Newland

NLS-HR200C

Corded 2D Barcode Scanner

User Guide

Disclaimer

Revision History

Version	Description	Date
V1.0.0	Initial release.	June 7, 2013

Table of Contents

Preface

Introduction

This manual provides detailed instructions for setting up and using the corded 2D barcode scanner NLS-HR200C (hereinafter referred to as "**HR200C corded scanner**" or "**the scanner**").

Chapter Description

❖ *Chapter 1, Getting Started*   *: Gives a general description of HR200C corded scanner including its technical parameters.

❖ *Chapter 2, QuickSet*   *: Introduces a useful tool you can use to set up HR200C corded scanner and develop new applications.

❖ *Chapter 3, System Settings*   *: Introduces three configuration methods and describes how to configure general parameters of HR200C corded scanner.

❖ *Chapter 4, RS-232 Interface*   *: Describes how to configure RS-232 communication parameters.

❖ *Chapter 5, USB Interface*   *: Describes how to configure USB communication parameters.

❖ *Chapter 6, Symbologies*   *:Lists all compatible symbologies and describes how to configure the relevant parameters..

❖ *Chapter 7, Prefix & Suffix*   *: Describes how to use prefix and suffix to customize scanned data.

❖ *Chapter 8, Ambient Illumination*   *: Describes how to configure the scanner to adapt it to ambient light of different intensity.

❖ *Appendix*   *:Provides factory defaults table and a bunch of frequently used programming barcodes.

Explanation of Icons

This icon indicates something relevant to this manual.

This icon indicates this information requires extra attention from the reader.

This icon indicates handy tips that can help you use or configure the scanner with ease.

This icon indicates practical examples that can help you to acquaint yourself with operations.

Chapter 1 Getting Started

Introduction

The HR200C corded scanner reads a 1D or 2D barcode by capturing its image. Adopting the advanced **UIMG**° technology independently developed by Newland Auto-ID Tech, it provides users with three scan modes, including Manual Mode, Sense Mode and Continuous Mode, tailored to different scanning needs.

An illustrated introduction to the HR200C corded scanner is included in this chapter. If you have an HR200C corded scanner 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.

Features of the HR200C

- Comprehensive data capture: most 1D and 2D barcodes.
- Fast and accurate decoding capability: integrates high-performance processor and barcode decoder board.
- Easy to configure and update.

Unpacking

Open the package and take out HR200C corded 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.

HR200C Corded Scanner
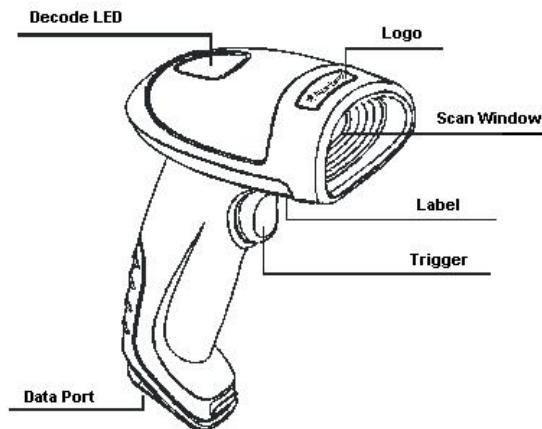
Fig. 1-1

Decode LED:

Red   : Scanner is powered on.
Green: Barcode is decoded successfully.
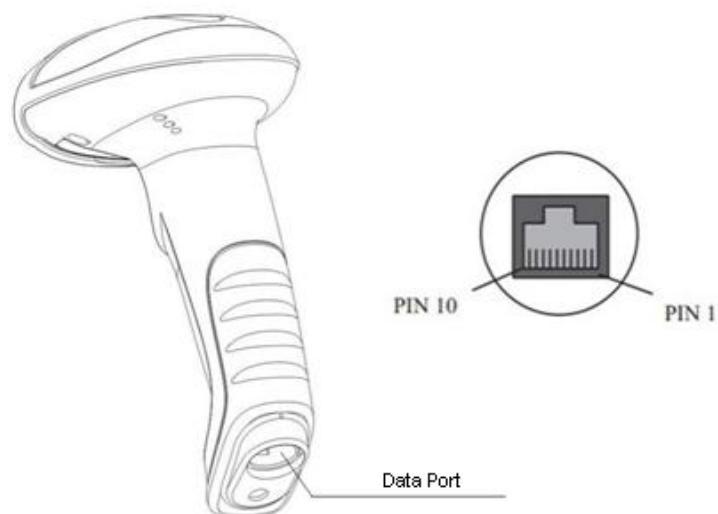
Fig. 1-2

Data port pinout:

PIN	Signal	Type	Function
1	NC	-	No connection
2	NC	-	No connection
3	VCC	P	Power+ (+5V)
4	TXD	O	RS-232 output
5	RXD	I	RS-232 input
6	nCTS	I	RS-232 flow control
7	nRTS	O	
8	GND	P	Ground
9	D-	I/O	USB signal
10	D+	I/O	

Connect HR200C to a Host

The HR200C corded scanner must be connected to a Host in actual application, such as PC, POS or any intelligent terminal with USB or RS-232 port, via a communication cable, either USB or RS-232 cable.

USB

USB port on the Host

RS-232

RS-232 port on the Host

Use USB Cable
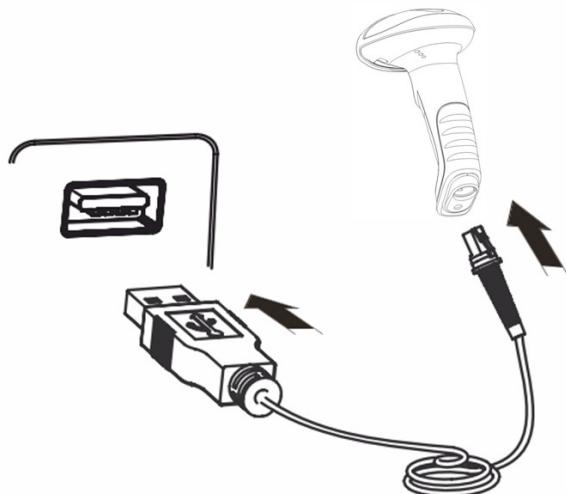
Fig. 1-3

Connect the HR200C corded scanner to a Host through a USB cable with RJ45 and USB connectors:

1. Plug the RJ45 connector into the data port (see Fig.1-1) on the scanner.

2. Plug the USB connector into the USB port on the Host.

Use RS-232 Cable
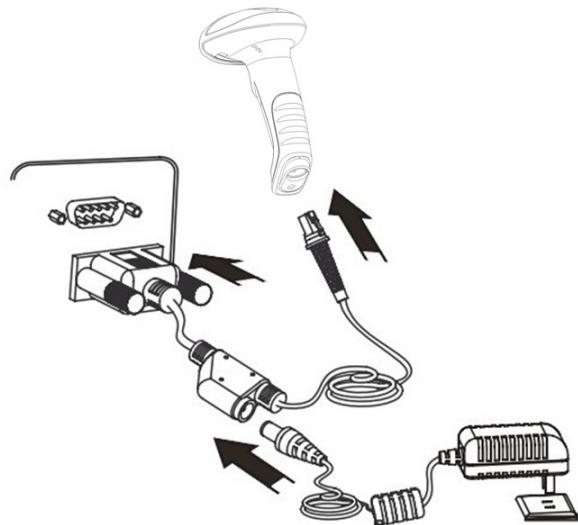
Fig. 1-4

Connect the HR200C corded scanner to a Host through a RS-232 cable with RJ45, RS-232 and power connectors:

1. Plug the RJ45 connector into the data port (see Fig.1-1) on the scanner.

2. Plug the RS-232 connector into the RS-232 port on the Host.

3. Connect the supplied power adaptor to the power connector of the RS-232 cable.

Remove Communication Cable
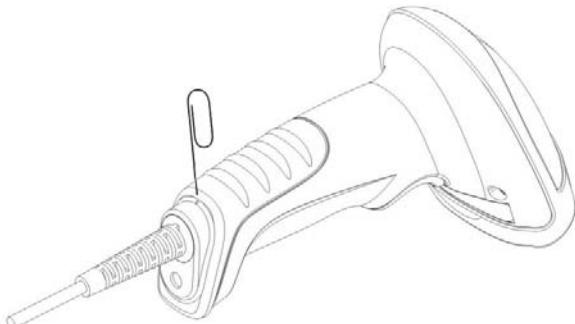
Fig. 1-5

Get an appropriate needle or a straightened paper clip (Fig. 1-5) and then follow the steps below:

1. Disconnect the power adaptor from mains if there is one.

2. Insert the needle into the hole.

3. Pull out the cable slowly from the scanner while pressing the needle in.

4. Remove the needle.

5. Disconnect the cable from the Host.

Power On, Sleep, Power Off, Reboot

Power on the scanner
Connect the scanner to a Host. Then the scanner will be turned on and automatically enter the sleep mode.

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

Power off the scanner
Remove the communication cable from the scanner; or remove the USB cable from the Host; or disconnect the power adaptor from mains.

Reboot the scanner
If the scanner stops responding to input or runs abnormally, turn off the scanner and then turn it back on.

Maintenance

✧ The scan window should be kept clean.

✧ Do not scratch the scan window.

✧ 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.

✧ Only use water to clean other parts of the device.

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

Dimensions

Side View

Unit: mm

Fig. 1-6

Front View

29, 8

Unit: mm

13, 8

29, 2
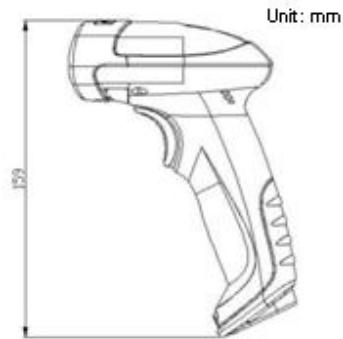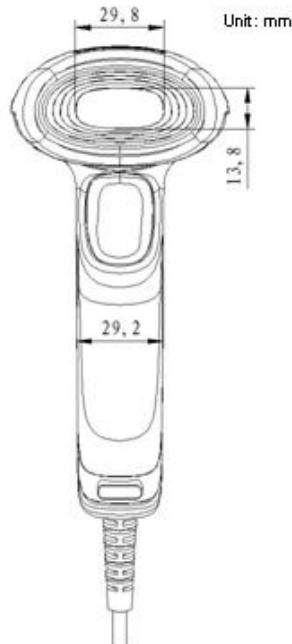
Fig. 1-7

Top View
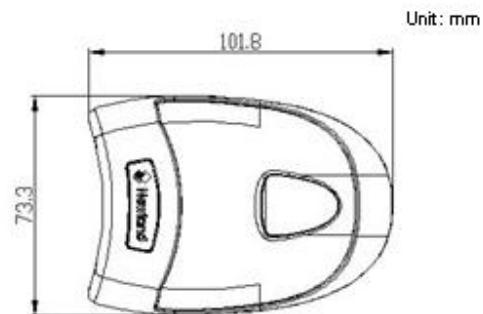
Fig. 1-8

Scanning Instructions

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

✧ Press and hold the trigger (see Fig.1-1). Then the scanner will project a red aiming beam.

✧ Aim the red beam across the center of barcode, as shown in Fig.1-9.

✧ Release the trigger when the red beam goes off. If the barcode is decoded successfully, the scanner will beep and the decoded data will be sent to the Host.

Note: For the same batch of barcodes, the scanner will keep a very high success ratio in certain distance which can be regarded as the optimal scanning distance.
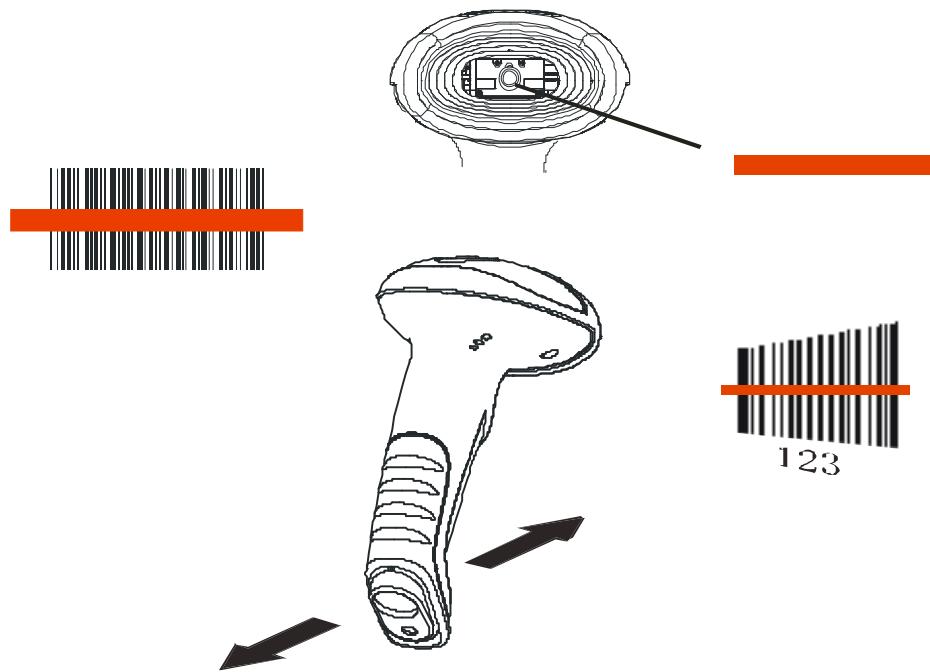
Fig. 1-9

Chapter 2 QuickSet

QuickSet

QuickSet is Windows-based barcode reading software developed by Newland Auto-ID Tech. Users can use it to develop applications, troubleshoot problems and configure scanners.
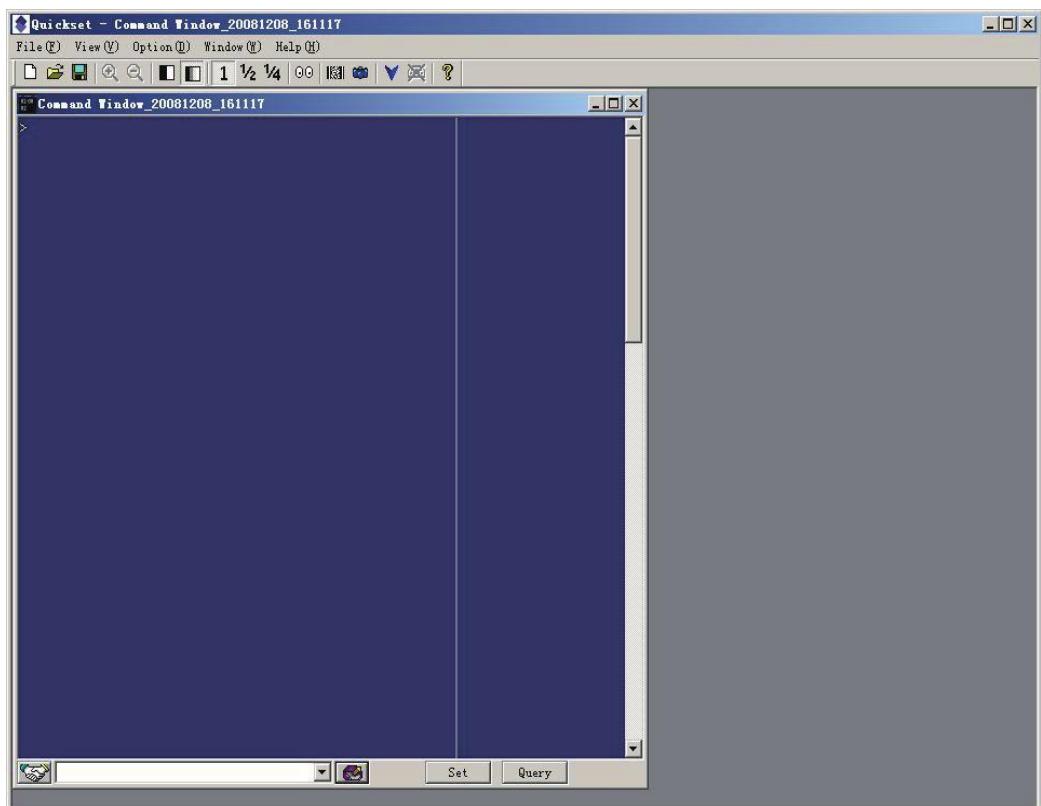
Chapter 3 System Settings

Introduction

There are three ways to configure the scanner: barcode programming, command programming and QuickSet programming.

Barcode Programming

The scanner can be configured through scanning programming barcodes. In the following sections, we will explain the available options and features and provide the barcodes to program them.

This programming method is most straightforward. However, it requires manually scanning barcodes. As a result, errors are more likely to occur.

Command Programming

The scanner can also be configured by command strings sent from the Host. In the following sections, the commands will be provided along with programming barcodes.

Users can also design an application to send those command strings to their scanners.

QuickSet Programming

Besides the two methods mentioned above, you can conveniently perform scanner configuration through QuickSet too. QuickSet is a Windows-based GUI program, enabling users to gain access to decoded data and captured images and to configure scanners.

This method is quite similar to the command programming. QuickSet is a software program particularly designed for Newland products.

Note: All settings except temporary ones are stored in non-volatile memory of the scanner and will not be lost by removing power from the scanner.

Programming Barcode/Command/Function

The figure above is an example that shows you the programming barcode and command for the **Exit Setup** function:

1. The **Exit Setup** barcode

2. The **Exit Setup** command

3. The function/feature that can be enabled by using the programming barcode or command listed above.

4. ** indicates factory default setting.

Use of Programming Barcodes

Scanning the **Enter Setup** barcode can enable the scanner to enter the setup mode. Then you can scan a number of programming barcodes to configure your scanner. To exit the setup mode, scan the **Exit Setup** barcode.

If the scanner has exited the setup mode, only some special programming barcodes, such as the **Enter Setup** barcode and **Restore All Factory Defaults** barcode, can be read.

|||| |||| ||| |||||
0006000
** 【Exit Setup】

||||| |||| ||| |||||
0006010
【Enter Setup】

||||| ||| ||||| ||| |||||
0006000
** 【Exit Setup】

Programming barcode data (i.e. the characters under programming barcode) can be transmitted to the Host. Scan the appropriate barcode below to enable or disable the transmission of programming barcode data to the Host.

||||| ||||||| |||| |||||
0002000

【Do Not Transmit Programming Barcode Data】

||||| ||||||| |||| |||||
0002010

【Transmit Programming Barcode Data】

Illumination

A couple of illumination options are provided to improve the lighting conditions during every image capture:

◇ **Normal:** Illumination LEDs are turned on only when scanner is reading barcode.

◇ **Always ON**: Illumination LEDs keep ON after scanner is powered on.

◇ **OFF:** Illumination LEDs are OFF all the time.

||||||||||||||||||||||
0200000
＊＊【Normal】

||||||||||||||||||||||
0200010
【Always ON】

||||||||||||||||||||||
0200020
【OFF】

Aiming

When scanning/capturing image, the scanner projects an aiming pattern which allows positioning the target barcode within its field of view and thus makes decoding easier.

✧ **Normal:** The scanner projects an aiming pattern only during barcode scanning/capture.

✧ **Always ON:** Aiming pattern is constantly ON after the scanner is powered on.

✧ **OFF:** Aiming pattern is OFF all the time.

||||| ||||| ||||| |||||
0201000

** 【Normal】

||||| ||||| ||||| |||||
0201020

【OFF】

||||| ||||| ||||| |||||
0201010

【Always ON】

Beep

Good Read Beep (Non-Programming Barcode)

Scan the appropriate barcode below to enable or disable the emission of beep when a non-programming barcode is decoded.

||||| ||| ||| |||| ||| |||||
0203010

**【Good Read Beep On, Non-Programming Barcode】

||||| ||| ||| |||| ||| |||||
0203000

【Good Read Beep Off, Non-Programming Barcode】

Good Read Beep Type

||||| ||| ||| |||| ||| |||||
0203020
【Type 1】

||||| ||| ||| |||| ||| |||||
0203022
**【Type 3】

||||| ||| ||| |||| ||| |||||
0203021
【Type 2】

||||||||||||||||||||||||
0006010
【Enter Setup】

Good Read Beep Volume

||||||||||||||||||||||||
0203030
**【Loud】

||||||||||||||||||||||||
0203032
【Low】

||||||||||||||||||||||||
0203031
【Medium】

Good Read Beep (Programming Barcode)

Scan the appropriate barcode below to enable or disable the emission of beep when a programming barcode is decoded.

||||||||||||||||||||||||
0203041
**【Good Read Beep On, Programming Barcode】

||||||||||||||||||||||||
0203040
【Good Read Beep Off, Programming Barcode】

Startup Beep

||||||||||||||||||||||||
0204001
**【Startup Beep On】

||||||||||||||||||||||||
0204000
【Disable Startup Off】

||||||||||||||||||||||||
0006000
**【Exit Setup】

Good Read LED Notification

0206011

**【Good Read LED Notification On】

0206010

【Good Read LED Notification Off】

0006000

**【Exit Setup】

Transmit NGR Message

Scan a barcode below to select whether or not to transmit a user-defined NGR (Not Good Read) message when a barcode is not decoded.

||||| ||| ||| ||||| || ||||| |||
0320010
【Transmit NGR Message】

||||| ||| ||| ||||| || ||||| |||
0320000
**【Do Not Transmit NGR Message】

Edit NGR Message

To edit an NGR message, scan the **Edit NGR Message** barcode and the numeric barcodes corresponding to the ASCII values (decimal) of desired characters and then scan the **Save** barcode.

An NGR message can contain 0-7 characters (ASCII value of character: 0-255).

||||| ||| ||| ||||| || ||||| |||
0320020
【Edit NGR Message】

Set the NGR message to "!ERR" (0x21, 0x45, 0x52, 0x52):

1. Scan the **Enter Setup** barcode.

2. Scan the **Edit NGR Message** barcode.

3. Scan the numeric barcodes "2", "1", "4", "5", "5", "2", "5" and "2". (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.

Scan Mode

Manual Mode

A trigger pull activates a decode session. The decode session continues until the barcode is decoded or you release the trigger or decode session timeout occurs.

||||||||||||||||||||||||
0302000
【Manual Mode】

Decode Session Timeout

This parameter sets the maximum time decode session continues during a scan attempt. It is programmable in 1ms increments from 0ms to 3,600,000ms. The default setting is 3,000ms.

||||||||||||||||||||||||
0313000
【Decode Session Timeout】

Set the Decode Session Timeout to 1,500ms:

1. Scan the **Enter Setup** barcode.

2. Scan the **Decode Session Timeout** barcode.

3. Scan the numeric barcodes "1", "5", "0" 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.

||||||||||||||||||||
0006010
【Enter Setup】

Auto Sleep

Auto Sleep allows the scanner in the Manual Mode to automatically enter the sleep or low power mode if no operation or communication is performed for a time period (user programmable). When the scanner is in the sleep mode, receiving trigger signal or communication from the Host can awake the scanner. The scanner returns to full operation within 100ms.

|||||||||||||||||||| ||||||||||||||||||||
0313060   0313070

** 【Enable Auto Sleep】   【Disable Auto Sleep】

The parameter below specifies how long the scanner remains idle (no operation or communication occurs) before it is put into sleep mode. It is programmable in 1ms increments from 0ms to 65,535ms. The default setting is 500ms.

||||||||||||||||||||
0313050
【Time Period from Idle to Sleep】

Set the time period from idle to sleep to 1,500ms:

1. Scan the **Enter Setup** barcode.

2. Scan the **Time Period from Idle to Sleep** barcode.

3. Scan the numeric barcodes "1", "5", "0" 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.

||||||||||||||||||||
0006000
** 【Exit Setup】

Sense Mode

The scanner waits for the image stabilization timeout to occur before activating a decode session every time it detects a change in ambient illumination. Decode session continues until the barcode is decoded or the decode session timeout occurs.

In the Sense mode, a trigger pull can also activate a decode session. The decode session continues until the barcode is decoded or the trigger is released. When the session ends, the scanner continues to monitor ambient illumination.

‖‖‖‖‖‖‖‖‖‖‖‖
0302010
【Sense Mode】

Decode Session Timeout

This parameter sets the maximum time decode session continues during a scan attempt. It is programmable in 1ms increments from 0ms to 3,600,000ms. The default setting is 3,000ms.

‖‖‖‖‖‖‖‖‖‖‖‖
0313000
【Decode Session Timeout】

Example
Set the Decode Session Timeout to 1,500ms:

1. Scan the **Enter Setup** barcode.

2. Scan the **Decode Session Timeout** barcode.

3. Scan the numeric barcodes "1", "5", "0" 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.

Image Stabilization Timeout

The scanner waits for the image stabilization timeout to occur before activating a decode session every time it detects a change in ambient illumination. The image stabilization timeout is programmable in 1ms increments from 0ms to 1,600ms. The default setting is 500ms.

‖‖‖‖‖‖‖‖‖‖‖
0313120

【Image Stabilization Timeout】

Set the Image Stabilization Timeout to 1,500ms:

1. Scan the **Enter Setup** barcode.

2. Scan the **Image Stabilization Timeout** barcode.

3. Scan the numeric barcodes "1", "5", "0" 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.

Continue after Good Read

Continue after Good Read: The scanner starts next decode session after good read.

Pause after Good Read: The scanner starts another round of illumination monitoring and image stabilization after good read.

‖‖‖‖‖‖‖‖‖‖‖   ‖‖‖‖‖‖‖‖‖‖‖
0313130   0313131

** 【Pause after Good Read】   【Continue after Good Read】

Timeout between Decodes (Same Barcode)

Timeout between Decodes (Same Barcode) can avoid undesired rereading of same barcode in a given period of time.

To enable/disable the Timeout between Decodes (Same Barcode), scan the appropriate barcode below.

Enable Timeout between Decodes: Do not allow the scanner to re-read same barcode before the timeout between decodes (same barcode) occurs.

Disable Timeout between Decodes: Allow the scanner to re-read same barcode.

||||| |||| ||| ||| |||||
0313020
【Disable Timeout between Decodes】

||||| |||| ||| ||| |||||
0313030
** 【Enable Timeout between Decodes】

The following parameter sets the timeout between decodes for same barcode. It is programmable in 1ms increments from 0ms to 65,535ms. The default setting is 1,500ms.

||||| |||| ||| ||| |||||
0313010
【Timeout between Decodes (Same Barcode)】

Set the Timeout between Decodes (Same Barcode) to 2,500ms:

1. Scan the **Enter Setup** barcode.

2. Scan the **Timeout between Decodes (Same Barcode)** barcode.

3. Scan the numeric barcodes "2", "5", "0" 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.

Sensitivity

Sensitivity 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.

||||||||||||||||
0312010

【Medium Sensitivity】

||||||||||||||||
0312000

【Low Sensitivity】

||||||||||||||||
0312020

【High Sensitivity】

||||||||||||||||
0312030

【Enhanced Sensitivity】

If the above four options fail to meet your needs, you may program the threshold value of illumination change.

Illumination changes that reaches or surpasses the predefined threshold value will cause the scanner to start a decode session. The lower the threshold value, the greater the sensitivity of the scanner. The default threshold value is 2.

||||||||||||||||
0312040

【Threshold Value of Illumination Change (1~20)】

Set the threshold value of illumination change to 4:
1. Scan the **Enter Setup** barcode.
2. Scan the **Threshold Value of Illumination Change** barcode.
3. Scan the numeric barcode "4". (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.

Continuous Mode

If the Continuous mode is enabled, the scanner automatically starts one decode session after another. To suspend/resume barcode reading, simply press the trigger.

‖‖‖‖‖‖‖‖‖‖‖
0302020
【Continuous Mode】

Decode Session Timeout

This parameter sets the maximum time decode session continues during a scan attempt. It is programmable in 1ms increments from 0ms to 3,600,000ms. The default setting is 3,000ms.

‖‖‖‖‖‖‖‖‖‖‖
0313000
【Decode Session Timeout】

Set the Decode Session Timeout to 1,500ms:

1. Scan the **Enter Setup** barcode.

2. Scan the **Decode Session Timeout** barcode.

3. Scan the numeric barcodes "1", "5", "0" 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.

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 occurs. It is programmable in 1ms increments from 0ms to 65,535ms. The default setting is 1,000ms.

‖‖‖‖‖‖‖‖‖‖‖‖‖
0313040

【Timeout between Decodes】

Set the Timeout between Decodes to 1,500ms:

1. Scan the **Enter Setup** barcode.

2. Scan the **Timeout between Decodes** barcode.

3. Scan the numeric barcodes "1", "5", "0" 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.

Factory Defaults

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

You may need to reset all parameters to the factory defaults when:

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

 ✧   you forget previous configuration and want to avoid its impact.

0001000

**【Restore All Factory Defaults】

Chapter 4 RS-232 Interface

Introduction

If the scanner is connected to the RS-232 port of a Host, you need to scan the following barcode to enable serial communication. To ensure smooth communication and accuracy of data, you need to set communication parameters (including baud rate, parity check, data bit and stop bit) to match the host device.

【RS-232】

RS-232 Parameters

When the scanner is connected to the Host via serial port, it is necessary to maintain consistency in communication parameters configuration on both devices to ensure smooth communication between them. The default settings are 9600bps, no parity check, 8 data bits, 1 stop bit, and no flow control.

Baud Rate

Baud rate is the number of bits of data transmitted per second. Set the baud rate to match the Host requirements.

0100030
**【Baud Rate 9600】

0100050
【Baud Rate 19200】

0100000
【Baud Rate 1200】

0100060
【Baud Rate 38400】

0100010
【Baud Rate 2400】

0100070
【Baud Rate 57600】

0100020
【Baud Rate 4800】

0100080
【Baud Rate 115200】

0100040
【Baud Rate 14400】

0006000
**【Exit Setup】

||||||||||||||||||||
0006010
【Enter Setup】

Parity Check

When the number of data bits is set to 7, you can only select either **Even Parity** or **Odd Parity**. The **None** option will be regarded as **Even Parity** in this case.

||||||||||||||||||||
0101000
**【None】

||||||||||||||||||||
0101020
【Odd Parity】

||||||||||||||||||||
0101010
【Even Parity】

Data Bit

When the number of data bits is set to 7, you can only select either **Even Parity** or **Odd Parity**.

||||||||||||||||||||
0103030
**【8 Data Bits】

||||||||||||||||||||
0103020
【7 Data Bits】

Data Bit & Parity Check

||||||||||||||||||||
0006000
**【Exit Setup】

‖‖‖‖‖‖‖‖
0105010
【7 Data Bits/Even Parity】

‖‖‖‖‖‖‖‖
0105020
【7 Data Bits/Odd Parity】

‖‖‖‖‖‖‖‖
0105030
**【8 Data Bits/ No Parity】

‖‖‖‖‖‖‖‖
0105040
【8 Data Bits/Even Parity】

‖‖‖‖‖‖‖‖
0105050
【8 Data Bits/Odd Parity】

Stop Bit

‖‖‖‖‖‖‖‖
0102000
**【1 Stop Bit】

‖‖‖‖‖‖‖‖
0102010
【2 Stop Bits】

Hardware Auto Flow Control

If CTS flow control is enabled, the scanner determines whether to transmit data based on CTS signal level. When CTS signal is at low level which means the serial port's cache memory of receiving device (such as PC) is full, the scanner stops sending data through serial port until CTS signal is set to high level by receiving device. If RTS flow control is enabled, whether the scanner receives data or not is dependent on RTS signal level. If the scanner is not ready for receiving, it will set RTS signal to low level. When sending device (such as PC) detects it, it will not send data to the scanner any more to prevent data loss.

If **No Flow Control** is selected, reception/transmission of serial data will not be influenced by RTS/CTS signal.

|||||| |||| ||| || |||||||
0104100

**【No Flow Control】

|||||| |||| ||| || |||||||
0104110

【RTS Flow Control】

|||||| |||| ||| || |||||||
0104120

【CTS Flow Control】

|||||| |||| ||| || |||||||
0104130

【CTS/RTS Flow Control】

Before enabling hardware flow control, make sure that RTS/CTS signal line is contained in RS-232 cable. Without the signal line, RS-232 communication errors will occur.

Chapter 5 USB Interface

Introduction

There are two options for USB connection.

◇ USB HID-KBW: The scanner's transmission is simulated as USB keyboard input with no need for command configuration or a driver. The barcode data could be entered by the virtual keyboard directly and it is also convenient for the Host to receive data.

◇ USB COM Port Emulation: The USB port on the Host is emulated as a RS-232 port with the same data transmission and configuration as a real RS-232 port. A driver is needed.

USB Enumeration

If the scanner is connected to the Host via a USB connection, the scanner will be enumerated using S/N or "00000000" after power-up. **Enumeration using S/N** enables the Host to distinguish between scanners of same model. **Enumeration using "00000000"** disables the Host from distinguishing between scanners of same model.

Driver installation is required for each USB device distinguished from others by the Host in the process of enumeration.

```
1100210
```
【Enumeration Using S/N】

```
1100200
```
** 【Enumeration Using "00000000"】

```
0006000
```
**【Exit Setup】

USB HID-KBW

When the scanner is connected to the USB port on a Host, you can enable the USB HID-KBW feature by scanning the barcode below. Then scanner's transmission will be simulated as USB keyboard input. The Host receives keystrokes on the virtual keyboard. It works on a Plug and Play basis and no driver is required.

||||||| |||||| ||| ||||||
1100020

【USB HID-KBW】

If the Host allows keyboard input, then no extra software is needed for HID-KBW input.

USB Country Keyboard Types

Keyboard layouts vary from country to country. The default setting is 1-U.S. keyboard.

||| ||||| ||||| |||
1103001
** 【1 - U.S】

||| ||||| ||||| |||
1103002
【2 - Japan】

||| ||||| ||||| |||
1103003
【3 - Denmark】

||| ||||| ||||| |||
1103004
【4 - Finland】

||| ||||| ||||| |||
1103005
【5 - France】

||| ||||| ||||| |||
1103006
【6 - Turkey_F】

||| ||||| ||||| |||
1103007
【7 - Italy】

||| ||||| ||||| |||
1103008
【8 - Norway】

Beep on Unknown Character

Due to the differences in keyboard layouts, some characters contained in barcode data may be unavailable on the selected keyboard. As a result, the scanner fails to transmit the unknown characters.

Scan the appropriate barcode below to enable or disable the emission of beep when an unknown character is detected.

‖‖‖‖‖‖‖‖
1103030

【Do Not Beep on Unknown Character】

‖‖‖‖‖‖‖‖
1103031

【Beep on Unknown Character】

Supposing French keyboard is selected and barcode data "AÐF" is being dealted with, the keyboard will fail to locate the "Ð" (0xD0) character and the scanner will ignore the character and continue to process the next one.

Do Not Beep on Unknown Character: The scanner does not beep and the Host receives "AF".

Beep on Unknown Character: The scanner beeps and the Host still receives "AF".

Inter-Keystroke Delay

This parameter specifies the delay between emulated keystrokes.

1103050

** 【No Delay】

1103052

【Long Delay (40ms)】

1103051

【Short Delay (20ms)】

Convert Case

Scan the appropriate barcode below to convert barcode data to your desired case.

||||| ||| || ||| |||| |||| |||
1103040

** 【No Case Conversion】

||||| ||| || ||| |||| |||| |||
1103043

【Invert Upper and Lower Case Characters】

||||| ||| || ||| |||| |||| |||
1103041

【Convert All to Upper Case】

||||| ||| || ||| |||| |||| |||
1103042

【Convert All to Lower Case】

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

USB COM Port Emulation

If your scanner is connected to the USB port on a Host, the USB COM Port Emulation 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. To learn how to program communication parameters, see the **"RS-232 Parameters"** section in Chapter 4.

To use this feature, a driver is required.

‖‖‖‖‖‖‖‖‖‖‖
1100060
【USB COM Port Emulation】

【Enter Setup】

Chapter 6 Symbologies

Introduction

Every symbology (barcode type) has its own unique attributes. This chapter provides programming barcodes for configuring the scanner so that it can identify various barcode symbologies. The more symbologies you enable, the slower your scanner decodes. It is recommended to disable those that are rarely used to improve the performance of the scanner.

General Settings

Disable All Symbologies

If the **Disable All Symbologies** feature is enabled, the scanner can only identify the programming barcodes.

【Disable All Symbologies】

Enable All Symbologies

If the **Enable All Symbologies** feature is enabled, the scanner can read all compatible barcode symbologies as well as the programming barcodes.

【Enable All Symbologies】

＊＊【Exit Setup】

Enable 1D Symbologies

0001040

【Enable 1D Symbologies】

Disable 1D Symbologies

0001030

【Disable 1D Symbologies】

Enable 2D Symbologies

0001060

【Enable 2D Symbologies】

Disable 2D Symbologies

0001050

【Disable 2D Symbologies】

0006000

＊＊【Exit Setup】

Video Reverse

Regular barcode: Dark image on a bright background.

Inverse barcode: Bright image on a dark background.

The examples of regular barcode and inverse barcode are shown below.
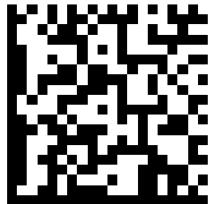
Regular Barcode
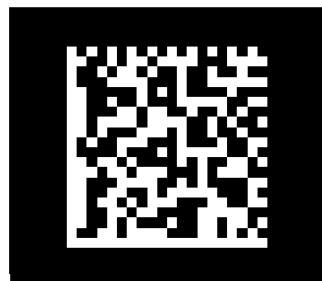
Inverse Barcode

Video Reverse is used to allow the scanner to read barcodes that are inverted.

Video Reverse ON: Read both regular barcodes and inverse barcodes.

Video Reverse OFF: Read regular barcodes only.

The scanner shows a slight decrease in scanning speed when Video Reverse is ON.

【Video Reverse ON】

**【Video Reverse OFF】

Code 128

Restore Factory Defaults

0400000

【Restore the Factory Defaults of Code 128】

Enable/Disable Code 128

0400020

**【Enable Code 128】

0400010

【Disable Code 128】

If the scanner fails to identify Code 128 barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable Code 128** barcode.

0006000

**【Exit 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. To accomplish it, you need to set the minimum and maximum lengths.

||||| ||||| ||| ||||| |||||
0400030

【Set the Minimum Length (Default: 1)】

||||| ||||| ||| ||||| |||||
0400040

【Set the Maximum Length (Default: 127)】

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.

Set the scanner to decode Code 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 barcode "1".
7. Scan the numeric barcode "2".
8. Scan the **Save** barcode.
9. Scan the **Exit Setup** barcode.

EAN-8

Restore Factory Defaults

0401000

【Restore the Factory Defaults of EAN-8】

Enable/Disable EAN-8

0401020

**【Enable EAN-8】

0401010

【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 accuracy of the data.

0401040

**【Transmit EAN-8 Check Digit】

0401030

【Do Not Transmit EAN-8 Check Digit】

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.

||||| ||| ||| ||||| |||
0401050

**【Disable 2-Digit Add-On Code】

||||| ||| ||| ||||| |||
0401060

【Enable 2-Digit Add-On Code】

||||| ||| ||| ||||| |||
0401070

**【Disable 5-Digit Add-On Code】

||||| ||| ||| ||||| |||
0401080

【Enable 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.

Add-On Code Required

EAN-8 Add-On Code Required: The scanner only decodes EAN-8 barcodes that contain add-on codes.

EAN-8 Add-On Code Not Required: The scanner decodes a mix of EAN-8 barcodes with and without add-on codes.

0401110
【EAN-8 Add-On Code Required】

0401120
** 【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 to 13 digits.

0401090
** 【Disable EAN-8 Zero Extend】

0401100
【Enable EAN-8 Zero Extend】

EAN-13

Restore Factory Defaults

||||| |||| ||| |||||| ||||
0402000

**【Restore the Factory Defaults of EAN-13】

Enable/Disable EAN-13

||||| |||| ||| |||||| ||||
0402020

**【Enable EAN-13】

||||| |||| ||| |||||| ||||
0402010

【Disable EAN-13】

Transmit Check Digit

||||| |||| ||| |||||| ||||
0402040

**【Transmit EAN-13 Check Digit】

||||| |||| ||| |||||| ||||
0402030

【Do Not Transmit EAN-13 Check Digit】

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.

0402050

**【Disable 2-Digit Add-On Code】

0402060

【Enable 2-Digit Add-On Code】

0402070

**【Disable 5-Digit Add-On Code】

0402080

【Enable 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.

Add-On Code Required

EAN-13 Add-On Code Required: The scanner only decodes EAN-13 barcodes that contain add-on codes.

EAN-13 Add-On Code Not Required: The scanner decodes a mix of EAN-13 barcodes with and without add-on codes.

||||| |||| ||| ||| |||||
0402090

【EAN-13 Add-On Code Required】

||||| |||| ||| ||| |||||
0402100

** 【EAN-13 Add-On Code Not Required】

UPC-E

Restore Factory Defaults

||||| |||||||| |||| |||
0403000

**【Restore the Factory Defaults of UPC-E】

Enable/Disable UPC-E

||||| |||||||| |||||
0403020

**【Enable UPC-E】

||||| |||||||| |||||
0403010

【Disable UPC-E】

If the scanner fails to identify UPC-E barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable UPC-E** barcode.

Transmit Check Digit

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

||||| |||||||| |||||
0403040

**【Transmit UPC-E Check Digit】

||||| |||||||| |||||
0403030

【Do Not Transmit UPC-E Check Digit】

||||| |||| ||| ||||| |||||
0006000

**【Exit 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.

**【Disable 2-Digit Add-On Code】

【Enable 2-Digit Add-On Code】

**【Disable 5-Digit Add-On Code】

【Enable 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.

Add-On Code Required

UPC-E Add-On Code Required: The scanner only decodes UPC-E barcodes that contain add-on codes.

UPC-E Add-On Code Not Required: The scanner decodes a mix of UPC-E barcodes with and without add-on codes.

0403130

【UPC-E Add-On Code Required】

0403140

** 【UPC-E Add-On Code Not Required】

Transmit System Character "0"

The first character of UPC-E barcode is the system character "0".

0403090

** 【Do Not Transmit System Character "0"】

0403100

【Transmit System Character "0"】

0006000

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.

||||| |||| ||| |||||
0403110

** 【Disable UPC-E Extend】

||||| |||| ||| |||||
0403120

【Enable UPC-E Extend】

UPC-A

Restore Factory Defaults

||| |||||||||||| ||||| |||
0404000

Restore the Factory Defaults of UPC-A】

Enable/Disable UPC-A

||| |||||||| ||||| |||||
0404020

**【Enable UPC-A】

||| |||||||| ||||| |||||
0404010

【Disable UPC-A】

If the scanner fails to identify UPC-A barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable UPC-A** barcode.

Transmit Check Digit

UPC-A is 12 digits in length with the last one as its check digit used to verify the accuracy of the data.

||| |||||||| ||||| |||||
0404040

**【Transmit UPC-A Check Digit】

||| |||||||| ||||| |||||
0404030

【Do Not Transmit UPC-A Check Digit】

||||| |||||||||| ||||||| |||
0006000

**【Exit 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.

‖‖‖‖‖ 0404050

**【Disable 2-Digit Add-On Code】

‖‖‖‖‖ 0404060

【Enable 2-Digit Add-On Code】

‖‖‖‖‖ 0404070

**【Disable 5-Digit Add-On Code】

‖‖‖‖‖ 0404080

【Enable 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.

Add-On Code Required

UPC-A Add-On Code Required: The scanner only decodes UPC-A barcodes that contain add-on codes.

UPC-A Add-On Code Not Required: The scanner decodes a mix of UPC-A barcodes with and without add-on codes.

||| ||| ||||| ||| ||| |||
0404110
【UPC-A Add-On Code Required】

||| ||| ||||| ||| ||| |||
0404120
** 【UPC-A Add-On Code Not Required】

Transmit Preamble Character "0"

The preamble character "0" is part of the UPC-A barcode.

||| ||| ||||| ||| ||| |||
0404090
** 【Do Not Transmit Preamble Character "0"】

||| ||| ||||| ||| ||| |||
0404100
【Transmit Preamble Character "0"】

The preamble character "0" usually does not appear in printed UPC-A barcodes.

||| ||| ||||| ||| ||| |||
0006000
** 【Exit Setup】

【Enter Setup】

Interleaved 2 of 5

Restore Factory Defaults

【Restore the Factory Defaults of Interleaved 2 of 5】

Enable/Disable Interleaved 2 of 5

**【Enable Interleaved 2 of 5】

【Disable Interleaved 2 of 5】

If the scanner fails to identify Interleaved 2 of 5 barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable Interleaved 2 of 5** barcode.

**【Exit 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. To accomplish it, you need to set the minimum and maximum lengths.

【Set the Minimum Length (Default: 6)】

【Set the Maximum Length (Default: 100)】

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.

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 barcode "1".

7. Scan the numeric barcode "2".

8. Scan the **Save** barcode.

9. Scan the **Exit Setup** barcode.

Parity Check

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 accuracy of the data.

No Parity Check: The scanner transmits Interleaved 2 of 5 barcodes as is.

Do Not Transmit Check Digit After Parity Check: The scanner will run a parity check using the last digit of Interleaved 2 of 5 barcode as check digit. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

Transmit Check Digit After Parity Check: The scanner will run a parity check using the last digit of Interleaved 2 of 5 barcode as check digit. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.

Since Interleaved 2 of 5 must always have an even number of digits, a zero may need to be added as the first digit when the check digit is added. The check digit is automatically generated when making Interleaved 2 of 5 barcodes.

||||| ||||| ||| ||| |||||
0405050

【No Parity Check】

||||| ||| ||| ||||| |||
0405060

【Do Not Transmit Check Digit After Parity Check】

||||| ||| ||| ||||| |||
0405070

【Transmit Check Digit After Parity Check】

If the **Do Not Transmit Check Digit After Parity Check** option is enabled, Interleaved 2 of 5 barcodes with a length that is less than the configured minimum length after having the check digit excluded will not be decoded. (For example, when the **Do Not Transmit Check Digit After Parity Check** option is enabled and the minimum length is set to 4, Interleaved 2 of 5 barcodes with a total length of 4 characters including the check digit cannot be read.)

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.

║█║██║█║██║█║█║██║█║
0405260

【Restore the Factory Defaults of ITF-14】

║█║██║█║██║█║█║██║█║
0405080

**【Disable ITF-14】

║█║██║█║██║█║█║██║█║
0405090

【Enable ITF-14 But Do Not Transmit Check Digit】

║█║██║█║██║█║█║██║█║
0405100

【Enable ITF-14 and Transmit Check Digit】

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

║█║██║█║██║█║█║██║█║
0006000

**【Exit 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.

0405270

【Restore the Factory Defaults of ITF-6】

0405110

**【Disable ITF-6】

0405120

【Enable ITF-6 But Do Not Transmit Check Digit】

0405130

【Enable ITF-6 and Transmit Check Digit】

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

Matrix 2 of 5

Restore Factory Defaults

||||||||||||||||||||
0406000

【Restore the Factory Defaults of Matrix 2 of 5】

Enable/Disable Matrix 2 of 5

||||||||||||||||||||
0406020

【Enable Matrix 2 of 5】

||||||||||||||||||||
0406010

**【Disable Matrix 2 of 5】

If the scanner fails to identify Matrix 2 of 5 barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable Matrix 2 of 5** barcode.

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. To accomplish it, you need to set the minimum and maximum lengths.

||||| ||| ||| || ||| ||| |||||
0406030

【Set the Minimum Length (Default: 6)】

||||| ||| ||| || ||| ||| |||||
0406040

【Set the Maximum Length (Default: 127)】

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 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 barcode "1".

7. Scan the numeric barcode "2".

8. Scan the **Save** barcode.

9. Scan the **Exit Setup** barcode.

Parity Check

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 accuracy of the data.

No Parity Check: The scanner transmits Matrix 2 of 5 barcodes as is.

Do Not Transmit Check Digit After Parity Check: The scanner will run a parity check using the last digit of Matrix 2 of 5 barcode as check digit. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

Transmit Check Digit After Parity Check: The scanner will run a parity check using the last digit of Matrix 2 of 5 barcode as check digit. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.

Since Matrix 2 of 5 must always have an even number of digits, a zero may need to be added as the first digit when the check digit is added. The check digit is automatically generated when making Matrix 2 of 5 barcodes.

‖|‖‖‖|‖‖|‖‖‖|‖
0406050
【No Parity Check】

‖|‖‖|‖‖‖|‖‖‖|‖
0406060
**【Do Not Transmit Check Digit After Parity Check】

‖|‖‖|‖‖‖|‖‖‖|‖
0406070
【Transmit Check Digit After Parity Check】

If the **Do Not Transmit Check Digit After Parity Check** option is enabled, Matrix 2 of 5 barcodes with a length that is less than the configured minimum length after having the check digit excluded will not be decoded. (For example, when the **Do Not Transmit Check Digit After Parity Check** option is enabled and the minimum length is set to 4, Matrix 2 of 5 barcodes with a total length of 4 characters including the check digit cannot be read.)

||||| ||| ||||| |||||
0006010

【Enter Setup】

Code 39

Restore Factory Defaults

||||| ||| ||||| |||||
0408000

【Restore the Factory Defaults of Code 39】

Enable/Disable Code 39

||||| ||| ||||| |||||
0408020

** 【Enable Code 39】

||||| ||| ||||| |||||
0408010

【Disable Code 39】

If the scanner fails to identify Code 39 barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable Code 39** barcode.

Transmit Start/Stop Character

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

||||| ||| ||||| |||||
0408090

** 【Transmit Start/Stop Character】

||||| ||| ||||| |||||
0408080

【Do Not Transmit Start/Stop Character】

||||| ||| ||||| |||||
0006000

** 【Exit Setup】

80

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. To accomplish it, you need to set the minimum and maximum lengths.

```
0408030
```
【Set the Minimum Length (Default: 4)】

```
0408040
```
【Set the Maximum Length (Default: 127)】

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 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.

Parity Check

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 accuracy of the data.

No Parity Check: The scanner transmits Code 39 barcodes as is.

Do Not Transmit Check Digit After Parity Check: The scanner will run a parity check using the last digit of Code 39 barcode as check digit. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

Transmit Check Digit After Parity Check: The scanner will run a parity check using the last digit of Code 39 barcode as check digit. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.

||||| ||| ||| | ||| |||||
0408050

**【No Parity Check】

||||| ||| ||| | ||| |||||
0408060

【Do Not Transmit Check Digit After Parity Check】

||||| ||| ||| | ||| |||||
0408070

【Transmit Check Digit After Parity Check】

If the **Do Not Transmit Check Digit After Parity Check** option is enabled, Code 39 barcodes with a length that is less than the configured minimum length after having the check digit excluded will not be decoded. (For example, when the **Do Not Transmit Check Digit After Parity Check** option is enabled and the minimum length is set to 4, Code 39 barcodes with a total length of 4 characters including the check digit cannot be read.)

Enable/Disable Code 39 Full ASCII

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

0408100

【Disable Code 39 Full ASCII】

0408110

**【Enable Code 39 Full ASCII】

Codabar

Restore Factory Defaults

||| |||||| |||| ||||| |||
0409000

【Restore the Factory Defaults of Codabar】

Enable/Disable Codabar

||| |||||| ||||| |||
0409020

**【Enable Codabar】

||| |||||| ||||| |||
0409010

【Disable Codabar】

If the scanner fails to identify Codabar barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable Codabar** barcode.

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. To accomplish it, you need to set the minimum and maximum lengths.

0409030

〖Set the Minimum Length (Default: 1)〗

0409040

〖Set the Maximum Length (Default: 127)〗

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 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.

Parity Check

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

No Parity Check: The scanner transmits Codabar barcodes as is.

Do Not Transmit Check Digit After Parity Check: The scanner will run a parity check using the last digit of Codabar barcode as check digit. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

Transmit Check Digit After Parity Check: The scanner will run a parity check using the last digit of Codabar barcode as check digit. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.

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0409050

** 【No Parity Check】

‖‖‖‖‖‖‖‖‖‖‖
0409060

【Do Not Transmit Check Digit After Parity Check】

‖‖‖‖‖‖‖‖‖‖‖
0409070

【Transmit Check Digit After Parity Check】

If the **Do Not Transmit Check Digit After Parity Check** option is enabled, Codabar barcodes with a length that is less than the configured minimum length after having the check digit excluded will not be decoded. (For example, when the **Do Not Transmit Check Digit After Parity Check** option is enabled and the minimum length is set to 4, Codabar barcodes with a total length of 4 characters including the check digit cannot be read.)

Start/Stop Character

You can set the start/stop characters and choose whether or not to transmit the start/stop characters by scanning the appropriate barcode below.

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0409090

【Transmit Start/Stop Character】

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0409080

** 【Do Not Transmit Start/Stop Character】

‖‖‖‖‖‖‖‖‖‖
0409100

** 【ABCD/ABCD as the Start/Stop Character】

‖‖‖‖‖‖‖‖‖‖
0409120

【Start/Stop Character in Uppercase】

‖‖‖‖‖‖‖‖‖‖
0409110

【ABCD/TN*E as the Start/Stop Character】

‖‖‖‖‖‖‖‖‖‖
0409130

【Start/Stop Character in Lowercase】

Code 93

Restore Factory Defaults

||||| |||||||| |||||
0410000

【Restore the Factory Defaults of Code 93】

Enable/Disable Code 93

||||| |||||||| |||||
0410020

**【Enable Code 93】

||||| |||||||| |||||
0410010

【Disable Code 93】

If the scanner fails to identify Code 93 barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable Code 93** barcode.

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. To accomplish it, you need to set the minimum and maximum lengths.

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0410030

【Set the Minimum Length (Default: 3)】

‖‖‖‖‖‖‖‖‖‖‖‖
0410040

【Set the Maximum Length (Default: 127)】

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

Set the 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.

Parity Check

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

No Parity Check: The scanner transmits Code 93 barcodes as is.

Do Not Transmit Check Digit After Parity Check: The scanner will run parity checks using the last two digits of Code 93 barcode as check digits. Barcodes passing the checks will be transmitted except the last two digits, whereas those failing them will not be transmitted.

Transmit Check Digit After Parity Check: The scanner will run parity checks using the last two digits of Code 93 barcode as check digits. Barcodes passing the checks will be transmitted, whereas those failing them will not be transmitted.

||||| ||| || |||| ||||| ||| |||||
0410050

【No Parity Check】

||||| |||| ||| || ||||| |||||
0410060

**【Do Not Transmit Check Digit After Parity Check】

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0410070

【Transmit Check Digit After Parity Check】

If the **Do Not Transmit Check Digit After Parity Check** option is enabled, Code 93 barcodes with a length that is less than the configured minimum length after having the two check digits excluded will not be decoded. (For example, when the **Do Not Transmit Check Digit After Parity Check** option is enabled and the minimum length is set to 4, Code 93 barcodes with a total length of 4 characters including the two check digits cannot be read.)

UCC/EAN-128

Restore Factory Defaults

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0412000

【Restore the Factory Defaults of UCC/EAN-128】

Enable/Disable UCC/EAN-128

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0412020

**【Enable UCC/EAN-128】

‖‖‖‖‖‖
0412010

【Disable UCC/EAN-128】

If the scanner fails to identify UCC/EAN-128 barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable UCC/EAN-128** barcode.

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0006000

**【Exit 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. To accomplish it, you need to set the minimum and maximum lengths.

||||| |||| ||| || ||||| |||||
0412030

【Set the Minimum Length (Default: 1)】

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0412040

【Set the Maximum Length (Default: 127)】

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.

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 barcode "1".

7. Scan the numeric barcode "2".

8. Scan the **Save** barcode.

9. Scan the **Exit Setup** barcode.

GS1 Databar

Restore Factory Defaults

||||| ||| ||| |||||
0413000

【Restore the Factory Defaults of GS1 Databar】

Enable/Disable GS1 Databar

||||| ||| ||| |||||
0413020

**【Enable GS1 Databar】

||||| ||| ||| |||||
0413010

【Disable GS1 Databar】

If the scanner fails to identify GS1 Databar barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable GS1 Databar** barcode.

Transmit Application Identifier "01"

||||| ||| ||| |||||
0413060

**【Transmit Application Identifier "01"】

||||| ||| ||| |||||
0413050

【Do Not Transmit Application Identifier "01"】

||||| ||| || ||| |||||
0006000

**【Exit Setup】

Code 11

Restore Factory Defaults

||||| |||||||| ||| |||||
0415000

【Restore the Factory Defaults of Code 11】

Enable/Disable Code 11

||||| |||||||| ||| |||||
0415020

**【Enable Code 11】

||||| |||||||| ||| |||||
0415010

【Disable Code 11】

If the scanner fails to identify Code 11 barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable Code 11** barcode.

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. To accomplish it, you need to set the minimum and maximum lengths.

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0415030

【Set the Minimum Length (Default: 2)】

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0415040

【Set the Maximum Length (Default: 127】

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 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.

Parity Check

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 accuracy of the data.

If the **No Parity Check** option is enabled, the scanner transmits Code 11 barcodes as is.

||||| ||| ||||| |||||| ||||||
0415050

【No Parity Check】

||||| ||| ||||| |||||| ||||||
0415090

【One Check Digit, MOD11 (Len<=10) 】
【Two Check Digits, MOD11/MOD11(Len>10)】

||||| ||| ||||| |||||| ||||||
0415060

**【One Check Digit, MOD11】

||||| ||| ||||| |||||| ||||||
0415100

【One Check Digit, MOD11 (Len<=10) 】
【Two Check Digits, MOD11/MOD9 (Len>10)】

||||| ||| ||||| |||||| ||||||
0415070

【Two Check Digits, MOD11/MOD11】

||||| ||| ||||| |||||| ||||||
0415110

**【Do Not Transmit Check Digit】

||||| ||| ||||| |||||| ||||||
0415080

【Two Check Digits, MOD11/MOD9】

||||| ||| ||||| |||||| ||||||
0415120

【Transmit Check Digit】

If the scanner enables one type of parity check and the **Do Not Transmit Check Digit** option, Code 11 barcodes with a length that is less than the configured minimum length after having the check digit(s) excluded will not be decoded. (For example, when the **One Check Digit, MOD11** and **Do Not Transmit Check Digit** options are enabled and the minimum length is set to 4, Code 11 barcodes with a total length of 4 characters including the check digit cannot be read.)

ISBN

Restore Factory Defaults

||||| |||| |||||| |||||
0416000

【Restore the Factory Defaults of ISBN】

Enable/Disable ISBN

||||| |||| |||||| |||||
0416020

【Enable ISBN】

||||| |||| |||||| |||||
0416010

**【Disable ISBN】

If the scanner fails to identify ISBN barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable ISBN** barcode.

Set ISBN Format

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0416030

**【ISBN-13】

||||| |||| |||||| |||||
0416040

【ISBN-10】

||||| |||| |||||| |||||
0006000

**【Exit Setup】

Add-On Code

An ISBN barcode can be augmented with a two-digit or five-digit add-on code to form a new one.

||||||||||||||||||
0416050

【Enable 2-Digit Add-On Code】

||||||||||||||||||
0416060

**【Disable 2-Digit Add-On Code】

||||||||||||||||||
0416070

【Enable 5-Digit Add-On Code】

||||||||||||||||||
0416080

**【Disable 5-Digit Add-On Code】

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

Add-On Code Required

ISBN Add-On Code Required: The scanner only decodes ISBN barcodes that contain add-on codes.

ISBN Add-On Code Not Required: The scanner decodes a mix of ISBN barcodes with and without add-on codes.

0416090

【ISBN Add-On Code Required】

0416100

** 【ISBN Add-On Code Not Required】

ISSN

Restore Factory Defaults

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0421000
```
【Restore the Factory Defaults of ISSN】

Enable/Disable ISSN

```
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0421020
```
【Enable ISSN】

```
‖‖‖‖‖‖‖‖‖‖‖‖
0421010
```
**【Disable ISSN】

If the scanner fails to identify ISSN barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable ISSN** barcode.

```
‖‖‖‖‖‖‖‖‖‖‖‖
0006000
```
**【Exit Setup】

100

Add-On Code

An ISSN barcode can be augmented with a two-digit or five-digit add-on code to form a new one.

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0421030
【Enable 2-Digit Add-On Code】

‖‖‖‖‖‖‖‖‖
0421040
** 【Disable 2-Digit Add-On Code】

‖‖‖‖‖‖‖‖‖
0421050
【Enable 5-Digit Add-On Code】

‖‖‖‖‖‖‖‖‖
0421060
** 【Disable 5-Digit Add-On Code】

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

‖‖‖‖‖‖‖‖‖
0006000
** 【Exit Setup】

Add-On Code Required

ISSN Add-On Code Required: The scanner only decodes ISSN barcodes that contain add-on codes.

ISSN Add-On Code Not Required: The scanner decodes a mix of ISSN barcodes with and without add-on codes.

||| ||| ||| ||| | ||| |||| |||
0421070

【ISSN Add-On Code Required】

||| ||| ||| ||| | ||| |||| |||
0421080

** 【ISSN Add-On Code Not Required】

AIM-128

Restore Factory Defaults

||||||||||||||||||||||
0423000

【Restore the Factory Defaults of AIM-128】

Enable/Disable AIM-128

||||||||||||||||||||||
0423020

** 【Enable AIM-128】

||||||||||||||||||||||
0423010

【Disable AIM-128】

If the scanner fails to identify AIM-128 barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable AIM-128** barcode.

||||||||||||||||||||||
0006000

** 【Exit 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. To accomplish it, you need to set the minimum and maximum lengths.

||||| ||| ||| |||| ||||| |||
0423030

【Set the Minimum Length (Default: 1)】

||||| ||| ||| |||| ||||| |||
0423040

【Set the Maximum Length (Default: 127)】

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.

Set the scanner to decode AIM-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 barcode "1".

7. Scan the numeric barcode "2".

8. Scan the **Save** barcode.

9. Scan the **Exit Setup** barcode.

Industrial 25

Restore Factory Defaults

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0417000

【Restore the Factory Defaults of Industrial 25】

Enable/Disable Industrial 25

‖‖‖‖‖‖‖‖‖‖
0417020

**【Enable Industrial 25】

‖‖‖‖‖‖‖‖‖‖
0417010

【Disable Industrial 25】

If the scanner fails to identify Industrial 25 barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable Industrial 25** barcode.

‖‖‖‖‖‖‖‖‖‖
0006000

**【Exit 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. To accomplish it, you need to set the minimum and maximum lengths.

```
0417030
```
【Set the Minimum Length (Default: 6)】

```
0417040
```
【Set the Maximum Length (Default: 127)】

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

Set the 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 barcode "1".

7. Scan the numeric barcode "2".

8. Scan the **Save** barcode.

9. Scan the **Exit Setup** barcode.

Parity Check

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 accuracy of the data.

No Parity Check: The scanner transmits Industrial 25 barcodes as is.

Do Not Transmit Check Digit After Parity Check: The scanner will run a parity check using the last digit of Industrial 25 barcode as check digit. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

Transmit Check Digit After Parity Check: The scanner will run a parity check using the last digit of Industrial 25 barcode as check digit. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.

||||| |||||||| |||||| ||| |||
0417050

**【No Parity Check】

||||| |||||||| |||||| |||
0417060

【Do Not Transmit Check Digit After Parity Check】

||||| |||||||| |||||| |||
0417070

【Transmit Check Digit After Parity Check】

If the **Do Not Transmit Check Digit After Parity Check** option is enabled, Industrial 25 barcodes with a length that is less than the configured minimum length after having the check digit excluded will not be decoded. (For example, when the **Do Not Transmit Check Digit After Parity Check** option is enabled and the minimum length is set to 4, Industrial 25 barcodes with a total length of 4 characters including the check digit cannot be read.)

||||| |||||||| |||||| ||| |||
0006000

**【Exit Setup】

Standard 25

Restore Factory Defaults

||| ||||||| |||| ||| |||
0418000

【Restore the Factory Defaults of Standard 25】

Enable/Disable Standard 25

||| ||||||| |||| ||| |||
0418020

**【Enable Standard 25】

||| ||||||| |||| ||| |||
0418010

【Disable Standard 25】

If the scanner fails to identify Standard 25 barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable Standard 25** barcode.

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. To accomplish it, you need to set the minimum and maximum lengths.

||| ||| | ||| ||| |
0418030
【Set the Minimum Length (Default: 6)】

||| ||| | ||| ||| |
0418040
【Set the Maximum Length (Default: 127)】

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 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 barcode "1".

7. Scan the numeric barcode "2".

8. Scan the **Save** barcode.

9. Scan the **Exit Setup** barcode.

||| ||| | ||| ||| |
0006000
**【Exit Setup】

Parity Check

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 accuracy of the data.

No Parity Check: The scanner transmits Standard 25 barcodes as is.

Do Not Transmit Check Digit After Parity Check: The scanner will run a parity check using the last digit of Standard 25 barcode as check digit. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.

Transmit Check Digit After Parity Check: The scanner will run a parity check using the last digit of Standard 25 barcode as check digit. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.

||||||||||||||||
0418050

** 【No Parity Check】

||||||||||||||||
0418060

【Do Not Transmit Check Digit After Parity Check】

||||||||||||||||
0418070

【Transmit Check Digit After Parity Check】

If the **Do Not Transmit Check Digit After Parity Check** option is enabled, Standard 25 barcodes with a length that is less than the configured minimum length after having the check digit excluded will not be decoded. (For example, when the **Do Not Transmit Check Digit After Parity Check** option is enabled and the minimum length is set to 4, Standard 25 barcodes with a total length of 4 characters including the check digit cannot be read.)

Plessey

Restore Factory Defaults

||||| ||| ||||| ||||| |||||
0419000

【Restore the Factory Defaults of Plessey】

Enable/Disable Plessey

||||| ||| ||||| ||||| |||||
0419020

【Enable Plessey】

||||| ||| ||||| ||||| |||||
0419010

**【Disable Plessey】

If the scanner fails to identify Plessey barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable Plessey** barcode.

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. To accomplish it, you need to set the minimum and maximum lengths.

||||||||||||||||||||||||||||
0419030

【Set the Minimum Length (Default: 1)】

||||||||||||||||||||||||||||
0419040

【Set the Maximum Length (Default: 127)】

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.

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.

Parity Check

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

No Parity Check: The scanner transmits Plessey barcodes as is.

Do Not Transmit Check Digit After Parity Check: The scanner will run parity checks using the last two digits of Plessey barcode as check digits. Barcodes passing the checks will be transmitted except the last two digits, whereas those failing them will not be transmitted.

Transmit Check Digit After Parity Check: The scanner will run parity checks using the last two digits of Plessey barcode as check digits. Barcodes passing the checks will be transmitted, whereas those failing them will not be transmitted.

‖‖‖‖‖‖‖‖‖‖‖‖
0419050

【No Parity Check】

‖‖‖‖‖‖‖‖‖‖‖‖
0419060

**【Do Not Transmit Check Digit After Parity Check】

‖‖‖‖‖‖‖‖‖‖‖‖
0419070

【Transmit Check Digit After Parity Check】

If the **Do Not Transmit Check Digit After Parity Check** option is enabled, Plessey barcodes with a length that is less than the configured minimum length after having the check digits excluded will not be decoded. (For example, when the **Do Not Transmit Check Digit After Parity Check** option is enabled and the minimum length is set to 4, Plessey barcodes with a total length of 4 characters including the check digits cannot be read.)

‖‖‖‖‖‖‖‖‖‖‖‖
0006000

**【Exit Setup】

MSI-Plessey

Restore Factory Defaults

||||| ||| ||| ||| ||| |||
0420000

【Restore the Factory Defaults of MSI-Plessey】

Enable/Disable MSI-Plessey

||||| ||| ||| ||| ||| |||
0420020

【Enable MSI-Plessey】

||||| ||| ||| ||| ||| |||
0420010

**【Disable MSI-Plessey】

If the scanner fails to identify MSI-Plessey barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable MSI-Plessey** barcode.

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. To accomplish it, you need to set the minimum and maximum lengths.

0420030

【Set the Minimum Length (Default: 2)】

0420040

【Set the Maximum Length (Default: 127)】

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.

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.

Parity Check

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 accuracy of the data.

If the **No Parity Check** option is enabled, the scanner transmits MSI-Plessey barcodes as is.

||||| |||| ||| |||| |||||
0420050

【No Parity Check】

||||| |||| ||| |||| |||||
0420080

【Two Check Digits, MOD10/MOD11】

||||| |||| ||| |||| |||||
0420060

** 【One Check Digit, MOD10】

||||| |||| ||| |||| |||||
0420090

** 【Do Not Transmit Check Digit】

||||| |||| ||| |||| |||||
0420070

【Two Check Digits, MOD10/MOD10】

||||| |||| ||| |||| |||||
0420100

【Transmit Check Digit】

If the scanner enables one type of parity check and the **Do Not Transmit Check Digit** option, MSI-Plessey barcodes with a length that is less than the configured minimum length after having the check digit(s) excluded will not be decoded. (For example, when the **One Check Digit, MOD11** and **Do Not Transmit Check Digit** options are enabled and the minimum length is set to 4, MSI-Plessey barcodes with a total length of 4 characters including the check digit cannot be read.)

PDF417

Restore Factory Defaults

║║║║║║║║║║║║║
0501000

**【Restore the Factory Defaults of PDF417】

Enable/Disable PDF417

║║║║║║║║║║║║║
0501020

**【Enable PDF417】

║║║║║║║║║║║║║
0501010

【Disable PDF417】

If the scanner fails to identify PDF417 barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable PDF417** barcode.

║║║║║║║║║║║║║
0006000

**【Exit Setup】

Set Length Range for PDF417

The scanner can be configured to only decode PDF417 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths. To accomplish it, you need to set the minimum and maximum lengths.

||||| |||| ||| ||| |||||
0501030

【Set the Minimum Length (Default: 1)】

||||| |||| ||| ||| |||||
0501040

【Set the Maximum Length (Default: 2710)】

Minimum length is not allowed to be greater than maximum length. If you only want to read PDF417 barcodes with a specific length, set both minimum and maximum lengths to be that desired length.

Set the scanner to decode PDF417 barcodes containing between 8 and 12 bytes:

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.

QR Code

Restore Factory Defaults

║║║ ║║║║║║║║║║ ║║
0502000

【Restore the Factory Defaults of QR Code】

Enable/Disable QR Code

║║║ ║║║║║║║║║║ ║║
0502020

** 【Enable QR Code】

║║║ ║║║║║║║║║║ ║║
0502010

【Disable QR Code】

If the scanner fails to identify QR Code barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable QR Code** barcode.

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0006000

** 【Exit Setup】

Set Length Range for QR Code

The scanner can be configured to only decode QR Code barcodes with lengths that fall between (inclusive) the minimum and maximum lengths. To accomplish it, you need to set the minimum and maximum lengths.

||||| ||||| |||| |||| ||||| ||||| |||||
0502030

【Set the Minimum Length (Default: 1)】

||||| ||||| |||| |||| ||||| ||||| |||||
0502040

【Set the Maximum Length (Default: 7089)】

Minimum length is not allowed to be greater than maximum length. If you only want to read QR Code barcodes with a specific length, set both minimum and maximum lengths to be that desired length.

Set the scanner to decode QR Code barcodes containing between 8 and 12 bytes:

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.

Micro QR

0502110

** **【Enable Micro QR】**

0502100

【Disable Micro QR】

0006000

** **【Exit Setup】**

||||||||||||||||||||||
0006010

Data Matrix

Restore Factory Defaults

||||||||||||||||||||||
0504000

【Restore the Factory Defaults of Data Matrix】

Enable/Disable Data Matrix

||||||||||||||||||||||
0504020

**【Enable Data Matrix】

||||||||||||||||||||||
0504010

【Disable Data Matrix】

If the scanner fails to identify Data Matrix barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable Data Matrix** barcode.

||||||||||||||||||||||
0006000

Set Length Range for Data Matrix

The scanner can be configured to only decode Data Matrix barcodes with lengths that fall between (inclusive) the minimum and maximum lengths. To accomplish it, you need to set the minimum and maximum lengths.

0504030

【Set the Minimum Length (Default: 1)】

0504040

【Set the Maximum Length (Default: 3116)】

Minimum length is not allowed to be greater than maximum length. If you only want to read Data Matrix barcodes with a specific length, set both minimum and maximum lengths to be that desired length.

Set the scanner to decode Data Matrix barcodes containing between 8 and 12 bytes:

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.

Rectangular Barcode

Data Matrix has two formats:

Square barcodes having the same amount of modules in length and width: 10*10, 12*12.... 144*144.

Rectangular barcodes having different amounts of models in length and width: 6*16, 6*14... 14*22.

||||| |||||||| ||| ||||||| |||||||| |||
0504110

** 【Enable Rectangular Barcode】

||||| ||||| |||||||| ||| ||||||| ||||
0504100

【Disable Rectangular Barcode】

Mirror Image

||||| |||||||| ||| ||||||| |||||||| |||
0504331

** 【Decode Mirrored DM】

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0504330

【Do Not Decode Mirrored DM】

Chapter 7 Prefix & Suffix

Introduction

A 1D barcode could contain digits, letters, symbols, etc. A 2D barcode could contain more data, such as Chinese characters and other multi-byte characters. However, in real applications, they do not and should not have all information we need, such as barcode type, data acquisition time and delimiter, in order to keep the barcodes short and flexible.

Preffix and suffix are how to fulfill the needs mentioned above. They can be added, removed and modified while the original barcode data remains intact.

0006000

```
║█║██║█║██║██║█║█║█║█║█║
        0006010
```
【Enter Setup】

General Settings

Enable/Disable All Prefix/Suffix

Disable All Prefix/Suffix: Transmit barcode data with no prefix/suffix.

Enable All Prefix/Suffix: Allow user to append Code ID prefix, AIM ID prefix, custom prefix/suffix and terminating character to the barcode data before the transmission.

```
║█║█║██║█║█║██║█║█║██║█║
        0311000
```
【Disable All Prefix/Suffix】

```
║█║██║█║█║██║█║█║██║█║██║
        0311010
```
【Enable All Prefix/Suffix】

Prefix Sequences

2 prefix sequence options:

```
║█║██║█║██║█║██║█║█║██║█║
        0317010
```
【Code ID + Custom + AIM ID】

```
║█║██║█║█║██║█║██║█║█║██║
        0317040
```
**【Custom + Code ID + AIM ID】

```
║█║██║██║█║█║██║█║█║██║█║
        0006000
```
**【Exit 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 10 characters. For example, if the custom prefix is "AB" and the barcode data is "123", the Host will receive "AB123".

0305000

** 【Disable Custom Prefix】

0305010

【Enable Custom Prefix】

Set Custom Prefix

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

Note: A custom prefix cannot exceed 10 characters.

0300000

【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.

AIM ID Prefix

AIM (Automatic Identification Manufacturers) ID defines symbology identifier (For the details, see the **"Appendix 2: AIM ID Table"** section). If AIM ID prefix is enabled, the scanner will add the symbology identifier before the scanned data after decoding.

||||||||||||||||||
0308000

**【Disable AIM ID Prefix】

||||||||||||||||||
0308030

【Enable AIM ID Prefix】

AIM ID is not user programmable.

Code ID Prefix

Code ID can also be used to identify barcode type. Unlike AIM ID, Code ID is user programmable. Code ID can only consist of one or two English letters.

||||||||||||||||||
0307000

**【Disable Code ID Prefix】

||||||||||||||||||
0307010

【Enable Code ID Prefix】

Restore All Default Code IDs

For the information of default Code IDs, see the "**Code ID Table**" section in **Appendix**.

||||| |||||| ||||| ||||||||| |||
0307020

【Restore All Default Code IDs】

Modify Code ID

See the examples below to learn how to modify a Code ID and restore the default Code IDs of all symbologies.

Modify PDF417 Code ID to be "p" (its hexadecimal value is 0x70)：

1. Scan the **Enter Setup** barcode.

2. Scan the **Modify PDF417 Code ID** barcode.

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.

Restore the default Code IDs of all symbologies：

1. Scan the **Enter Setup** barcode.

2. Scan the **Restore All Default Code IDs** barcode**.**

3. Scan the **Exit Setup** barcode.

||||| |||||||| |||| ||||||| |||||
0006000
＊＊【Exit Setup】

||||| ||| || || ||| |||||
0006010
【Enter Setup】

||||| ||| || || ||| |||||
0005000
【Modify PDF417 Code ID】

||||| ||| || || ||| |||||
0005030
【Modify Data Matrix Code ID】

||||| ||| || || ||| |||||
0005010
【Modify QR Code ID】

||||| ||| || || ||| |||||
0004110
【Modify Matrix 25 Code ID】

||||| ||| || || ||| |||||
0004230
【Modify ISSN Code ID】

||||| ||| || || ||| |||||
0004210
【Modify AIM-128 Code ID】

||||| ||| || || ||| |||||
0004040
【Modify EAN-8 Code ID】

||||| ||| || || ||| |||||
0004100
【Modify ITF-6 Code ID】

||||| ||| || || ||| |||||
0006000
**【Exit Setup】

||||| ||||| ||||| |||||
0004050
【Modify EAN-13 Code ID】

||||| ||||| ||||| |||||
0004130
【Modify Code 39 Code ID】

||||| ||||| ||||| |||||
0004060
【Modify UPC-E Code ID】

||||| ||||| ||||| |||||
0004150
【Modify Codabar Code ID】

||||| ||||| ||||| |||||
0004070
【Modify UPC-A Code ID】

||||| ||||| ||||| |||||
0004170
【Modify Code 93 Code ID】

||||| ||||| ||||| |||||
0004080
【Modify Interleaved 2 of 5 Code ID】

||||| ||||| ||||| |||||
0004020
【Modify Code 128 Code ID】

||||| ||||| ||||| |||||
0006000
＊＊【Exit Setup】

|||||||||||||
0006010

【Enter Setup】

|||||||||||||
0004090

【Modify ITF-14 Code ID】

|||||||||||||
0004240

【Modify ISBN Code ID】

|||||||||||||
0004030

【Modify UCC/EAN-128 Code ID】

|||||||||||||
0004250

【Modify Industrial 25 Code ID】

|||||||||||||
0004280

【Modify Code 11 Code ID】

|||||||||||||
0004260

【Modify Standard 25 Code ID】

|||||||||||||
0004270

【Modify Plessey Code ID】

|||||||||||||
0004290

【Modify MSI-Plessey Code ID】

|||||||||||||
0004310

【Modify GS1 Databar Code ID】

|||||||||||||
0006000

**【Exit 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 10 characters. For example, if the custom suffix is "AB" and the barcode data is "123", the Host will receive "123AB".

||||| |||||||||||||||||||||||||
0306000

【Disable Custom Suffix】

||||| |||||||||||||||||||||||||
0306010

【Enable Custom Suffix】

Set Custom Suffix

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

Note: A custom suffix cannot exceed 10 characters.

||||| |||||||||||||||||||||||||
0301000

【Set Custom Suffix】

Set the custom suffix to "CODE" (its hexadecimal value is 0x43/0x4F/0x44/0x45):
1. Scan the **Enter Setup** barcode.
2. Scan the **Set Custom Suffix** barcode.
3. Scan the numeric barcodes "4","3","4","F","4","4","4" and "5". (See the "**Digit Barcodes**" section in **Appendix**)
4. Scan the **Save** barcode. (See the "**Save/Cancel Barcodes**" section in **Appendix**)
5. Scan the **Enable Custom Suffix** barcode.
6. Scan the **Exit Setup** barcode.

Terminating Character Suffix

Enable/Disable Terminating Character Suffix

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

【Disable Terminating Character Suffix】

**【Enable Terminating Character Suffix】

Set Terminating Character Suffix

The scanner provides a shortcut for setting the terminating character suffix to 0x0D or 0x0D,0x0A by scanning the following barcode.

【Terminating Character 0x0D】

**【Terminating Character 0x0D,0x0A】

To set a terminating character suffix, scan the **Set Terminating Character Suffix** barcode and the numeric barcodes representing the hexadecimal value of a desired terminating character and then scan the **Save** barcode. Refer to **Appendix 4: ASCII Table** for hexadecimal values of terminating characters.

Note: A terminating character suffix cannot exceed 2 characters.

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0310000
【Set Terminating Character Suffix】

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 **Exit Setup** barcode.

‖‖‖‖‖‖‖‖‖‖‖‖
0006000
∗∗【Exit Setup】

Chapter 8 Ambient Illumination

Ambient lighting conditions may vary from one operating environment to another, such as fluorescent lit warehouses or sunlit open spaces. Fluorescent lights may flicker when using AC power source in 50-60Hz. Usually indoor illuminance is around 1,000 lux while outdoor illuminance may reach 60,000 lux or even over 100,000 lux.

Two options are provided for ambient illumination settings:

Normal Illuminance: applicable to most indoor/outdoor environments.

High Illuminance: applicable to special enviroments with super-intense light source.

Change to this settings will not take effect until the scanner reboots or wakes from sleep.

‖‖‖‖‖‖‖‖‖‖‖   ‖‖‖‖‖‖‖‖‖‖‖
0313150   0313151

【Normal Illuminance (0~60000lux)】   【High Illuminance (60000~120000lux)】

Appendix

Digit Barcodes

After scanning numeric barcode(s), you need to scan the **Save** barcode to save the data.

0~5

0000000

【0】

0000010

【1】

0000020

【2】

0000030

【3】

0000040

【4】

0000050

【5】

6~9

‖‖‖‖‖‖‖‖‖‖
0000060
【6】

‖‖‖‖‖‖‖‖‖‖
0000070
【7】

‖‖‖‖‖‖‖‖‖‖
0000080
【8】

‖‖‖‖‖‖‖‖‖‖
0000090
【9】

A~F

```
0000100
```
【A】

```
0000110
```
【B】

```
0000120
```
【C】

```
0000130
```
【D】

```
0000140
```
【E】

```
0000150
```
【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** barcode and then start the configuration all over again, or scan the **Delete the Last Digit** barcode and then the correct digit, or scan the **Delete All Digits** barcode and then the digits you want.

For instance, after reading the **Maximum Length** barcode and numeric barcodes "1", "2" and "3", you scan:

✧ **Delete the Last Digit:** The last digit "3" will be removed.

✧ **Delete All Digits:** All digits "123" will be removed.

✧ **Cancel:** The maximum length configuration will be cancelled. And the scaner is still in the setup mode.

0000160
【Save】

0000190
【Cancel】

0000170
【Delete the Last Digit】

0000180
【Delete All Digits】

Factory Defaults Table

Parameter		Factory Default	Remark
Programming Barcode			
Barcode Programming		Disabled	
Programming Barcode Data		Do not send	
Communication Settings			
Interface		USB HID-KBW	
TTL-232	Baud Rate	9600	
	Parity Check	None	
	Data Bit	8	
	Stop Bit	1	
	Hardware Flow Control	No flow control	
HID-KBW	USB Country Keyboard Type	U.S.	
	Convert Case	No conversion	
	Inter-Keystroke Delay	No delay	
	Beep on Unknown Character	Do not beep	
Scan Mode			
Scan Mode		Manual mode	
Manual Mode	Decode Session Timeout	3,000ms	Applicable to all three scan modes. 0~3,600,000ms
	Auto Sleep	Enabled	
	Time Period from Idle to Sleep	500ms	0~65,535ms
Sense Mode	Decode Session Timeout	3,000ms	Applicable to all three scan modes. 0~3,600,000ms
	Image Stabilization Timeout	500ms	0~1,600ms
	Operation after Good Decode	Pause after good decode	
	Timeout between Decodes (Same Barcode)	Enabled	
		1,500ms	0~65,535ms
	Threshold Value of Illumination Change	2	1~20

Parameter		Factory Default	Remark
Continuous Mode	Decode Session Timeout	3,000ms	Applicable to all three scan modes. 0~3,600,000ms
	Timeout between Decodes	1,000ms	0~65,535ms
Illumination & Aiming			
Illumination		Normal	
Aiming		Normal	
Notifications			
Startup Beep		Enabled	
Good Read Beep (Non-Programming Barcode)	Notification	Enabled	
	Beep Type	Type 3	
	Beep Volume	Loud	
Good Read Beep (Programming Barcode)		Enabled	
Good Read LED Notification		Enabled	
NGR (Not Good Read) Message		Do not transmit	
		Null	
Data Formatting			
Prefix Sequence		Custom+Code ID+AIM ID	
Custom Prefix		Disabled	
		Null	
AIM ID Prefix		Disabled	
Code ID Prefix		Disabled	
Custom Suffix		Disabled	
		Null	
Terminating Character Suffix		Enabled	
		0x0D, 0x0A	Carriage Return/Line Feed
Ambient Illumination			
Ambient Illumination		Normal illuminance	

Parameter	Factory Default	Remark
Symbologies		
Video Reverse	Disabled	Applicable to all symbologies.
Code 128		
Code 128	Enabled	
Maximum Length	127	
Minimum Length	1	
UCC/EAN-128		
UCC/EAN-128	Enabled	
Maximum Length	127	
Minimum Length	1	
AIM-128		
AIM-128	Enabled	
Maximum Length	127	
Minimum Length	1	
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	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	

Parameter	Factory Default	Remark
ISBN		
ISBN	Disabled	
ISBN Format	ISBN-13	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	
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 "0"	Do not transmit	
UPC-A		
UPC-A	Enabled	
Check Digit	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	
Preamble Character "0"	Do not transmit	
Interleaved 2 of 5		
Interleaved 2 of 5	Enabled	
Parity Check	None	
Check Digit	Do not transmit	
Maximum Length	100	
Minimum Length	6	
ITF-6		
ITF-6	Disabled	
Check Digit	Do not transmit	

Parameter	Factory Default	Remark
ITF-14		
ITF-14	Disabled	
Check Digit	Do not transmit	
Matrix 2 of 5		
Matrix 2 of 5	Disabled	
Parity Check	Enabled	
Check Digit	Do not transmit	
Maximum Length	127	
Minimum Length	6	
Industrial 2 of 5		
Industrial 2 of 5	Enabled	
Parity Check	None	
Check Digit	Do not transmit	
Maximum Length	127	
Minimum Length	6	
Standard 2 of 5		
Standard 2 of 5	Enabled	
Parity Check	None	
Check Digit	Do not transmit	
Maximum Length	127	
Minimum Length	6	
Code 39		
Code 39	Enabled	
Parity Check	None	
Check Digit	Do not transmit	
Start/Stop Character	Transmit	
Code 39 Full ASCII	Enabled	
Maximum Length	127	
Minimum Length	4	

Parameter	Factory Default	Remark
Codabar		
Codabar	Enabled	
Parity Check	None	
Check Digit	Do not transmit	
Start/Stop Character	Do not transmit	
Start/Stop Character Format	ABCD/ABCD	
Maximum Length	127	
Minimum Length	1	
Code 93		
Code 93	Enabled	
Parity Check	Enabled	
Check Digit	Do not transmit	
Maximum Length	127	
Minimum Length	3	
GS1 Databar		
GS1 Databar	Enabled	
Application Identifier "01"	Transmit	
Code 11		
Code 11	Enabled	
Parity Check	One check digit, MOD11	
Check Digit	Do not transmit	
Maximum Length	127	
Minimum Length	2	
Plessey		
Plessey	Disabled	
Parity Check	Enabled	
Check Digit	Do not transmit	
Maximum Length	127	
Minimum Length	1	

Parameter	Factory Default	Remark
MSI-*Plessey*		
MSI-Plessey	Disabled	
Parity Check	One check digit, MOD10	
Check Digit	Do not transmit	
Maximum Length	127	
Minimum Length	2	
PDF 417		
PDF 417	Enabled	
Maximum Length	2710	
Minimum Length	1	
QR Code		
QR Code	Enabled	
Micro QR	Enabled	
Maximum Length	7089	
Minimum Length	1	
Data Matrix		
Data Matrix	Enabled	
Rectangular Barcode	Enabled	
Mirror Image	Decode	
Maximum Length	3116	
Minimum Length	1	

AIM ID Table

Symbology	AIM ID	Remark
EAN-13	]E0	Standard EAN-13
EAN-13	]E3	EAN-13 + 2/5-Digit Add-On Code
EAN-8	]E4	Standard EAN-8
EAN-8	]E4…]E1…	EAN-8 + 2-Digit Add-On Code
EAN-8	]E4…]E2…	EAN-8 + 5-Digit Add-On Code
UPC-E	]E0	Standard UPC-E
UPC-E	]E3	UPC-E + 2/5-Digit Add-On Code
UPC-A	]E0	Standard UPC-A
UPC-A	]E3	UPC-A + 2/5-Digit Add-On Code
Code 128	]C0	Standard Code 128
UCC/EAN-128	]C1	FNC1 is the character right after the start character
AIM-128	]C2	FNC1 is the 2nd character after the start character
ISBT-128	]C4	
Interleaved 2 of 5	]I0	No parity check
Interleaved 2 of 5	]I1	Transmit check digit after parity check
Interleaved 2 of 5	]I3	Do not transmit check digit after parity check
ITF-6	]I1	Transmit check digit
ITF-6	]I3	Do not transmit check digit
ITF-14	]I1	Transmit check digit
ITF-14	]I3	Do not transmit check digit
Industrial 2 of 5	]S0	Not specified
Standard 2 of 5	]R0	No parity check
Standard 2 of 5	]R8	One check digit, MOD10; do not transmit check digit
Standard 2 of 5	]R9	One check digit, MOD10; transmit check digit
Code 39	]A0	Transmit barcodes as is; Full ASCII disabled; no parity check
Code 39	]A1	One check digit, MOD43; transmit check digit
Code 39	]A3	One check digit, MOD43; do not transmit check digit
Code 39	]A4	Full ASCII enabled; no parity check
Code 39	]A5	Full ASCII enabled; transmit check digit
Code 39	]A7	Full ASCII enabled; do not transmit check digit

Symbology	AIM ID	Remark
Codabar	]F0	Standard Codabar
	]F2	Transmit check digit after parity check
	]F4	Do not transmit check digit after parity check
Code 93	]G0	Standard Code 93
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 parity check
	]H9	No parity check
GS1-DataBar (RSS)	]e0	Standard GS1-DataBar
Plessey	]P0	Standard Plessey
MSI-Plessey	]M0	One check digit, MOD10; transmit check digit
	]M1	One check digit, MOD10; do not transmit check digit
	]M8	Two check digits
	]M9	No parity check
Matrix 2 of 5	]X0	Specified by the manufacturer
	]X1	No parity check
	]X2	One check digit, MOD10; transmit check digit
	]X3	One check digit, MOD11; do not transmit check digit
ISBN	]X4	Standard ISBN
ISSN	]X5	Standard ISSN
PDF417	]L0	Comply with 1994 PDF417 specifications
Data Matrix	]d0	ECC000 - ECC140
	]d1	ECC200
	]d2	ECC200, FNC1 is the 1st or 5th character after the start character
	]d3	ECC200, FNC1 is the 2nd or 6th character after the start character
	]d4	ECC200, ECI included
	]d5	ECC200, FNC1 is the 1st or 5th character after the start character,ECI included
	]d6	ECC200, FNC1 is the 2nd or 6th character after the start character,ECI included

Symbology	AIM ID	Remark
QR Code	]Q0	QR1
	]Q1	2005 version, ECI excluded
	]Q2	2005 version, ECI included
	]Q3	QR Code 2005, ECI excluded, FNC1 is the 1st character after the start character
	]Q4	QR Code 2005, ECI included, FNC1 is the 1st character after the start character
	]Q5	QR Code 2005,ECI excluded,FNC1 is the 2nd character after the start character
	]Q6	QR Code 2005, ECI included, FNC1 is the 2nd character after the start character

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	j
AIM-128	f
EAN-8	d
EAN-13	d
ISSN	n
ISBN	B
UPC-E	c
UPC-A	c
Interleaved 2 of 5	e
ITF-6	e
ITF-14	e
Matrix 2 of 5	v
Industrial 2 of 5	D
Standard 2 of 5	s
Code 39	b
Codabar	a
Code 93	i
Code 11	H
Plessey	p
MSI-Plessey	m
GS1 Databar	R
PDF417	r
QR Code	Q
Data Matrix	u

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 Acknowledgement)
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)

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