F01

** Enter Setup

Inter-Keystroke Delay

This parameter specifies the delay between emulated keystrokes.

WC01A00

** No Delay

WC01A40

Short Delay (5ms)

WC01A80

Medium Delay (10ms)

WC01AC0

Long Delay (15ms)

W010F00

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 **Convert All to Lower Case** 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

W010F01

** Enter Setup

USB COM Port Emulation

This feature allows the host to receive data in the way as a serial port does. However, you need to set communication parameters on the scanner to match the Host requirements. A driver is required for this feature.

USB COM Port Emulation

W010F00

Exit Setup

** Enter Setup

USB DataPipe

A driver is required when using this protocol to communicate with the scanner.

USB DataPipe

Exit Setup

** Enter Setup

HID-POS

The HID-POS interface is recommended for new application programs. It can send up to 56 characters in a single USB report and appears more efficient than USB HID-KBW.

Features:

- ✧ HID based, no custom driver required.
- ✧ Way more efficient in communication than USB HID-KBW and traditional RS-232 interface.

Note: HID-POS does not require a custom driver. However, a HID interface on Windows 98 does. All HID interfaces employ standard driver provided by the operating system. Use defaults when installing the driver.

HID-POS

Exit Setup

** Enter Setup

Access the Scanner with Your Program

1. Use CreateFile to access the scanner as a HID device.
2. Use ReadFile to deliver the scanned data to the application program.
3. Use WriteFile to send data to the scanner.

For detailed information about USB and HID interfaces, go to www.USB.org.

Acquire Scanned Data

After a barcode is decoded, the scanner sends an input report as below:

	Bit							
Byte	7	6	5	4	3	2	1	0
0	Report ID = 02							
1	Barcode Length							
2-57	Decoded Data (1-56)							
58-61	Reserved (1-4)							
62	00							
63	00 (no data continued) or 01 (data continued)							

VID/PID

USB uses VID (Vendor ID) and PID (Product ID) to identify and locate a device. The VID is assigned by USB Implementers Forum. Newland's vendor ID is 1EAB (Hex). A range of PIDs are used for each Newland product family. Every PID contains a base number and interface type (keyboard, COM port, etc.).

Product	Interface	PID (Hex)	PID (Dec)
HR12XX-7X HR12XX-9X	USB DataPipe	8001	32769
	USB HID-KBW	8003	32771
	USB COM Port Emulation	8006	32774
	HID-POS	8010	32784

Exit Setup

** Enter Setup

Chapter 4 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>

Prefix Sequence

**** Code ID+Custom+AIM ID**

Custom+Code ID+ AIM ID

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

W010F01

** Enter Setup

Set Code ID Barcodes

M000200

Set Code 128 Code ID

M000201

Set UCC/EAN-128 Code ID

M000202

Set AIM 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

W010F00

Exit Setup

W010F01

** Enter Setup

Set Code ID Barcodes (continued)

M000209

Set UPC-A Code ID

M00020A

Set Interleaved 2 of 5 Code ID

M00020B

Set ITF-6 Code ID

M00020C

Set ITF-14 Code ID

M00020D

Set Deutsche 14 Code ID

M00020E

Set Deutsche 12 Code ID

M00020F

Set Matrix 2 of 5 Code ID

M000210

Set Industrial 25 Code ID

W010F00

Exit Setup

** Enter Setup

Set Code ID Barcodes (continued)

Set Standard 25 Code ID

Set Code 39 Code ID

Set Codabar Code ID

Set Code 93 Code ID

Set Code 11 Code ID

Set Plessey Code ID

Set MSI-Plessey Code ID

Set RSS-14 Code ID

Set RSS-Limited Code ID

Set RSS-Expand Code ID

Exit Setup

W010F01

**** 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”.

W083108

Enable Custom Suffix

W083100

**** Disable Custom Suffix**

W010F00

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 "AGE" (its hexadecimal value is 0x41/0x47/0x45)

1. Scan the **Enter Setup** barcode.
2. Scan the **Set Custom Suffix** barcode.
3. Scan the numeric barcodes "4""1""4""7""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

W010F01

** 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

To enable/disable terminating character suffix, scan the appropriate barcode below.

W103110

** Enable Terminating Character Suffix

W103100

Disable Terminating Character Suffix

W010F00

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) by scanning the following barcode.

Terminating Character 0x0D

** **Terminating Character 0x0D,0x0A**

Terminating Character 0x09

Set Terminating Character Suffix

To set other 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

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 5 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 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

W010F01

** Enter Setup

Code 128

Restore Factory Defaults

WFFD990

Restore the Factory Defaults of Code 128

Enable/Disable Code 128

W016101

** Enable Code 128

W016100

Disable Code 128

W010F00

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

W010F01
** Enter Setup

UCC/EAN-128

Restore Factory Defaults

WFFD991
Restore the Factory Defaults of UCC/EAN-128

Enable/Disable UCC/EAN-128

W036203
** Enable UCC/EAN-128

W036200
Disable UCC/EAN-128

W036201
Decode as Code 128

W010F00
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

** Enter Setup

AIM 128

Restore Factory Defaults

WFFD992

Restore the Factory Defaults of AIM 128

Enable/Disable AIM 128

W036302

Enable AIM 128

W036300

** Disable AIM 128

W036301

Decode as Code 128

Exit Setup

W010F01

**** Enter Setup**

Set Length Range for AIM 128

The scanner can be configured to only decode AIM 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 AIM 128 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only AIM 128 barcodes with that length are to be decoded.

M000305

Set the Minimum Length

M000304

Set the Maximum Length

Example: Set the scanner to decode AIM128 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.

**** 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-13 Add-On Code Required

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

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

W010F01

** Enter Setup

Set ISBN Format

W086800

** ISBN-13

W086808

ISBN-10

W010F00

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.

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

** 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.

Enable UPC-E Extend

**Disable UPC-E Extend

Convert UPC-E to UPC-A

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

W010F01
** 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.

W086B08
** Transmit UPC-A Check Digit

W086B00
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.

W036A00
No Preamble

W036A01
** System Character

W036A02
System Character & Country Code

W010F00
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.

**** 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

** Enter Setup

ITF-6

ITF-6 is a special kind of Interleaved 2 of 5 with a length of 6 characters and the last character as the check character.

Restore Factory Defaults

Restore the Factory Defaults of ITF-6

Enable/Disable ITF-6

By default, ITF-6 is decoded as Interleaved 2 of 5.

Disable ITF-6

Enable ITF-6 But Do Not Transmit Check Digit

Enable ITF-6 and Transmit Check Digit

Note: It is advised not to enable ITF-6 and Interleaved 2 of 5 at the same time.

Exit Setup

W010F01

** Enter Setup

ITF-14

ITF-14 is a special kind of Interleaved 2 of 5 with a length of 14 characters and the last character as the check character.

Restore Factory Defaults

WFFD99C

Restore the Factory Defaults of ITF-14

Enable/Disable ITF-14

By default, ITF-14 is decoded as Interleaved 2 of 5.

W036E01

Disable ITF-14

W0B6E02

Enable ITF-14 But Do Not Transmit Check Digit

W0B6E0A

Enable ITF-14 and Transmit Check Digit

Note: It is advised not to enable ITF-14 and Interleaved 2 of 5 at the same time.

** Enter Setup

Deutsche 14

Restore Factory Defaults

Restore the Factory Defaults of Deutsche 14

Enable/Disable Deutsche 14

By default, Deutsche 14 is decoded as Interleaved 2 of 5.

Disable Deutsche 14

Enable Deutsche 14 But Do Not Transmit Check Digit

Enable Deutsche 14 and Transmit Check Digit

Note: It is advised not to enable Deutsche 14 unless necessary, because Deutsche 14, ITF-14 and Interleaved 2 of 5 use the same encoding method and enabling them at the same time can easily cause confusion with each other when decoding.

Exit Setup

W010F01
** Enter Setup

Deutsche 12

Restore Factory Defaults

WFFD99E
Restore the Factory Defaults of Deutsche 12

Enable/Disable Deutsche 12

By default, Deutsche 12 is decoded as Interleaved 2 of 5.

W037001
Disable Deutsche 12

W0B7002
Enable Deutsche 12 But Do Not Transmit Check Digit

W0B700A
Enable Deutsche 12 and Transmit Check Digit

Note: It is advised not to enable Deutsche 12 unless necessary, because Deutsche 12, ITF-12 and Interleaved 2 of 5 use the same encoding method and enabling them at the same time can easily cause confusion with each other when decoding.

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

W010F01

** 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.

W0C7100

** Disable

W0C7104

Do Not Transmit Check Digit After Verification

W0C710C

Transmit Check Digit After Verification

W010F00

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

W010F01

**** 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.

M00030B

Set the Minimum Length

M00030A

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.

W010F00

Exit Setup

W010F01
** Enter Setup

Standard 25

Restore Factory Defaults

WFFD9A1
Restore the Factory Defaults of Standard 25

Enable/Disable Standard 25

W017301
** Enable Standard 25

W017300
Disable Standard 25

W010F00
Exit Setup

W010F01

** Enter Setup

Check Digit Verification

A check digit is optional for Standard 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 Standard 25 barcodes as is.

Do Not Transmit Check Digit After Verification: The scanner checks the integrity of all Standard 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 Standard 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.

W0C7300

** Disable

W0C7304

Do Not Transmit Check Digit After Verification

W0C730C

Transmit Check Digit After Verification

**** Enter Setup**

Set Length Range for Standard 25

The scanner can be configured to only decode Standard 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 Standard 25 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Standard 25 barcodes with that length are to be decoded.

Set the Minimum Length

Set the Maximum Length

Example: Set the scanner to decode Standard 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

** 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.

** Disable

Do Not Transmit Check Digit After Verification

Transmit Check Digit After Verification

Exit Setup

** Enter Setup

Transmit Start/Stop Characters

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 Characters

** Do Not Transmit Start/Stop Characters

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

W010F01
** Enter Setup

Codabar

Restore Factory Defaults

WFFD9A3
Restore the Factory Defaults of Codabar

Enable/Disable Codabar

W017501
** Enable Codabar

W017500
Disable Codabar

** 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.

** Disable

Do Not Transmit Check Digit After Verification

Transmit Check Digit After Verification

Exit Setup

W010F01

** Enter Setup

Start/Stop Characters

W047504

** Transmit Start/Stop Characters

W047500

Do Not Transmit Start/Stop Characters

W187500

** ABCD/ABCD as the Start/Stop Character

W187508

ABCD/TN*E as the Start/Stop Character

W187510

abcd/abcd as the Start/Stop Character

W187518

abcd/tn*e as the Start/Stop Character

W010F00

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

** 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

W010F01

**** 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.

M000313

Set the Minimum Length

M000312

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.

W010F00

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

W010F01

** 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.

W1C7700

Disable

W1C7704

** One Check Digit, MOD11

W1C7708

Two Check Digits, MOD11/MOD11

W1C770C

Two Check Digits, MOD11/MOD9

W1C7710

One Check Digit, MOD11 (Len <= 11)

Two Check Digits, MOD11/MOD11 (Len > 11)

W1C7714

One Check Digit, MOD11 (Len <= 11)

Two Check Digits, MOD11/MOD9 (Len > 11)

W207720

Transmit Check Digit

W207700

** Do Not Transmit Check Digit

W010F00

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

Plessey

Restore Factory Defaults

WFFD9A6

Restore the Factory Defaults of Plessey

Enable/Disable Plessey

W017801

Enable Plessey

W017800

** Disable Plessey

W010F00

Exit Setup

W010F01
** Enter Setup

Check Digit Verification

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

Disable: The scanner transmits Plessey barcodes as is.

Do Not Transmit Check Digit After Verification: The scanner checks the integrity of all Plessey 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 Plessey 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.

W0C7800
Disable

W0C7804
** Do Not Transmit Check Digit After Verification

W0C780C
Transmit Check Digit After Verification

W010F00
Exit Setup

W010F01

**** Enter Setup**

Set Length Range for Plessey

The scanner can be configured to only decode Plessey 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 Plessey barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Plessey barcodes with that length are to be decoded.

M000317

Set the Minimum Length

M000316

Set the Maximum Length

Example: Set the scanner to decode Plessey 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.

W010F00

Exit Setup

W010F01

** Enter Setup

MSI-Plessey

Restore Factory Defaults

WFFD9A7

Restore the Factory Defaults of MSI-Plessey

Enable/Disable MSI-Plessey

W017901

Enable MSI-Plessey

W017900

** Disable MSI-Plessey

W010F00

Exit Setup

W010F01

**** Enter Setup**

Check Digit Verification

Check digits are optional for MSI-Plessey 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-Plessey 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

Set Length Range for MSI-Plessey

The scanner can be configured to only decode MSI-Plessey 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-Plessey barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only MSI-Plessey barcodes with that length are to be decoded.

M000319
Set the Minimum Length

M000318
Set the Maximum Length

Example: Set the scanner to decode MSI-Plessey 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.

W010F01
** Enter Setup

RSS-14

Restore Factory Defaults

WFFD9A8

Restore the Factory Defaults of RSS-14

Enable/Disable RSS-14

W017A01

** Enable RSS-14

W017A00

Disable RSS-14

Transmit Application Identifier “01”

W047A04

** Transmit Application Identifier “01”

W047A00

Do Not Transmit Application Identifier “01”

W010F00
Exit Setup

** Enter Setup

RSS-Limited

Restore Factory Defaults

WFFD9A9

Restore the Factory Defaults of RSS-Limited

Enable/Disable RSS-Limited

W017B01

** Enable RSS-Limited

W017B00

Disable RSS-Limited

Transmit Application Identifier “01”

W047B04

** Transmit Application Identifier “01”

W047B00

Do Not Transmit Application Identifier “01”

W010F00

Exit Setup

W010F01

** Enter Setup

RSS-Expand

Restore Factory Defaults

WFFD9AA

Restore the Factory Defaults of RSS-Expand

Enable/Disable RSS-Expand

W017C01

** Enable RSS-Expand

W017C00

Disable RSS-Expand

W010F00

Exit 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	With no delay	To disable rereads of same barcode, enable the **Reread Same Barcode with a Delay** and set the delay to 0.
Sense Mode	Decode Session Timeout	15s	1-255s; 0: infinite.
	Image Stabilization Timeout	0.4s	0.0-25.5s
	Reread Same Barcode	With no delay	To disable rereads of same barcode, enable the **Reread Same Barcode with a Delay** and set the delay to 0.
	Sensitivity	Medium	
Command Trigger Mode	Decode Session Timeout	15s	1-255s; 0: infinite.
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

Parameter		Factory Default	Remark
Communication Settings			
USB Interface		USB HID-KBW	Other options: DataPipe, USB COM Port Emulation, HID-POS
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	
AIM ID Prefix		Disabled	
Code ID Prefix		Disabled	1 or 2 English letters
Custom Prefix		Disabled	1 to 5 characters
Custom Suffix		Disabled	1 to 5 characters
Terminating Character Suffix		Enabled, 0x0D,0x0A	0x0D,0x0A: CRLF

Parameter	Factory Default	Remark
Code 128		
Code 128	Enabled	
Minimum Length	1	No less than 1 (including check digit)
Maximum Length	80	
UCC/EAN-128（GS1-128）		
UCC/EAN-128	Enabled	
Minimum Length	1	No less than 1 (including check digit)
Maximum Length	80	
AIM 128		
AIM 128	Disabled	
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	

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	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	
Transmit 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	
ITF-6		
ITF-6	Decode as I25	
Check Digit	Transmit	
ITF-14		
ITF-14	Decode as I25	
Check Digit	Transmit	
Deutsche 14		
Deutsche 14	Decode as I25	
Check Digit	Transmit	
Deutsche 12		
Deutsche 12	Decode as I25	
Check Digit	Transmit	

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	
Standard 25		
Standard 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 Characters	Do not transmit	
Code 39 Full ASCII	Enabled	
Minimum Length	4	No less than 2 (including check digit)
Maximum Length	50	

Parameter	Factory Default	Remark
Codabar		
Codabar	Enabled	
Check Digit Verification	Disabled	
Check Digit	Do not transmit	
Start/Stop Characters	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	
Plessey		
Plessey	Disabled	
Check Digit Verification	Enabled	
Check Digit	Do not transmit	
Minimum Length	4	No less than 3 (including check digit)
Maximum Length	60	

Parameter	Factory Default	Remark
MSI-Plessey		
MSI-Plessey	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		
RSS-14	Enabled	
AI (Application Identifier)	Transmit	
RSS-Limited		
RSS-Limited	Enabled	
AI (Application Identifier)	Transmit	
RSS-Expand		
RSS-Expand	Enabled	

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
AIM 128	]C2	FNC1 is the 2nd character 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
ITF-6	]I1	Transmit check digit
	]I3	Do not transmit check digit
ITF-14	]I1	Transmit check digit
	]I3	Do not transmit check digit
Deutsche 14 Deutsche 12	]X0	
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
Standard 25	]R0	No check digit verification
	]R8	One check digit, MOD 7; do not transmit check digit
	]R9	One check digit, MOD 7; transmit check digit

Symbology	AIM ID	Remark
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
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
Plessey	]P0	Not specified
MSI Plessey	]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 RSS-Limited RSS-Expand	]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)

Code ID Table

Symbology	Code ID
Code 128	j
UCC/EAN-128	u
AIM 128	f
SETTING 128	t
EAN-8	g
EAN-13	d
ISSN	n
ISBN	B
UPC-E	h
UPC-A	c
Interleaved 2 of 5	e
ITF-6	r
ITF-14	q
Deutsche 14	w
Deutsche 12	l
Matrix 2 of 5(European Matrix 2 of 5)	v
Industrial 25	i
Standard 25	s
Code 39	b
Codabar	a
Code 93	y
Code 11	z
Plessey	p
MSI-Plessey	m
RSS-14	D
RSS-Limited	C
RSS-Expand	R

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)
1d	29	GS (Group Separator)

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)
3b	59	; (Semi-colon)
3c	60	< (Less Than)
3d	61	= (Equal Sign)

Hex	Dec	Char
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
5b	91	[(Left / Opening Bracket)
5c	92	\ (Back Slash)
5d	93	] (Right / Closing Bracket)

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

Digit Barcodes

0 ~ 5

0

1

2

3

4

5

6~ 9

6

7

8

9

A ~ F

A

B

C

D

E

F

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

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

F7~F12

F000006

F7

F000007

F8

F000008

F9

F000009

F10

F00000A

F11

F00000B

F12

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