Newland

SCANNING MADE SIMPLE

HR42-HD / HR42-SR Halibut

handheld barcode scanner

user guide

Disclaimer

Please read through the manual carefully before using the product and operate it according to the manual. It is advised that you should keep this manual for future reference.

Do not disassemble the device or remove the seal label from the device, doing so will void the product warranty provided by Fujian Newland Auto-ID Tech. Co., Ltd.

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Revision History

Version	Description	Date
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Preface

Introduction

This manual provides detailed instructions for setting up and using the NLS-HR42 industrial handheld barcode scanner (hereinafter referred to as **"the HR42"** or **"the scanner"**).

Chapter Description

- *Chapter 1, Getting Started* : Gives a general description of the HR42.
- *Chapter 2, EasySet* : Introduces a useful tool you can use to set up the HR42.
- *Chapter 3, System Settings* : Introduces three configuration methods and describes how to configure general parameters of the HR42.
- *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, Data Formatter* : Explains how to customize scanned data with the data formatter.
- *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 HR42 reads a 1D or 2D barcode by capturing its image. Adopting the advanced UIMG® technology independently developed by Newland Auto-ID Tech, it provides three scan modes, including Manual mode, Sense mode, Continuous mode and Batch mode, tailored to different scanning needs.

An illustrated introduction to the HR42 is included in this chapter. If you have a 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.

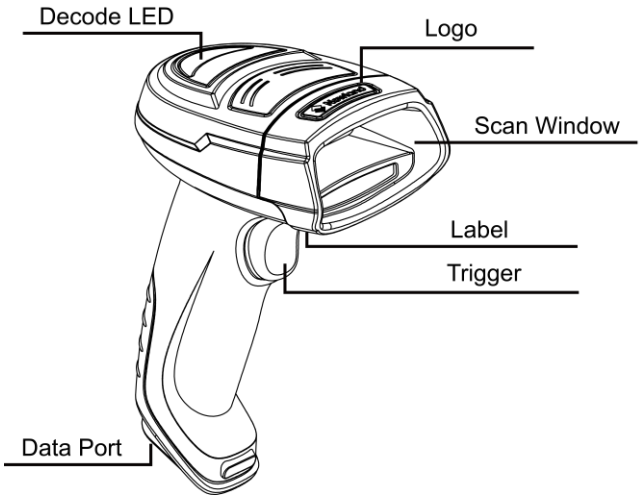
Features of the HR42

- Comprehensive data capture: mainstream 1D and 2D barcodes including Chinese Sensible Code.
- 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 the 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-sales service.

HR42 Scanner

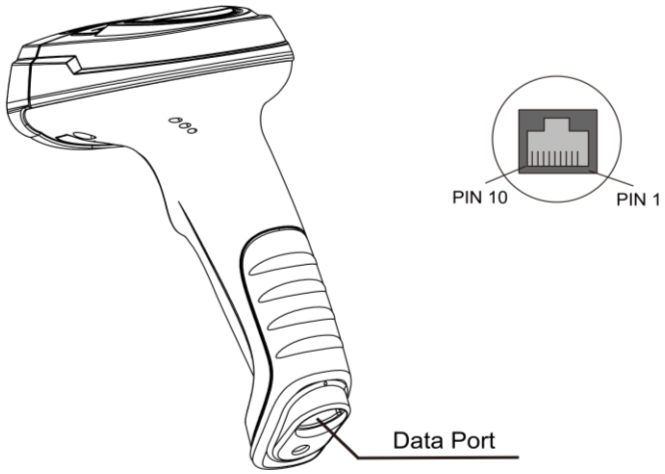


Decode LED Definitions

Red: Scanner is powered on.

Green: Barcode is decoded successfully.

Data Port



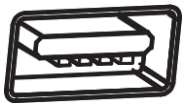
Data Port Pinout:

PIN	Signal	Type	Function
1	NC	-	Not connected
2	NC	-	Not connected
3	VCC	P	Power+ (+5V)
4	TXD	O	RS-232 output
5	RXD	I	RS-232 input
6	CTS	I	Flow control signal
7	RTS	O	
8	GND	P	Ground
9	D-	I/O	USB signal
10	D+	I/O	

Connecting the HR42 to a Host Device

The scanner must be connected to a host device in actual application, such as PC, POS or any intelligent terminal with USB or RS-232, using a communication cable (USB or RS-232 cable).

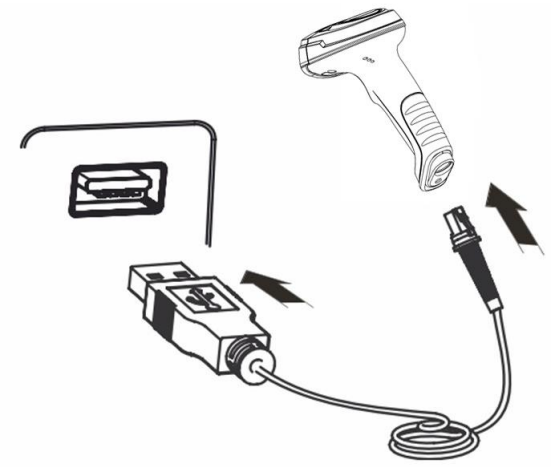
USB

USB port on the host device 

RS-232

RS-232 port on the host device 

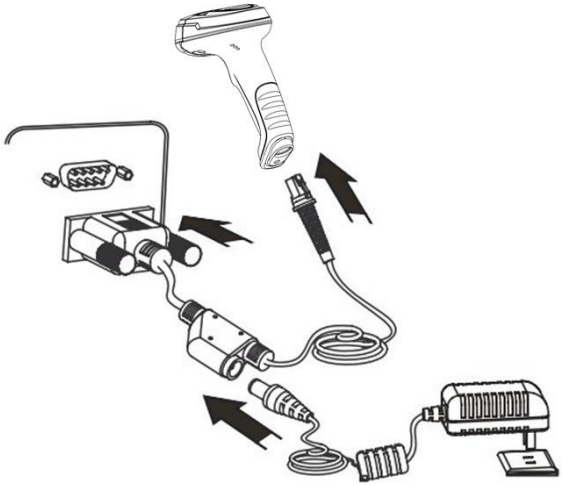
Using USB Cable



Connect the scanner to a host device through a USB cable with RJ45 and USB connectors:

1. Plug the RJ45 connector into the data port on the scanner.
2. Plug the USB connector into the USB port on the host device.

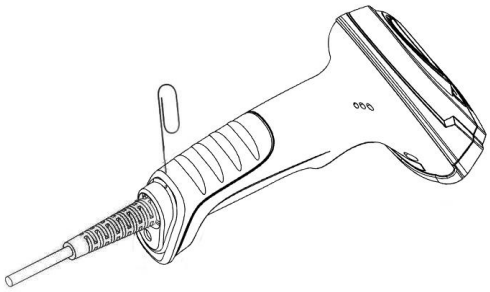
Using RS-232 Cable



Connect the scanner to a host device through a RS-232 cable with RJ45 and RS-232 connectors and a power jack:

1. Plug the RJ45 connector into the data port on the scanner.
2. Plug the RS-232 connector into the RS-232 port on the host device.
3. Plug the supplied power adapter into the power jack on the RS-232 cable.

Removing the Cable



Get an appropriate needle or a straightened paper clip and then follow the steps below:

1. Disconnect the power adapter 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 device.

Power On, Sleep, Power Off, Reboot

Power on the scanner

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

Enter the sleep mode

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

Power off the scanner

Remove the cable from the scanner; or remove the cable from the host device; or disconnect the power adapter 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.

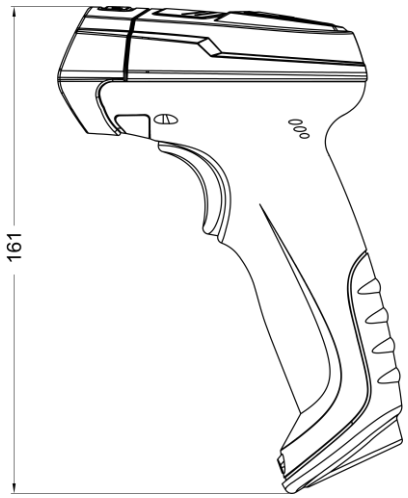
Maintenance

- ✧ 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.
- ✧ Do not use any detergent to clean other parts of the scanner except for water.

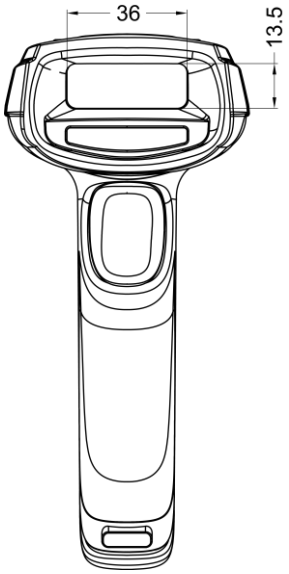
The warranty **DOES NOT** cover damages caused by inappropriate care and maintenance.

Dimensions

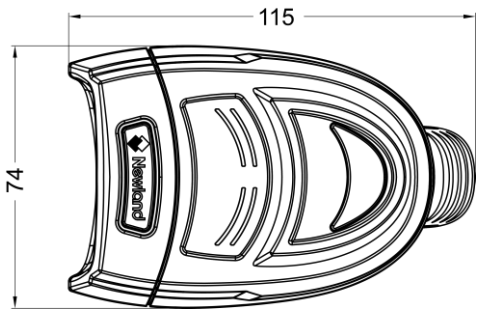
Left View



Front View



Top View

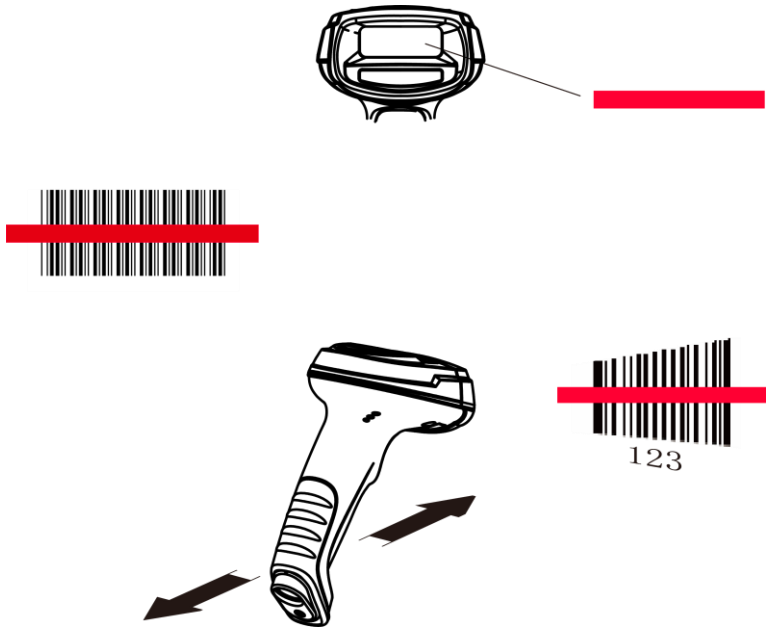


Scanning Instructions

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

1. Press and hold the trigger. Then the scanner will project a redaiming beam.
2. Aim the red beam across the center of barcode, as shown in the figure below.
3. Release the trigger when the red beam goes off. If the barcode is decoded successfully, the scanner will emit a good decode beep and the decoded data will be sent to the host device.

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



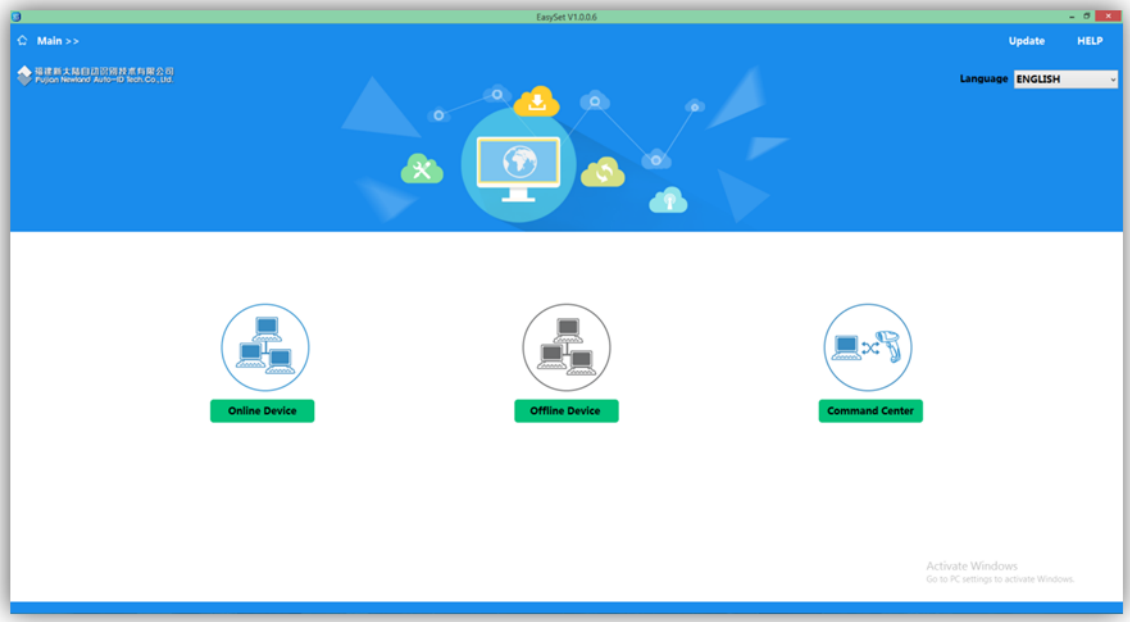
Chapter 2 EasySet

EasySet, developed by Fujian Newland Auto-ID Tech. Co., Ltd., is a configuration tool for Newland's 1D/2D handheld barcode scanner, fixed mount barcode scanners and OEM scan engines. Its main features include:

- ✧ View device & configuration information of online device
- ✧ Configure device
- ✧ Update firmware of online device
- ✧ Load/modify existing XML configuration file; save current settings to an XML file
- ✧ Create/print/save programming barcodes to a PDF or Word file
- ✧ View/edit/save image stored on online device in the original image/BMP/JPG/TIFF format
- ✧ Send serial commands to online device and receive device response
- ✧ Supported languages: Chinese and English.

EasySet supports 32-bit/64-bit Microsoft WinXP/Win7/Win 8/Win 8.1/Win 10 operating systems.

EasySet can communicate with device via one of the following interface: RS-232, USB COM Port Emulation (udp_and_vcom_drv required), USB CDC (CDC - Virtual COM Driver required), USB DataPipe (udp_and_vcom_drv required), USB HID-POS.



Enter Setup

Chapter 3 System Settings

Introduction

There are three ways to configure the HR42: Barcode programming, command programming and Easyset programming.

Barcode Programming

The HR42 can be configured by scanning programming barcodes. All user programmable features/options are described along with their programming barcodes/commands in the following sections.

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

Command Programming

The HR42 can also be configured by serial commands (HEX) sent from the host device.

Users can design an application program to send those command strings to the scanners to perform device configuration.

EasySet Programming

Besides the two methods mentioned above, you can conveniently perform scanner configuration through EasySet too. EasySet is a Windows-based configuration tool particularly designed for Newland products, enabling users to gain access to decoded data and captured images and to configure scanners. For more information about this tool, refer to the *EasySet User Guide*.

**** Exit Setup**

@SETUPE1

Enter Setup

Programming Barcode/ Programming Command/Function

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

1. The **Enter Setup** barcode.
2. The **Enter Setup** command.
3. The description of feature.
4. ** indicates factory default settings.

Note: “@” included in the programming command indicates permanent setting which means the setting will not be lost by removing power from the scanner or turning off or rebooting it; whereas “#” included in the programming command indicates temporary setting which means the setting will be lost by removing power from the scanner or turning off or rebooting it.

Enter Setup

Use of Programming Command

Besides the barcode programming method, the scanner can also be configured by serial commands (HEX) sent from the host device. **All commands must be entered in uppercase letters**.

Command Syntax

Prefix StorageType Tag SubTag {Data} [,SubTag {Data}] [;Tag SubTag {Data}] […] Suffix

Prefix: "~<SOH>0000" (HEX: **7E 01 30 30 30 30**), 6 characters.

StorageType: "@" (HEX: **40**) or "**#**" (HEX: **23**), 1 character. "@" means permanent setting which will not be lost by removing power from the scanner or rebooting it; "**#**" means temporary setting which will be lost by removing power from the scanner or rebooting it.

Tag: A 3-character case-sensitive field that identifies the desired command group. For example, all USB HID-KBW configuration settings are identified with a Tag of KBW.

SubTag: A 3-character case-sensitive field that identifies the desired parameter within the tag group. For example, the SubTag for the keyboard layout is CTY.

Data: The value for a feature or parameter setting, identified by the Tag and SubTag.

Suffix: ";<ETX>" (HEX: **3B 03**), 2 characters.

Multiple commands can be issued within one Prefix/Suffix sequence. For configuration commands, only the **Tag**, **SubTag**, and **Data** fields must be repeated for each command in sequence. If an additional command is to be applied to the same Tag, then the command is separated with a comma (,) and only the **SubTag** and **Data** fields of the additional commands are issued. If the additional command requires a different **Tag** field, the command is separated from previous command by a semicolon (;).

Query Commands

For query commands, the entry in the **Data** field in the syntax above is one of the following characters means:

* (HEX: **2A**) What is the scanner's current value for the setting(s).

& (HEX: **26**) What is the factory default value for the setting(s).

^ (HEX: **5E**) What is the range of possible values for the setting(s).

**** Exit Setup**

Enter Setup

The value of the **StoreType** field in a query command can be either "@" (HEX: **40**) or "**#**" (HEX: **23**).

A query command with the **SubTag** field omitted means to query all the settings concerning a tag. For example, to query all the current settings about Code 11, you should enter **7E 01 30 30 30 30 40 43 31 31 A 3B 03** (i.e. ~<SOH>0000@C11*;<ETX>).

Responses

Different from command sequence, the prefix of a response consists of the six characters of "<STX><SOH>0000" (HEX: **02 01 30 30 30 30**).

The scanner responds to serial commands with one of the following three responses:

<ACK> (HEX: **06**) Indicates a good command which has been processed.

<NAK> (HEX: **15**) Indicates a good configuration command with its **Data** field entry out of the allowable range for this Tag and SubTag combination (e.g. an entry for an inter-keystroke delay of 100 when the field will only allow 2 digits), or an invalid query command.

<ENQ> (HEX: **05**) Indicates an invalid Tag or SubTag command.

When responding, the scanner echoes back the command sequence with the status character above inserted directly before each of the punctuation marks (the comma or semicolon) in the command.

Examples

Example 1: Enable Code 11, set the minimum and maximum lengths to 12 and 22 respectively.

Enter: **7E 01 30 30 30 30 40 43 31 31 45 4E 41 31 2C 4D 49 4E 31 32 2C 4D 41 58 32 32 3B 03**
(~<SOH>0000C11ENA1,MIN12,MAX22;<ETX>)

Response: **02 01 30 30 30 30 40 43 31 31 45 4E 41 31 06 2C 4D 49 4E 31 32 06 2C 4D 41 58 32 32 06 3B 03**
(<STX><SOH>0000C11ENA1<ACK>,MIN12<ACK>,MAX22<ACK>;<ETX>)

Example 2: Query the current minimum and maximum lengths of Code 11.

Enter: **7E 01 30 30 30 30 40 43 31 31 4D 49 4E 2A 2C 4D 41 58 2A 3B 03**
(~<SOH>0000C11MIN*,MAX*;<ETX>)

Response: **02 01 30 30 30 30 40 43 31 31 4D 49 4E 31 32 06 2C 4D 41 58 32 32 06 3B 03**
(<STX><SOH>0000C11MIN12<ACK>,MAX22<ACK>;<ETX>)

**** Exit Setup**

Enter Setup

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.

Some functions or options may involve parameter value settings that require scanning numeric barcodes. To find the numeric barcodes, see the “Digit Barcodes” section in Appendix.

**** Exit Setup**

Enter Setup

Programming barcode data can be transmitted to the host device. Scan the appropriate barcode below to enable or disable the transmission of programming barcode data to the host device.

**** Do Not Transmit Programming Barcode Data**

Transmit Programming Barcode Data

**** Exit Setup**

@SETUPE1

Enter Setup

Illumination

@ILLSCN1

**** On**

@ILLSCN0

Off

Aiming

@AMLENA1

**** On**

@AMLENA0

Off

@AMLENA2

Always On

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Good Read Vibration

You may choose whether or not to let the scanner vibrate when a barcode is successfully read by scanning the appropriate barcode below.

@GRVENA0

**** Off**

@GRVENA1

On

Good Read Vibration Duration

This parameter sets the length for the Good Read Vibration. It is programmable in 10ms increments from 100ms to 2,000ms. The default value is 300ms.

@GRVDUR

Set Good Read Vibration Duration

Example

Set the Good Read Vibration duration to 800ms:

1. Scan the **Enter Setup** barcode.
2. Scan the **Set Good Read Vibration Duration** barcode.
3. Scan the numeric barcodes “8”, “0” and “0” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Exit Setup** barcode.

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Good Read LED

The green LED can be programmed to be On or Off to indicate good read.

@GRLENA1

**** On**

@GRLENA0

Off

Good Read LED Duration

This parameter sets the amount of time that the Good Read LED to remain on following a good read. It is programmable in 10ms increments from 20ms to 10,000ms.

@GRLDUR20

**** Short (20ms)**

@GRLDUR120

Medium (120ms)

@GRLDUR220

Long (220ms)

@GRLDUR320

Prolonged (320ms)

@GRLDUR

Custom

Example

Set the Good Read LED duration to 800ms:

1. Scan the **Enter Setup** barcode.
2. Scan the **Custom** barcode.
3. Scan the numeric barcodes “8”, “0” and “0” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Exit Setup** barcode.

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Good Read Beep

Scanning the **Off** barcode can turn off the beep that indicate successful decode; scanning the **On** barcode can turn it back on.

@GRBENA1

**** On**

@GRBENA0

Off

Good Read Beep Duration

This parameter sets the length of the beep the scanner emits on a good read. It is programmable in 10ms increments from 20ms to 300ms.

@GRBDUR40

Short (40ms)

@GRBDUR80

**** Medium (80ms)**

@GRBDUR120

Long (120ms)

@GRBDUR

Custom

Example

Set the Good Read LED duration to 100ms:

1. Scan the **Enter Setup** barcode.
2. Scan the **Custom** barcode.
3. Scan the numeric barcodes “1”, “0” and “0” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Exit Setup** barcode.

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Good Read Beep Frequency

Extra Low (800Hz)

Low (1600Hz)

**** Medium (2730Hz)**

High (4200Hz)

Custom (20-20,000Hz)

Example

Set the Good Read Beep frequency to 2,000ms:

1. Scan the **Enter Setup** barcode.
2. Scan the **Custom** barcode.
3. Scan the numeric barcodes “2”, “0”, “0” and “0” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Exit Setup** barcode.

Good Read Beep Volume

**** Loud**

Low

Medium

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Power On Beep

The scanner can be programmed to beep when it is powered on. Scan the **Off** barcode if you do not want a power on beep.

@PWBENA1

**** On**

@PWBENA0

Off

@SETUPE0

**** Exit Setup**

Enter Setup

Scan Mode

Manual Mode

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

**** Manual Mode**

Image Decoding Timeout specifies the maximum time the scanner will spend decoding an image. This parameter is programmable in 1ms increments from 1ms to 3,000ms. The default timeout is 100ms.

Image Decoding Timeout

Set the image decoding timeout to 800ms:

1. Scan the **Enter Setup** barcode.
2. Scan the **Image Decoding Timeout** barcode.
3. Scan the numeric barcodes “8”, “0” and “0” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Exit Setup** barcode.

**** Exit Setup**

@SETUPE1

Enter Setup

Sense Mode

Sense Mode: The scanner activates a decode session every time when it detects a change in ambient illumination. The decode session continues until the barcode is decoded or the decode session timeout expires. Pressing the trigger can also activate a decode session.

Sense Mode

Decode Session Timeout sets the maximum time decode session continues during a scan attempt in the Sense mode. It is programmable in 1ms increments from 0ms to 3,600,000ms. The default timeout is 3,000ms.

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” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Exit Setup** barcode.

Enter Setup

Timeout between Decodes (Same Barcode) can avoid undesired rereading of same barcode in a given period of time. It is programmable in 1s increments from 1ms to 3,600,000ms. The default setting is 15,000ms.

Timeout between Decodes (Same Barcode)

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

- **Enable Timeout Between Decodes (Same Barcode):** Do not allow the scanner to re-read the same barcode before the Timeout Between Decodes (Same Barcode) expires.
- **Disable Timeout Between Decodes (Same Barcode):** Allow the scanner to re-read the same barcode without delay.

Disable Timeout Between Decodes (Same Barcode)

**** Enable Timeout Between Decodes (Same Barcode)**

Example

Set the timeout between decodes (same barcode) to 3,000ms:

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

**** Exit Setup**

@SETUPE1

Enter Setup

Image Decoding Timeout specifies the maximum time the scanner will spend decoding an image. This parameter is programmable in 1ms increments from 1ms to 3,000ms. The default timeout is 100ms.

@DETSET

Image Decoding Timeout

Example

Set the image decoding timeout to 800ms:

1. Scan the **Enter Setup** barcode.
2. Scan the **Image Decoding Timeout** barcode.
3. Scan the numeric barcodes “8”, “0” and “0” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Exit Setup** barcode.

@SETUPE0

**** Exit Setup**

Enter Setup

Continuous Mode

Continuous Mode: Pressing the trigger activates a decode session. The decode process continues until the barcode is decoded. After finishing a decode session, the scanner waits for the timeout between decodes to expire and then automatically starts next session until you press the trigger a second time.

Continuous Mode

Timeout between Decodes sets the time period between the end of one decode session and the start of next session. It is programmable in 1ms increments from 1ms to 10,000ms. The default timeout is 500ms.

Timeout between Decodes

Example

Set the timeout between decodes to 800ms:

1. Scan the **Enter Setup** barcode.
2. Scan the **Timeout between Decodes** barcode.
3. Scan the numeric barcodes “8”, “0” and “0” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Exit Setup** barcode.

**** Exit Setup**

Enter Setup

Timeout between Decodes (Same Barcode) can avoid undesired rereading of same barcode in a given period of time. It is programmable in 1s increments from 1ms to 3,600,000ms. The default setting is 15,000ms.

Timeout between Decodes (Same Barcode)

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

- ✧ **Enable Timeout Between Decodes (Same Barcode):** Do not allow the scanner to re-read the same barcode before the Timeout Between Decodes (Same Barcode) expires.
- ✧ **Disable Timeout Between Decodes (Same Barcode):** Allow the scanner to re-read the same barcode without delay.

Disable Timeout Between Decodes (Same Barcode)

**** Enable Timeout Between Decodes (Same Barcode)**

Example

Set the timeout between decodes (same barcode) to 3,000ms:

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

**** Exit Setup**

@SETUPE1

Enter Setup

Image Decoding Timeout specifies the maximum time the scanner will spend decoding an image. This parameter is programmable in 1ms increments from 1ms to 3,000ms. The default timeout is 100ms.

@DETSET

Image Decoding Timeout

Example

Set the image decoding timeout to 800ms:

1. Scan the **Enter Setup** barcode.
2. Scan the **Image Decoding Timeout** barcode.
3. Scan the numeric barcodes “8”, “0” and “0” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Exit Setup** barcode.

Enter Setup

Batch Mode

Batch Mode: A trigger pull activates a round of multiple decode sessions. This round of multiple scans continues until you release the trigger. Rereading the same barcode is not allowed in the same round.

Batch Mode

Image Decoding Timeout specifies the maximum time the scanner will spend decoding an image. This parameter is programmable in 1ms increments from 1ms to 3,000ms. The default timeout is 100ms.

Image Decoding Timeout

Example

Set the image decoding timeout to 800ms:

1. Scan the **Enter Setup** barcode.
2. Scan the **Image Decoding Timeout** barcode.
3. Scan the numeric barcodes “8”, “0” and “0” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Exit Setup** barcode.

**** Exit Setup**

Enter Setup

Scanning Preference

Normal Mode: Select this mode when reading barcodes on paper.

Screen Mode: Select this mode when reading barcodes on the screen.

Motion Mode: Select this mode when reading barcodes on moving objects.

**** Normal Mode**

Screen Mode

Motion Mode

**** Exit Setup**

@SETUPE1

Enter Setup

Decode Area

Whole Area Decoding

When this option is enabled, the scanner attempts to decode barcode(s) within its field of view, from the center to the periphery, and transmits the barcode that has been first decoded.

@CADENA0

**** Whole Area Decoding**

Specific Area Decoding

The scanner attempts to read barcode(s) within a specified decoding area and transmits the barcode that has been first decoded. This option allows the scanner to narrow its field of view to make sure it reads only those barcodes intended by the user. For instance, if multiple barcodes are placed closely together, specific area decoding in conjunction with appropriate pre-defined decoding area will insure that only the desired barcode is read.

@CADENA1

Specific Area Decoding

If **Specific Area Decoding** is enabled, the scanner only reads barcodes that intersect the predefined decoding area.

The default decoding area is an area of 40% top, 60% bottom, 40% left and 60% right of the scanner's field of view, as shown in the figure below. In the following example, the white box is the decoding area. Since Barcode 1 passes through the decoding area, it will be read. Barcode 2 does not pass through the decoding area, so it will not be read.

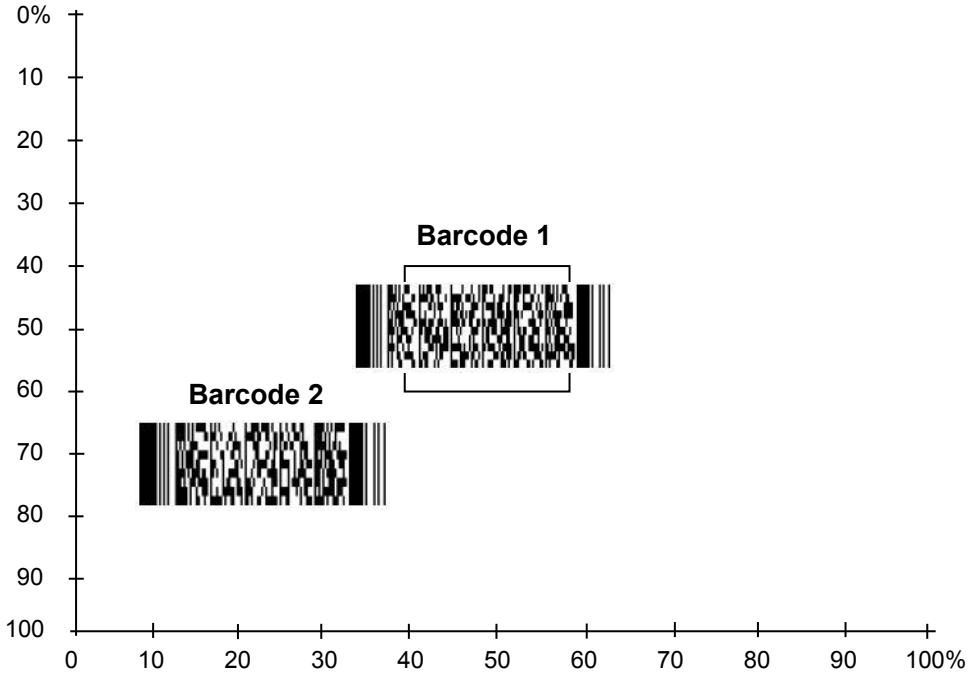
You can define the decoding area using the **Top of Decoding Area**, **Bottom of Decoding Area**, **Left of Decoding Area** and **Right of Decoding Area** barcodes as well as numeric barcode(s) that represent(s) a desired percentage (0-100).

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup



@CADTOP

Top of Decoding Area

@CADBOT

Bottom of Decoding Area

@CADLEF

Left of Decoding Area

@CADRIG

Right of Decoding Area

@SETUPE0

**** Exit Setup**

Enter Setup

Set the decoding area to 20% top, 80% bottom, 20% left and 80% right:

1. Scan the **Enter Setup** barcode.
2. Scan the **Specific Area Decoding** barcode.
3. Scan the **Top of Decoding Area** barcode.
4. Scan the numeric barcodes “2” and “0” from the “Digit Barcodes” section in Appendix.
5. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
6. Scan the **Bottom of Decoding Area** barcode.
7. Scan the numeric barcodes “8” and “0” from the “Digit Barcodes” section in Appendix.
8. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
9. Scan the **Left of Decoding Area** barcode.
10. Scan the numeric barcodes “2” and “0” from the “Digit Barcodes” section in Appendix.
11. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
12. Scan the **Right of Decoding Area** barcode.
13. Scan the numeric barcodes “8” and “0” from the “Digit Barcodes” section in Appendix.
14. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
15. Scan the **Exit Setup** barcode.

**** Exit Setup**

@SETUPE1

Enter Setup

Image Flipping

@MIRROR0

**** Do Not Flip**

@MIRROR1

Flip Horizontally

Example of image not flipped

Example of image flipped horizontally

@SETUPE0

**** Exit Setup**

Enter Setup

Default Settings

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.

Restore All Factory Defaults

Custom Defaults

Scanning the **Restore All Custom Defaults** barcode can reset all parameters to the custom defaults. Scanning the **Save as Custom Defaults** barcode can set the current settings as custom defaults.

Custom defaults are stored in the non-volatile memory.

Save as Custom Defaults

Restore All Custom Defaults

Restoring the scanner to the factory defaults will not remove the custom defaults from the scanner.

**** Exit Setup**

Enter Setup

Query Product Information

After scanning the barcode below, the product information (including product name, hardware version, firmware version, uIMG version and manufacturing date) will be sent to the host device.

Query Product Information

**** Exit Setup**

@SETUPE1

Enter Setup

Chapter 4 RS-232 Interface

Introduction

When the scanner is connected to the RS-232 port of a host device, scan the **RS-232** barcode below to enable it. Moreover, you need to set communication parameters (including baud rate, parity check, data bit and stop bit) to match the host device.

@INTERF0

RS-232

RS-232 Parameters

When the scanner is connected to the host device via serial port, it is necessary to maintain consistency in communication parameters configuration on both devices so that they can communicate with each other.

@SETUPE0

**** Exit Setup**

Enter Setup

Baud Rate

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

**** 9600**

19200

1200

38400

2400

57600

4800

115200

【14400】

**** Exit Setup**

Enter Setup

Parity Check

Setthe parity type tomatch the Host requirements. The default setting is No Parity.

- ✧ **Odd Parity:** If the data contains an odd number of 1 bits, the parity bit value is set to 0.
- ✧ **Even Parity:** If the data contains an even number of 1 bits, the parity bit value is set to 0.
- ✧ **None:** Select this option when no parity bit is required.

**** None**

Odd Parity

Even Parity

Data Bit

Set the number of data bits to match the host requirements.

7 Data Bits

**** 8 Data Bits**

Stop Bit

The stop bit(s) at the end of each transmitted character marks the end of transmission of one character and prepares the receiving device for the next character in the serial data stream. Set the number of stop bits to match the host requirements.

**** 1 Stop Bit**

2 Stop Bits

**** Exit Setup**

Enter Setup

Chapter 5 USB Interface

Introduction

There are four options for USB connection.

1. USB HID-KBW: The scanner's transmission is simulated as USB keyboard input with no need for command configuration ora driver. The barcode data could be entered by the virtual keyboard directly and it is also convenient for the host device to receive data.
2. USB DataPipe: USB DataPipe is a transport protocol developed by Newland Auto-ID Tech, which requires installation of a specific driver on the host device. The DataPipe driver for Windows is available at http://www.newlandaidc.com.
3. 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. This mode is based on USB DataPipe protocol and requires a driver, too.
4. USB CDC: The USB CDC feature allows the host device to receive data in the way as a serial port does. A driver is needed when using this feature.
5. HID-POS: It is based on the HID interface, with no need of a custom driver. It excels virtual keyboard and traditional RS-232 interface in transmission speed.

When the scanner is connected to both USB and RS-232 ports on a host device, it will select the USB connection by default.

USB HID-KBW

When the scanner is connected to the USB port on a host device, 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 onthe virtual keyboard. It works on a Plug and Play basis and no driver is required.

**** USB HID-KBW**

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

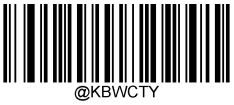
**** Exit Setup**

Enter Setup

USB Country Keyboard Types

Keyboard layouts and country codes vary from country to country. The default setting is US keyboard. Follow the steps below to program the keyboard type for your country or language.

1. Scan the **Enter Setup** barcode.
2. Scan the **Select Country Code** barcode.
3. Scan the code of your country. (See the “Country Code Table” on the next page)
4. Scan the **Save** barcode.
5. Scan the **Exit Setup** barcode.



Select Country Code

Example

Program the scanner to emulate Norwegian keyboard (Norway):

1. Scan the **Enter Setup** barcode.
2. Scan the **Select Country Code** barcode.
3. Scan the numeric barcodes “1” and “5” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Exit Setup** barcode.

**** Exit Setup**

Enter Setup

Country Code Table

Country/Language	Code	Country/Language	Code
U.S.	0	Netherlands (Dutch)	14
Belgium	1	Norway	15
Brazil	2	Poland	16
Canada (French）	3	Portugal	17
Czechoslovakia	4	Romania	18
Denmark	5	Russia	19
Finland (Swedish)	6	Slovakia	21
France	7	Spain	22
Germany/Austria	8	Sweden	23
Greece	9	Switzerland (German)	24
Hungary	10	Turkey F	25
Israel (Hebrew)	11	Turkey Q	26
Italy	12	UK	27
Latin-American	13	Japan	28

**** Exit Setup**

@SETUPE1

Enter Setup

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.

@KBWBUC0

**** Do Not Beep on Unknown Character**

@KBWBUC1

Beep on Unknown Character

Supposing French keyboard (Country Code: 7) is selected and barcode data ”AÐF” is beingdealted with, the keyboard will fail to locate the “Ð” (0xD0) character and the scannerwill 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”.

If **Emulate ALT+Keypad ON** is selected, **Beep on Unknown Character** does not function.

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Emulate ALT+Keypad

When Emulate ALT+Keypad is turned on, any ASCII character (0x00 - 0xff) is sent over the numeric keypad no matter which keyboard type is selected.

1. ALT Make
2. Enter the numbercorresponding toa desired character on the keypad.
3. ALT Break

@KBWALT0

**** Emulate ALT+Keypad OFF**

@KBWALT1

Emulate ALT+Keypad ON

Since sending a character involves multiple keystroke emulations, this method appears less efficient.

Supposing French keyboard (Country Code: 7) is selected and **Emulate ALT+Keypad** is ON, barcode data ”AÐF” (65/208/70) is sent as below:

“A” – “ALT Make” + “065” + “ALT Break”

“Ð” -- “ALT Make” + “208” + “ALT Break”

“F” -- “ALT Make” + “070” + “ALT Break”

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Function Key Mapping

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

1. CTRL Make
2. Press function key
3. CTRL Break

**** Disable Function Key Mapping**

Enable Function Key Mapping

Supposing the **Function Key Mapping** feature is enabled and other parameters of USB HID-KBW adopt factory defaults, barcode data “A<HT>(i.e. Horizontal Tab)F” (0x41/0x09/0x46) is sent as below:

1. “A” - Keystroke “A”.
2. “Ctrl I” - “Ctrl Make” + Keystroke “I” + “Ctrl Break”
3. “F” - Keystroke “F”

For some text editors, “Ctrl I” means italic convert. So the output may be “A*F*”.

Emulate ALT+Keypad ON prevails over **Enable Function Key Mapping**.

@SETUPE0

**** Exit Setup**

Enter Setup

ASCII Function Key Mapping Table

ASCII Function	ASCII Value (HEX)	No Function Key Mapping	Function Key Mapping
NUL	00	Null	Ctrl+2
SOH	01	Keypad Enter	Ctrl+A
STX	02	CapsLock	Ctrl+B
ETX	03	Null	Ctrl+C
EOT	04	Null	Ctrl+D
ENQ	05	Null	Ctrl+E
ACK	06	Null	Ctrl+F
BEL	07	Enter	Ctrl+G
BS	08	LeftArrow	Ctrl+H
HT	09	Horizontal Tab	Ctrl+I
LF	0A	DownArrow	Ctrl+J
VT	0B	Vertical Tab	Ctrl+K
FF	0C	Delete	Ctrl+L
CR	0D	Enter	Ctrl+M
SO	0E	Insert	Ctrl+N
SI	0F	Esc	Ctrl+O
DLE	10	F11	Ctrl+P
DC1	11	Home	Ctrl+Q
DC2	12	PrintScreen	Ctrl+R
DC3	13	Backspace	Ctrl+S
DC4	14	tab+shift	Ctrl+T
NAK	15	F12	Ctrl+U
SYN	16	F1	Ctrl+V
ETB	17	F2	Ctrl+W
CAN	18	F3	Ctrl+X
EM	19	F4	Ctrl+Y
SUB	1A	F5	Ctrl+Z
ESC	11	F6	Ctrl+[
FS	1C	F7	Ctrl+\
GS	1D	F8	Ctrl+]
RS	1E	F9	Ctrl+6
US	1F	F10	Ctrl+-

**** Exit Setup**

Enter Setup

ASCII Function Key Mapping Table (Continued)

The last five characters (0x1B~0x1F) in the table above apply to US keyboard layout only. The following chart provides the equivalents of these five characters for other countries.

Country	Code					
United States	[	\	]	6	-	
Belgium	[	<	]	6	-	
Scandinavia	8	<	9	6	-	
France	^	8	$	6	=	
Germany		Ã	+	6	-	
Italy		\	+	6	-	
Switzerland		<	..	6	-	
United Kingdom	[	¢	]	6	-	
Denmark	8	\	9	6	-	
Norway	8	\	9	6	-	
Spain	[	\	]	6	-	

**** Exit Setup**

Enter Setup

Code Page

The **Code Page** feature is provided to support more international characters. This feature is only effective when ASCII characters are sent in the ALT+Keypad way.

**** Windows-1252**

Windows-1250

Windows-1251

Example

Set the scanner to get proper output for Russian encoded with ISO8859-1 (PDF417/QR Code/ Aztec/Data Matrix)

1. Scan the **Enter Setup** barcode.
2. Scan the **Windows-1251** barcode above.
3. Scan the appropriate **Default Character Encoding** barcode according to the symbology your application needs from the “Character Encoding” section in Chapter 7.
4. Scan the **Emulate ALT+Keypad ON** barcode from the “Emulate ALT+Keypad” section in this chapter.
5. Scan the **Exit Setup** barcode.

Example

Set the scanner to get proper output for Russian encoded with UTF-8 (PDF417/QR Code/ Aztec/Data Matrix)

1. Scan the **Enter Setup** barcode.
2. Scan the **Windows-1251** barcode above.
3. Scan the appropriate **UTF-8** barcode according to the symbology your application needs from the “Character Encoding” section in Chapter 7.
4. Scan the **Emulate ALT+Keypad ON** barcode from the “Emulate ALT+Keypad” section in this chapter.
5. Scan the **Exit Setup** barcode.

**** Exit Setup**

Enter Setup

Inter-Keystroke Delay

This parameter specifies the delay between emulated keystrokes.

**** No Delay**

Long Delay (40ms)

Short Delay (20ms)

Caps Lock

The **Caps Lock ON** option can invert upper and lower case characters contained in barcode data. This inversion occurs regardless of the state of Caps Lock key on the host device's keyboard.

**** Caps Lock OFF**

Caps Lock ON

Emulate ALT+Keypad ON/ **Convert All to Upper Case**/ **Convert All to Lower Case** prevails over **Caps Lock ON**.

When the **Caps Lock ON** feature is selected, barcode data "AbC" is transmitted as "aBc".

**** Exit Setup**

@SETUPE1

Enter Setup

Convert Case

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

@KBWCAS0

**** No Case Conversion**

@KBWCAS2

Convert All to Lower Case

@KBWCAS1

Convert All to Upper Case

Example

When the **Convert All to Lower Case** feature is enabled, barcode data “AbC” is transmitted as “abc”.

If **Emulate ALT+Keypad ON** is selected, **Convert All to Lower Case** and **Convert All to Upper Case** do not function.

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Emulate Numeric Keypad

- ✧ **Do Not Emulate Numeric Keypad 1:** Sending a number (0-9) is emulated as keystroke(s) on main keyboard.
- ✧ **Emulate Numeric Keypad 1:** Sending a number (0-9) is emulated as keystroke(s) on numeric keypad. The state of Num Lock on the simulated numeric keypad is determined by its equivalent on the host device. If Num Lock on the host device is turned off, the output of simulated numeric keypad is function key instead of number.
- ✧ **Do Not Emulate Numeric Keypad 2:** Sending "+", "—", "*" and "/" is emulated as keystroke(s) on main keyboard.
- ✧ **Emulate Numeric Keypad 2:** Sending "+", "—", "*" and "/" is emulated as keystroke(s) on numeric keypad.

@KBWNUM0

**** Do Not Emulate Numeric Keypad 1**

@KBWNUM1

Emulate Numeric Keypad 1

@KBWNCH0

**** Do Not Emulate Numeric Keypad 2**

@KBWNCH1

Emulate Numeric Keypad 2

Emulate ALT+Keypad ON prevails over **Emulate Numeric Keypad**.

@SETUPE0

**** Exit Setup**

Enter Setup

Supposing the **Emulate Numeric Keypad** feature is enabled:

if Num Lock on the host device is ON, “A4.5” is transmitted as “A4.5”;

if Num Lock on the host device is OFF, “A4.5” is transmitted as follows:

1. “A” is sent as is because it is not included in numeric keypad;

2. “4” is sent as the function key “Cursor Move to Left”;

3. “.” is sent as the function key “Delete After the Cursor”;

4. “5” is not sent as it does not correspond to any function key.

**** Exit Setup**

@SETUPE1

Enter Setup

USB DataPipe

This protocol is defined by Newland. A driver is required when the scanner uses this protocol to communicate with the host device.

Its advantages include fast data transmission and easy integration of the SDK into application system.

@INTERF1

USB DataPipe

USB COM Port Emulation

If your scanner is connected to the USB port on a host device, the USB COM Port Emulation feature allows the host device to receive data in the way as a serial port does. A driver is needed when using this feature. You may download it from our website at www.newlandaidc.com.

@INTERF2

USB COM Port Emulation

USB CDC

If your scanner is connected to the USB port on a host device, the USB CDC feature allows the host device to receive data in the way as a serial port does. A driver is needed when using this feature. You may download it from our website at www.newlandaidc.com.

@INTERF8

USB CDC

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

USB HID-POS

Introduction

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

Features:

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

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

@INTERF5

USB HID-POS

Access the Scanner with Your Program

Use CreateFile to access the scanner as a HID device and then use ReadFile to deliver the scanned data to the application program. Use WriteFile to send data to the scanner.

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

Enter Setup

Acquire Scanned Data

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

	Bit							
Byte	7	6	5	4	3	2	1	0
0	Report ID = 0x02							
1	Barcode Length							
2-57	Decoded Data (1-56)							
58-61	Reserved (1-4)							
62	Newland Symbology Identifier or N/C: 0x00							
63	-	-	-	-	-	-	-	Decoded data continued

Send Command to the Scanner

This output report is used to send commands to the scanner. All programming commands can be used.

	Bit							
Byte	7	6	5	4	3	2	1	0
0	Report ID = 0x04							
1	Length of command							
2-62	Command							
63	-	-	-	-	-	-	-	Command continued

**** Exit Setup**

Enter Setup

VID/PID

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

Product	Interface	PID (Hex)	PID (Dec)
HR42	USB DataPipe	1E01	7681
	USB COM Port Emulation	1E02	7682
	USB HID-KBW	1E03	7683
	USB CDC	1E06	7686
	USB HID-POS	1E10	7696

**** Exit Setup**

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 symbologies. It is recommended to disable those that are rarely used to increase the efficiency of the scanner.

**** Exit Setup**

Enter Setup

Global Settings

Enable/Disable All Symbologies

If the **Disable All Symbologies** feature is enabled, the scanner will not be able to read any non-programming barcodes except the programming barcodes.

Enable All Symbologies

Disable All Symbologies

Enable/Disable 1D Symbologies

Enable 1D Symbologies

Disable 1D Symbologies

Enable/Disable 2D Symbologies

Enable 2D Symbologies

Disable 2D Symbologies

Enable/Disable Postal Symbologies

Enable All Postal Symbologies

Disable All Postal Symbologies

**** Exit Setup**

@SETUPE1

Enter Setup

Code 128

Restore Factory Defaults

@128DEF

Restore the Factory Defaults of Code 128

Enable/Disable Code 128

@128ENA1

**** Enable Code 128**

@128ENA0

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.

@SETUPE0

**** Exit Setup**

Enter Setup

Set Length Range for Code 128

The scanner can be configured to only decode Code 128 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths. To accomplish it, you need to set the minimum and maximum lengths.

Set the Minimum Length (Default: 1)

Set the Maximum Length (Default: 48)

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 and12 characters:

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

**** Exit Setup**

Enter Setup

EAN-8

Restore Factory Defaults

Restore the Factory Defaults of EAN-8

Enable/Disable EAN-8

**** Enable EAN-8**

Disable EAN-8

If the scanner fails to identify EAN-8 barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable EAN-8** barcode.

Transmit Check Character

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

**** Transmit EAN-8 Check Character**

Do Not Transmit EAN-8 Check Character

**** Exit Setup**

@SETUPE1

Enter Setup

2-Digit Add-On Code

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

@E13AD20

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

@E13AD21

Enable 2-Digit Add-On Code

TIPS

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

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

5-Digit Add-On Code

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

@EA8AD50

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

@EA8AD51

Enable 5-Digit Add-On Code

TIPS

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

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

@SETUPE0

**** Exit Setup**

Enter Setup

Convert EAN-8 to EAN-13

Convert EAN-8 to EAN-13: Convert EAN-8 decoded data to EAN-13 format before transmission. After conversion, the data follows EAN-13 format and is affected by EAN-13 programming selections (e.g., Check Character).

Do Not Convert EAN-8 to EAN-13: EAN-8 decoded data is transmitted as EAN-8 data, without conversion.

**** Do Not Convert EAN-8 to EAN-13**

Convert EAN-8 to EAN-13

**** Exit Setup**

@SETUPE1

Enter Setup

EAN-13

Restore Factory Defaults

@E13DEF

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

Enable/Disable EAN-13

@E13ENA1

**** Enable EAN-13**

@E13ENA0

Disable EAN-13

If the scanner fails to identify EAN-13 barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable EAN-13** barcode.

Transmit Check Character

@E13CHK2

**** Transmit EAN-13 Check Character**

@E13CHK1

Do Not Transmit EAN-13 Check Character

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

2-Digit Add-On Code

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

@E13AD20

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

@E13AD21

Enable 2-Digit Add-On Code

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

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

5-Digit Add-On Code

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

@E13AD50

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

@E13AD51

Enable 5-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 5-digit add-on barcode. It can also decode EAN-13 barcodes without 5-digit add-on codes.

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

@SETUPE0

**** Exit Setup**

Enter Setup

Add-On Code Required

When **EAN-13 Add-On Code Required** is selected, the scanner will only read EAN-13 barcodes that contain add-on codes.

EAN-13 Add-On Code Required

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

EAN-13 Beginning with 290 Add-On Code Required

This setting programs the scanner to require an add-on code (2-digit or 5-digit) on EAN-13 barcodes that begin with “290”. The following settings can be programmed:

Require Add-On Code: All EAN-13 barcodes that begin with “290” must have a 2-digit or 5-digit add-on code. The EAN-13 barcode with the add-on code is then transmitted. If the required add-on code is not found, the EAN-13 barcode is discarded.

Do Not Require Add-On Code: If you have selected **Require Add-On Code**, and you want to disable this feature, scan **Do Not Require Add-On Code**. EAN-13 barcodes are handled, depending on your selection for the “Add-On Code Required” feature.

**** Do Not Require Add-On Code**

Require Add-On Code

**** Exit Setup**

Enter Setup

EAN-13 Beginning with 378/379 Add-On Code Required

This setting programs the scanner to require an add-on code (2-digit or 5-digit) on EAN-13 barcodes that begin with a “378” or “379”. The following settings can be programmed:

Require Add-On Code: All EAN-13 barcodes that begin with a “378” or “379” must have a 2-digit or 5-digit add-on code. The EAN-13 barcode with the add-on code is then transmitted. If the required add-on code is not found, the EAN-13 barcode is discarded.

Do Not Require Add-On Code: If you have selected **Require Add-On Code**, and you want to disable this feature, scan **Do Not Require Add-On Code**. EAN-13 barcodes are handled, depending on your selection for the “Add-On Code Required” feature.

**** Do Not Require Add-On Code**

Require Add-On Code

EAN-13 Beginning with 414/419 Add-On Code Required

This setting programs the scanner to require an add-on code (2-digit or 5-digit) on EAN-13 barcodes that begin with a “414” or “419”. The following settings can be programmed:

Require Add-On Code: All EAN-13 barcodes that begin with a “414” or “419” must have a 2-digit or 5-digit add-on code. The EAN-13 barcode with the add-on code is then transmitted. If the required add-on code is not found, the EAN-13 barcode is discarded.

Do Not Require Add-On Code: If you have selected **Require Add-On Code**, and you want to disable this feature, scan **Do Not Require Add-On Code**. EAN-13 barcodes are handled, depending on your selection for the “Add-On Code Required” feature.

**** Do Not Require Add-On Code**

Require Add-On Code

**** Exit Setup**

Enter Setup

EAN-13 Beginning with 434/439 Add-On Code Required

This setting programs the scanner to require an add-on code (2-digit or 5-digit) on EAN-13 barcodes that begin with a “434” or “439”. The following settings can be programmed:

Require Add-On Code: All EAN-13 barcodes that begin with a “434” or “439” must have a 2-digit or 5-digit add-on code. The EAN-13 barcode with the add-on code is then transmitted. If the required add-on code is not found, the EAN-13 barcode is discarded.

Do Not Require Add-On Code: If you have selected **Require Add-On Code**, and you want to disable this feature, scan **Do Not Require Add-On Code**. EAN-13 barcodes are handled, depending on your selection for the “Add-On Code Required” feature.

**** Do Not Require Add-On Code**

Require Add-On Code

EAN-13 Beginning with 977 Add-On Code Required

This setting programs the scanner to require an add-on code (2-digit or 5-digit) on EAN-13 barcodes that begin with “977”. The following settings can be programmed:

Require Add-On Code: All EAN-13 barcodes that begin with “977” must have a 2-digit or 5-digit add-on code. The EAN-13 barcode with the add-on code is then transmitted. If the required add-on code is not found, the EAN-13 barcode is discarded.

Do Not Require Add-On Code: If you have selected **Require Add-On Code**, and you want to disable this feature, scan **Do Not Require Add-On Code**. EAN-13 barcodes are handled, depending on your selection for the “Add-On Code Required” feature.

**** Do Not Require Add-On Code**

Require Add-On Code

**** Exit Setup**

Enter Setup

EAN-13 Beginning with 978 Add-On Code Required

This setting programs the scanner to require an add-on code (2-digit or 5-digit) on EAN-13 barcodes that begin with “978”. The following settings can be programmed:

Require Add-On Code: All EAN-13 barcodes that begin with “978” must have a 2-digit or 5-digit add-on code. The EAN-13 barcode with the add-on code is then transmitted. If the required add-on code is not found, the EAN-13 barcode is discarded.

Do Not Require Add-On Code: If you have selected **Require Add-On Code**, and you want to disable this feature, scan **Do Not Require Add-On Code**. EAN-13 barcodes are handled, depending on your selection for the “Add-On Code Required” feature.

**** Do Not Require Add-On Code**

Require Add-On Code

EAN-13 Beginning with 979 Add-On Code Required

This setting programs the scanner to require an add-on code (2-digit or 5-digit) on EAN-13 barcodes that begin with “979”. The following settings can be programmed:

Require Add-On Code: All EAN-13 barcodes that begin with “979” must have a 2-digit or 5-digit add-on code. The EAN-13 barcode with the add-on code is then transmitted. If the required add-on code is not found, the EAN-13 barcode is discarded.

Do Not Require Add-On Code: If you have selected **Require Add-On Code**, and you want to disable this feature, scan **Do Not Require Add-On Code**. EAN-13 barcodes are handled, depending on your selection for the “Add-On Code Required” feature.

**** Do Not Require Add-On Code**

Require Add-On Code

**** Exit Setup**

@SETUPE1

Enter Setup

UPC-E

Restore Factory Defaults

@UPEDEF

Restore the Factory Defaults of UPC-E

Enable/Disable UPC-E

@UPEENA1

**** Enable UPC-E**

@UPEENA0

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 Character

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

@UPECHK2

**** Transmit UPC-E Check Character**

@UPECHK1

Do Not Transmit UPC-E Check Character

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

2-Digit Add-On Code

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

@UPEAD20

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

@UPEAD21

Enable 2-Digit Add-On Code

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

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

5-Digit Add-On Code

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

@UPEAD50

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

@UPEAD51

Enable 5-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 5-digit add-on barcode. It can also decode UPC-E barcodes without 5-digit add-on codes.

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

@SETUPE0

**** Exit Setup**

Enter Setup

Transmit Preamble Character

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

No Preamble

**** System Character**

System Character & Country Code

Convert UPC-E to UPC-A

Convert UPC-E to UPC-A: Convert UPC-E (zero suppressed) decoded data to UPC-A format before transmission. After conversion, the data follows UPC-A format and is affected by UPC-A programming selections (e.g., Preamble, Check Character).

Do Not Convert UPC-E to UPC-A: UPC-E decoded data is transmitted as UPC-E data, without conversion.

**** Do Not Convert UPC-E to UPC-A**

Convert UPC-E to UPC-A

**** Exit Setup**

Enter Setup

UPC-A

Restore Factory Defaults

Restore the Factory Defaults of UPC-A

Enable/Disable UPC-A

**** Enable UPC-A**

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 Character

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

**** Transmit UPC-A Check Character**

Do Not Transmit UPC-A Check Character

**** Exit Setup**

@SETUPE1

Enter Setup

2-Digit Add-On Code

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

@UPAAD20

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

@UPAAD21

Enable 2-Digit Add-On Code

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

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

5-Digit Add-On Code

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

@UPAAD50

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

@UPAAD51

Enable 5-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 5-digit add-on barcode. It can also decode UPC-A barcodes without 5-digit add-on codes.

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

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Transmit Preamble Character

Preamble characters (Country Code and System Character) can be transmitted as part of a UPC-A barcode. Select one of the followingoptions for transmitting UPC-A preamble to the host device: transmit system character only or transmit system character and country code (“0” for USA).

@UPAPRE0

No Preamble

@UPAPRE1

**** System Character**

@UPAPRE2

System Character & Country Code

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Interleaved 2 of 5

Restore Factory Defaults

@I25DEF

Restore the Factory Defaults of Interleaved 2 of 5

Enable/Disable Interleaved 2 of 5

@I25ENA1

**** Enable Interleaved 2 of 5**

@I25ENA0

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.

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Set Length Range for Interleaved 2 of 5

The scanner can be configured to only decode Interleaved 2 of 5 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths. To accomplish it, you need to set the minimum and maximum lengths.

@I25MIN

Set the Minimum Length (Default: 6)

@I25MAX

Set the Maximum Length (Default: 80)

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 and12 characters:

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

@SETUPE1

Enter Setup

Check Character Verification

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

- **Disable:** The scanner transmits Interleaved 2 of 5 barcodes as is.
- **Do Not Transmit Check Character After Verification:** The scanner checks the integrity of all Interleaved 2 of 5 barcodes to verify that the data complies with the check character algorithm. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.
- **Transmit Check Character After Verification:** The scanner checks the integrity of all Interleaved 2 of 5 barcodes to verify that the data complies with the check character algorithm. 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 character is added. The check character is automatically generated when making Interleaved 2 of 5 barcodes.

@I25CHK0

**** Disable**

@I25CHK1

Do Not Transmit Check Character After Verification

@I25CHK2

Transmit Check Character After Verification

If the **Do Not Transmit Check Character After Verification** option is enabled, Interleaved 2 of 5 barcodes with a length that is less than the configured minimum length after having the check character excluded will not be decoded. (For example, when the **Do Not Transmit Check Character After Verification**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 character cannot be read.)

Enter Setup

ITF-14

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

ITF-14 priority principle: Forthe Interleaved 2 of 5 barcodes with a length of 14 characters and the last character as the check character, the ITF-14 configurations shall take precedence over the Interleaved 2 of 5 settings.

Restore Factory Defaults

Restore the Factory Defaults of ITF-14

Enable/Disable ITF-14

**** Disable ITF-14**

Enable ITF-14 But Do Not Transmit Check Character

Enable ITF-14 and Transmit Check Character

An example of the ITF-14 priority principle: when ITF-14 is enabled and Interleaved 2 of 5 is disabled, the scanner only decodes Interleaved 2 of 5 barcodes with a length of 14 characters and the last character as the check character.

**** Exit Setup**

@SETUPE1

Enter Setup

ITF-6

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

ITF-6 priority principle: For the Interleaved 2 of 5 barcodes with a length of 6 characters and the last character as the check character, the ITF-6 configurations shall take precedence over the Interleaved 2 of 5 settings.

Restore Factory Defaults

@IT6DEF

**** Restore the Factory Defaults of ITF-6**

Enable/Disable ITF-6

@IT6ENA0

**** Disable ITF-6**

@IT6ENA1

Enable ITF-6 But Do Not Transmit Check Character

@IT6ENA2

Enable ITF-6 and Transmit Check Character

An example of the ITF-6 priority principle: when ITF-6 is enabled and Interleaved 2 of 5 is disabled, the scanner only decodes Interleaved 2 of 5 barcodes with a length of 6 characters and the last character as the check character.

@SETUPE0

**** Exit Setup**

Enter Setup

Matrix 2 of 5

Restore Factory Defaults

Restore the Factory Defaults of Matrix 2 of 5

Enable/Disable Matrix 2 of 5

**** Enable Matrix 2 of 5**

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.

**** Exit Setup**

@SETUPE1

Enter Setup

Set Length Range for Matrix 2 of 5

The scanner can be configured to only decode Matrix 2 of 5 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths. To accomplish it, you need to set the minimum and maximum lengths.

Set the Minimum Length (Default: 4)

Set the Maximum Length (Default: 80)

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 and12 characters:

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

@SETUPE1

Enter Setup

Check Character Verification

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

- ✧ **Disable:** The scanner transmitsMatrix 2 of 5 barcodes as is.
- ✧ **Do Not Transmit Check Character After Verification:** The scanner checks the integrity of all Matrix 2 of 5 barcodes to verify that the data complies with the check character algorithm. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.
- ✧ **Transmit Check Character After Verification:** The scanner checks the integrity of all Matrix 2 of 5 barcodes to verify that the data complies with the check character algorithm. 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 character is added. The check character is automatically generated when making Matrix 2 of 5 barcodes.

@M25CHK0

**** Disable**

@M25CHK1

Do Not Transmit Check Character After Verification

@M25CHK2

Transmit Check Character After Verification

If the **Do Not Transmit Check Character After Verification** option is enabled, Matrix 2 of 5 barcodes with a length that is less than the configured minimum length after having the check character excluded will not be decoded. (For example, when the **Do Not Transmit Check Character After Verification** 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 character cannot be read.)

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Code 39

Restore Factory Defaults

@C39DEF

**** Restore the Factory Defaults of Code 39**

Enable/Disable Code 39

@C39ENA1

**** Enable Code 39**

@C39ENA0

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.

@C39TSC0

**** Do Not Transmit Start/Stop Character**

@C39TSC1

Transmit Start/Stop Character

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Set Length Range for Code 39

The scanner can be configured to only decode Code 39 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths. To accomplish it, you need to set the minimum and maximum lengths.

@C39MIN

Set the Minimum Length (Default: 1)

@C39MAX

Set the Maximum Length (Default: 48)

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

@SETUPE0

**** Exit Setup**

Enter Setup

Check Character Verification

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

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

**** Disable**

Do Not Transmit Check Character After Verification

Transmit Check Character After Verification

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

**** Exit Setup**

@SETUPE1

Enter Setup

Enable/Disable Code 39 Full ASCII

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

@C39ASC0

**** Disable Code 39 Full ASCII**

@C39ASC1

Enable Code 39 Full ASCII

Enable/Disable Code 32 (Italian Pharma Code)

Code 32 is a variant of Code 39 used by the Italian pharmaceutical industry. Scan the appropriate bar code below to enable or disable Code 32. Code 39 must be enabled and Code 39 check character verification must be disabled for this parameter to function.

@C39E320

**** Disable Code 32**

@C39E321

Enable Code 32

Code 32 Prefix

Scan the appropriate barcode below to enable or disable adding the prefix character “A” to all Code 32 barcodes. Code 32 must be enabled for this parameter to function.

@C39S320

**** Disable Code 32 Prefix**

@C39S321

Enable Code 32 Prefix

@SETUPE0

**** Exit Setup**

Enter Setup

Transmit Code 32 Start/Stop Character

Code 32 must be enabled for this parameter to function.

Transmit Code 32 Start/Stop Character

**** Do Not Transmit Code 32 Start/Stop Character**

Transmit Code 32 Check Character

Code 32 must be enabled for this parameter to function.

Transmit Code 32 Check Character

**** Do Not Transmit Code 32 Check Character**

**** Exit Setup**

@SETUPE1

Enter Setup

Codabar

Restore Factory Defaults

@CBADEF

Restore the Factory Defaults of Codabar

Enable/Disable Codabar

@CBAENA1

**** Enable Codabar**

@CBAENA0

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.

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Set Length Range for Codabar

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

Set the Minimum Length (Default: 2)

Set the Maximum Length (Default: 60)

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

@SETUPE1

Enter Setup

Check Character Verification

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

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

@CBACHK0

**** Disable**

@CBACHK1

Do Not Transmit Check Character After Verification

@CBACHK2

Transmit Check Character After Verification

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

@SETUPE0

**** Exit Setup**

Enter Setup

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.

**** Do Not Transmit Start/Stop Character**

Transmit Start/Stop Character

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

**** Start/Stop Character in Uppercase**

ABCD/TN*E as the Start/Stop Character

Start/Stop Character in Lowercase

**** Exit Setup**

@SETUPE1

Enter Setup

Code 93

Restore Factory Defaults

@C93DEF

Restore the Factory Defaults of Code 93

Enable/Disable Code 93

@C93ENA0

**** Disable Code 93**

@C93ENA1

Enable 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.

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Set Length Range for Code 93

The scanner can be configured to only decode Code 93 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths. To accomplish it, you need to set the minimum and maximum lengths.

Set the Minimum Length (Default: 1)

Set the Maximum Length (Default: 48)

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

@SETUPE1

Enter Setup

Check Character Verification

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

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

@C93CHK0

Disable

@C93CHK1

**** Do Not Transmit Check Character After Verification**

@C93CHK2

Transmit Check Character After Verification

If the **Do Not Transmit Check Character After Verification** option is enabled, Code 93 barcodes with a length that is less than the configured minimum length after having the two check characters excluded will not be decoded. (For example, when the **Do Not Transmit Check Character After Verification** 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 characters cannot be read.)

@SETUPE0

**** Exit Setup**

Enter Setup

China Post 25

Restore Factory Defaults

Restore the Factory Defaults of China Post 25

Enable/Disable China Post 25

**** Disable China Post 25**

Enable China Post 25

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

**** Exit Setup**

@SETUPE1

Enter Setup

Set Length Range for China Post 25

The scanner can be configured to only decode China Post 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.

@CHPMIN

Set the Minimum Length (Default: 1)

@CHPMAX

Set the Maximum Length (Default: 48)

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

Set the scanner to decode China Post 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” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes “1” and “2” from the “Digit Barcodes” section in Appendix.
7. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
8. Scan the **Exit Setup** barcode.

Enter Setup

Check Character Verification

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

- **Disable:** The scanner transmits China Post 25 barcodes as is.
- **Do Not Transmit Check Character After Verification:** The scanner checks the integrity of all China Post 25 barcodes to verify that the data complies with the check character algorithm. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.
- **Transmit Check Character After Verification:** The scanner checks the integrity of all China Post 25 barcodes to verify that the data complies with the check character algorithm. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.

**** Disable**

Do Not Transmit Check Character After Verification

Transmit Check Character After Verification

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

**** Exit Setup**

@SETUPE1

Enter Setup

UCC/EAN-128

Restore Factory Defaults

@GS1DEF

Restore the Factory Defaults of UCC/EAN-128

Enable/Disable UCC/EAN-128

@GS1ENA1

**** Enable UCC/EAN-128**

@GS1ENA0

Disable UCC/EAN-128

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

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Set Length Range for UCC/EAN-128

The scanner can be configured to only decode UCC/EAN-128 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths. To accomplish it, you need to set the minimum and maximum lengths.

@GS1MIN

Set the Minimum Length (Default: 1)】

@GS1MAX

Set the Maximum Length (Default: 48)

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

@SETUPE1

Enter Setup

GS1 Databar

Restore Factory Defaults

@RSSDEF

Restore the Factory Defaults of GS1 Databar

Enable/Disable GS1 Databar

@RSSENA1

**** Enable GS1 Databar**

@RSSENA0

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”

@RSSTAI1

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

@RSSTAI0

Do Not Transmit Application Identifier“01”

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

EAN·UCC Composite

Restore Factory Defaults

@CPTDEF

Restore the Factory Defaults of EAN·UCC Composite

Enable/Disable EAN·UCC Composite

@CPTENA1

Enable EAN·UCC Composite

@CPTENA0

**** Disable EAN·UCC Composite**

@CPTUPC1

Enable UPC/EAN Composite

@CPTUPC0

**** Disable UPC/EAN Composite**

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

@SETUPE1

Enter Setup

Code 11

Restore Factory Defaults

@C11DEF

Restore the Factory Defaults of Code 11

Enable/Disable Code 11

@C11ENA1

Enable Code 11

@C11ENA0

**** 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.

@SETUPE0

**** Exit Setup**

Enter Setup

Set Length Range for Code 11

The scanner can be configured to only decode Code 11 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths. To accomplish it, you need to set the minimum and maximum lengths.

Set the Minimum Length (Default: 4)

Set the Maximum Length (Default: 48)

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

**** Exit Setup**

Enter Setup

Check Character Verification

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

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

Disable

One Check Character, MOD11 (Len<=10)
Two Check Characters, MOD11/MOD11(Len>10)

**** One Check Character, MOD11**

One Check Character, MOD11 (Len<=10)
Two Check Characters, MOD11/MOD9 (Len>10)

Two Check Characters, MOD11/MOD11

Do Not Transmit Check Character

Two Check Characters, MOD11/MOD9

**** Transmit Check Character**

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

**** Exit Setup**

@SETUPE1

Enter Setup

ISBN

Restore Factory Defaults

@ISBDEF

**** Restore the Factory Defaults of ISBN**

Enable/Disable ISBN

@ISBENA1

Enable ISBN

@ISBENA0

**** 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

@ISBT100

ISBN-13

@ISBT101

**** ISBN-10**

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

ISSN

Restore Factory Defaults

@ISSDEF

**** Restore the Factory Defaults of ISSN**

Enable/Disable ISSN

@ISSENA1

Enable ISSN

@ISSENA0

**** 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.

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Industrial 25

Restore Factory Defaults

@L25DEF

Restore the Factory Defaults of Industrial 25

Enable/Disable Industrial 25

@L25ENA1

Enable Industrial 25

@L25ENA0

**** 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.

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Set Length Range for Industrial 25

The scanner can be configured to only decode Industrial 25 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths. To accomplish it, you need to set the minimum and maximum lengths.

@L25MIN

Set the Minimum Length (Default: 6)

@L25MAX

Set the Maximum Length (Default: 48)

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

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Check Character Verification

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

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

@L25CHK0

**** Disable**

@L25CHK1

Do Not Transmit Check Character After Verification

@L25CHK2

Transmit Check Character After Verification

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

@SETUPE1

Enter Setup

Standard 25

Restore Factory Defaults

@S25DEF

Restore the Factory Defaults of Standard 25

Enable/Disable Standard 25

@S25ENA1

Enable Standard 25

@S25ENA0

**** 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.

@SETUPE1

Enter Setup

Set Length Range for Standard 25

The scanner can be configured to only decode Standard 25 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths. To accomplish it, you need to set the minimum and maximum lengths.

@S25MIN

Set the Minimum Length (Default: 6)

@S25MAX

Set the Maximum Length (Default: 48)

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

@SETUPE0

**** Exit Setup**

Enter Setup

Check Character Verification

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

- **Disable:** The scanner transmits Standard 25 barcodes as is.
- **Do Not Transmit Check Character After Verification:** The scanner checks the integrity of all Standard 25 barcodes to verify that the data complies with the check character algorithm. Barcodes passing the check will be transmitted except the last digit, whereas those failing it will not be transmitted.
- **Transmit Check Character After Verification:** The scanner checks the integrity of all Standard 25 barcodes to verify that the data complies with the check character algorithm. Barcodes passing the check will be transmitted, whereas those failing it will not be transmitted.

**** Disable**

Do Not Transmit Check Character After Verification

Transmit Check Character After Verification

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

**** Exit Setup**

@SETUPE1

Enter Setup

Plessey

Restore Factory Defaults

@PLYDEF

Restore the Factory Defaults of Plessey

Enable/Disable Plessey

@PLYENA1

Enable Plessey

@PLYENA0

**** 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.

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Set Length Range for Plessey

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

@PLYMIN

Set the Minimum Length (Default: 4)

@PLYMAX

Set the Maximum Length (Default: 48)

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

Enter Setup

Check Character Verification

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

- **Disable:** The scanner transmits Plessey barcodes as is.
- **Do Not Transmit Check Character After Verification:** The scanner checks the integrity of all Plessey barcodes to verify that the data complies with the check character algorithm. Barcodes passing the checks will be transmitted except the last two digits, whereas those failing them will not be transmitted.
- **Transmit Check Character After Verification:** The scanner checks the integrity of all Plessey barcodes to verify that the data complies with the check character algorithm. Barcodes passing the checks will be transmitted, whereas those failing them will not be transmitted.

**** Disable**

Do Not Transmit Check Character After Verification

Transmit Check Character After Verification

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

**** Exit Setup**

@SETUPE1

Enter Setup

MSI-Plessey

Restore Factory Defaults

@MSIDEF

Restore the Factory Defaults of MSI-Plessey

Enable/Disable MSI-Plessey

@MSIENA1

Enable MSI-Plessey

@MSIENA0

**** 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.

@SETUPE1

Enter Setup

Set Length Range for MSI-Plessey

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

Set the Minimum Length (Default: 4)

Set the Maximum Length (Default: 48)

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

@SETUPE1

Enter Setup

Check Character Verification

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

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

@MSICHK0

Disable

@MSICHK3

Two Check Characters, MOD10/MOD11

@MSICHK1

**** One Check Character, MOD10**

@MSITCK0

Do Not Transmit Check Character

@MSICHK2

Two Check Characters, MOD10/MOD1

@MSITCK1

**** Transmit Check Character**

If you select a check character algorithm and the**Do Not Transmit Check Character** option, MSI-Plessey barcodes with a length that is less than the configured minimum length after having the check character(s) excluded will not be decoded. (For example, when the**One Check Character, MOD10** and **Do Not Transmit Check Character**options are enabled and the minimum length is set to 4, MSI-Plessey barcodes with a total length of 4 characters including the check character cannot be read.)

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

PDF417

Restore Factory Defaults

@PDFDEF

Restore the Factory Defaults of PDF417

Enable/Disable PDF417

@PDFENA1

**** Enable PDF417**

@PDFENA0

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.

@SETUPE1

Enter 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.

@PDFMIN

Set the Minimum Length (Default: 1)

@PDFMAX

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 characters:

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

@SETUPE0

**** Exit Setup**

Enter Setup

PDF417 Twin Code

PDF417 twin code is 2 PDF417 barcodes paralleled vertically or horizontally. They must both be either regular or inverse barcodes. They must have similar specifications and be placed closely together.

There are 3 options for reading PDF417 twin codes:

- ✧ **Single PDF417 Only:** Read either PDF417 code.
- ✧ **Twin PDF417 Only:** Read both PDF417 codes.
- ✧ **Both Single & Twin:** Read both PDF417 codes. If successful, transmit as twin PDF417 only. Otherwise, try single PDF417 only.

**** Single PDF417 Only**

Twin PDF417 Only

Both Single & Twin

**** Exit Setup**

Enter Setup

PDF417 Inverse

Regular barcode: Dark bars on a bright background.

Inverse barcode: Bright bars on a dark background.

**** Decode Regular PDF417 Barcodes Only**

Decode Inverse PDF417 Barcodes Only

Decode Both

Character Encoding

**** Default Character Encoding**

UTF-8

Enable/Disable PDF417 ECI Output

**** Enable PDF417 ECI Output**

Disable PDF417 ECI Output

**** Exit Setup**

Enter Setup

MicroPDF417

Restore Factory Defaults

Restore the Factory Defaults of MicroPDF417

Enable/Disable MicroPDF417

Enable MicroPDF417

**** Disable MicroPDF417**

If the scanner fails to identify MicroPDF417 barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable MicroPDF417** barcode.

**** Exit Setup**

@SETUPE1

Enter Setup

Set Length Range for MicroPDF417

The scanner can be configured to only decode MicroPDF417 barcodes with lengths that fall between (inclusive) the minimum and maximum lengths. To accomplish it, you need to set the minimum and maximum lengths.

@MPDMIN

Set the Minimum Length (Default: 1)

@MPDMAX

Set the Maximum Length (Default: 366)

Minimum length is not allowed to be greater than maximum length. If you only want to read MicroPDF417 barcodes with a specific length, set both minimum and maximum lengths to be that desired length.

Set the scanner to decode MicroPDF417 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” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes “1” and “2” from the “Digit Barcodes” section in Appendix.
7. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
8. Scan the **Exit Setup** barcode.

@SETUPE1

Enter Setup

QR Code

Restore Factory Defaults

@QRCDEF

Restore the Factory Defaults of QR Code

Enable/Disable QR Code

@QRCENA1

**** Enable QR Code**

@QRCENA0

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.

Enter 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.

Set the Minimum Length (Default: 1)

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 characters:

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

**** Exit Setup**

Enter Setup

QR Twin Code

QR twin code is 2 QR barcodes paralleled vertically or horizontally. They must both be either regular or inverse barcodes. They must have similar specifications and be placed closely together.

There are 3 options for reading QR twin codes:

- ✧ **Single QR Only:** Read either QR code.
- ✧ **Twin QR Only:** Read both QR codes. Transmission sequence: left (upper) QR code followed by right (lower) QR code.
- ✧ **Both Single & Twin:** Read both QR codes. If successful, transmit as twin QR only. Otherwise, try single QR only.

**** Single QR Only**

Twin QR Only

Both Single & Twin

**** Exit Setup**

@SETUPE1

Enter Setup

QR Inverse

Regular barcode: Dark bars on a bright background.

Inverse barcode: Bright bars on a dark background.

@QRCINV0

Decode Regular QR Barcodes Only

@QRCINV1

Decode Inverse QR Barcodes Only

@QRCINV2

**** Decode Both**

Character Encoding

@QRCENC0

**** Default Character Encoding**

@QRCENC1

UTF-8

Enable/Disable QR ECI Output

@QRCECI1

**** Enable QR ECI Output**

@QRCECI0

Disable QR ECI Output

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Micro QR Code

Restore Factory Defaults

@MQRDEF

Restore the Factory Defaults of Micro QR

Enable/Disable Micro QR

@MQRENA1

**** Enable Micro QR**

@MQRENA0

Disable Micro QR

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

@SETUPE1

Enter Setup

Set Length Range for Micro QR

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

@MQRMIN

Set the Minimum Length (Default: 1)

@MQRMAX

Set the Maximum Length (Default: 35)

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

Set the scanner to decode Micro QR Code 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” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes “1” and “2” from the “Digit Barcodes” section in Appendix.
7. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
8. Scan the **Exit Setup** barcode.

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Aztec

Restore Factory Defaults

@AZTDEF

Restore the Factory Defaults of Aztec Code

Enable/Disable Aztec Code

@AZTENA1

Enable Aztec Code】

@AZTENA0

**** Disable Aztec Code**

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

@SETUPE1

Enter Setup

Set Length Range for Aztec Code

The scanner can be configured to only decode Aztec 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.

@AZTMIN

Set the Minimum Length (Default: 1)

@AZTMAX

Set the Maximum Length (Default: 3832)

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

Set the scanner to decode Aztec 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” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes “1” and “2” from the “Digit Barcodes” section in Appendix.
7. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
8. Scan the **Exit Setup** barcode.

@SETUPE0

**** Exit Setup**

Enter Setup

Read Multi-barcodes on an Image

There are three options:

- ✧ **Mode 1:** Read one barcode only.
- ✧ **Mode 2:** Read fixed number of barcodes only.
- ✧ **Mode 3:** Composite Reading. Read fixed number of barcodes first. If unsuccessful, read one barcode only.

**** Mode 1**

Mode 2

Mode 3

Set the Number of Barcodes

**** 1**

5

2

6

3

7

4

8

**** Exit Setup**

@SETUPE1

Enter Setup

Character Encoding

**** Default Character Encoding**

UTF-8

Enable/Disable Aztec ECI Output

**** Enable Aztec ECI Output**

Disable Aztec ECI Output

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Data Matrix

Restore Factory Defaults

@DMCDEF

Restore the Factory Defaults of Data Matrix

Enable/Disable Data Matrix

@DMCENA1

**** Enable Data Matrix**

@DMCENA0

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.

@SETUPE1

Enter Setup

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.

@DMCMIN

Set the Minimum Length (Default: 1)

@DMCMAX

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 characters:

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

@SETUPE0

**** Exit Setup**

Enter Setup

Data Matrix Twin Code

Data Matrix twin code is 2 Data Matrix barcodes paralleled vertically or horizontally. They must both be either regular or inverse barcodes. They must have similar specifications and be placed closely together.

There are 3 options for reading Data Matrix twin codes:

- ✧ **Single Data Matrix Only:** Read either Data Matrix code.
- ✧ **Twin Data Matrix Only:** Read both Data Matrix codes. Transmission sequence: left (upper) Data Matrix code followed by right (lower) Data Matrix code.
- ✧ **Both Single & Twin:** Read both Data Matrix codes. If successful, transmit as twin Data Matrix only. Otherwise, try single Data Matrix only.

**** Single Data Matrix Only**

Twin Data Matrix Only

Both Single & Twin

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.

**** Enable Rectangular Barcode**

Disable Rectangular Barcode

**** Exit Setup**

Enter Setup

Data Matrix Inverse

Regular barcode: Dark bars on a bright background.

Inverse barcode: Bright bars on a dark background.

Decode Regular Data Matrix Barcodes Only

Decode Inverse Data Matrix Barcodes Onl

**** Decode Both**

Character Encoding

**** Default Character Encoding**

UTF-8

Enable/Disable Data Matrix ECI Output

**** Enable Data Matrix ECI Output**

Disable Data Matrix ECI Output

**** Exit Setup**

@SETUPE1

Enter Setup

Maxicode

Restore Factory Defaults

@MXCDEF

Restore the Factory Defaults of Maxicode

Enable/Disable Maxicode

@MXCENA1

Enable Maxicode

@MXCENA0

**** Disable Maxicode**

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

@SETUPE0

**** Exit Setup**

Enter Setup

Set Length Range for Maxicode

The scanner can be configured to only decode Maxicode 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: 1)

Set the Maximum Length (Default:150)

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

Set the scanner to decode Maxicode 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” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes “1” and “2” from the “Digit Barcodes” section in Appendix.
7. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
8. Scan the **Exit Setup** barcode.

**** Exit Setup**

@SETUPE1

Enter Setup

Chinese Sensible Code

Restore Factory Defaults

@CSCDEF

Restore the Factory Defaults of Chinese Sensible Code

Enable/Disable Chinese Sensible Code

@CSCENA1

Enable Chinese Sensible Code

@CSCENA0

**** Disable Chinese Sensible Code**

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

@SETUPE0

**** Exit Setup**

Enter Setup

Set Length Range for Chinese Sensible Code

The scanner can be configured to only decode Chinese Sensible 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.

Set the Minimum Length (Default: 1)

Set the Maximum Length (Default: 7827)

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

Set the scanner to decode Chinese Sensible Code 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” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Set the Maximum Length** barcode.
6. Scan the numeric barcodes “1” and “2” from the “Digit Barcodes” section in Appendix.
7. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
8. Scan the **Exit Setup** barcode.

**** Exit Setup**

Enter Setup

Chinese Sensible Twin Code

Chinese Sensible twin code is 2 Chinese Sensible barcodes paralleled vertically or horizontally. They must both be either regular or inverse barcodes. They must have similar specifications and be placed closely together.

There are 3 options for reading Chinese Sensible twin codes:

- ✧ **Single Chinese Sensible Code Only:** Read either Chinese Sensible code.
- ✧ **Twin Chinese Sensible Code Only:** Read both Chinese Sensible codes. Transmission sequence: left (upper) Chinese Sensible code followed by right (lower) Chinese Sensible code.
- ✧ **Both Single & Twin:** Read both Chinese Sensible codes. If successful, transmit as twin Chinese Sensible Code only. Otherwise, try single Chinese Sensible Code only.

**** Single Chinese Sensible Code Only**

Twin Chinese Sensible Code Only

Both Single & Twin

**** Exit Setup**

@SETUPE1

Enter Setup

Chinese Sensible Code Inverse

Regular barcode: Dark bars on a bright background.

Inverse barcode: Bright bars on a dark background.

@CSCINV0

**** Decode Regular Chinese Sensible Barcodes Only**

@CSCINV1

Decode Inverse Chinese Sensible Barcodes Only

@CSCINV2

Decode Both

@SETUPE0

**** Exit Setup**

Enter Setup

USPS Postnet

Restore Factory Defaults

Restore the Factory Defaults of USPS Postnet

Enable/Disable USPS postnet

Enable USPS Postnet

**** Disable USPS Postnet**

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

Transmit Check Character

Do Not Transmit USPS Postnet Check Character

**** Transmit USPS Postnet Check Character**

**** Exit Setup**

@SETUPE1

Enter Setup

USPS Intelligent Mail

Restore Factory Defaults

@ILGDEF

Restore the Factory Defaults of USPS Intelligent Mail

Enable/Disable USPS Intelligent Mail

@ILGENA1

Enable USPS Intelligent Mail

@ILGENA0

**** Disable USPS Intelligent Mail**

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

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Royal Mail

Restore Factory Defaults

@ROYDEF

Restore the Factory Defaults of Royal Mail

Enable/Disable Royal Mail

@ROYENA1

Enable Royal Mail

@ROYENA0

**** Disable Royal Mail**

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

@SETUPE0

**** Exit Setup**

Enter Setup

USPS Planet

Restore Factory Defaults

Restore the Factory Defaults of USPS Planet

Enable/Disable USPS Planet

Enable USPS Planet

**** Disable USPS Planet**

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

Transmit Check Character

Do Not Transmit USPS Planet Check Character

**** Transmit USPS Planet Check Character**

**** Exit Setup**

@SETUPE1

Enter Setup

KIX Post

Restore Factory Defaults

@KIXDEF

Restore the Factory Defaults of KIX Post

Enable/Disable KIX Post

@KIXENA1

Enable KIX Post

@KIXENA0

**** Disable KIX Post**

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

@SETUPE1

Enter Setup

Australian Postal

Restore Factory Defaults

@APLDEF

Restore the Factory Defaults of Australian Postal

Enable/Disable Australian Postal

@APLENA1

Enable Australian Postal

@APLENA0

**** Disable Australian Postal**

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

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Passport OCR

Restore Factory Defaults

@PASDEF

Restore the Factory Defaults of Passport OCR

Enable/Disable Passport OCR

@PASENA1

Enable Passport OCR

@PASENA0

**** Disable Passport OCR**

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

Enter Setup

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.

**** Exit Setup**

Enter Setup

Global Settings

Enable/Disable All Prefixes/Suffixes

Disable All Prefixes/Suffixes: Transmit barcode data with no prefix/suffix.

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

**** Disable All Prefixes/Suffixes**

Enable All Prefixes/Suffixes

Prefix Sequence

2 prefix sequence options are provided.

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

Custom + Code ID + AIM ID

**** Exit Setup**

@SETUPE1

Enter Setup

Custom Prefix

Enable/Disable Custom Prefix

If custom prefix is enabled, you are allowed to append to the data a user-defined prefix that cannot exceed 10 characters. For example, if the custom prefix is “AB” and the barcode data is “123”, the Host will receive “AB123”.

@CPRENA0

**** Disable Custom Prefix**

@CPRENA1

Enable Custom Prefix

Set Custom Prefix

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

Note: A custom prefix cannot exceed 10 characters.

@CPRSET

Set Custom Prefix

Example

Set the custom prefix to “CODE” (HEX: 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” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Enable Custom Prefix** barcode.

@SETUPE0

**** Exit Setup**

Enter Setup

6. Scan the **Exit Setup** barcode.

**** Exit Setup**

@SETUPE1

Enter Setup

AIM ID Prefix

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

@AIDENA0

**** Disable AIM ID Prefix**

@AIDENA1

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.

@CIDENA0

**** Disable Code ID Prefix**

@CIDENA1

Enable Code ID Prefix

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Restore All Default Code IDs

For the information of default Code IDs, see the “Code ID Table” section in Appendix.

@CIDDEF

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.

Example

Modify PDF417 Code ID to be “p” (HEX: 0x70):

1. Scan the **Enter Setup** barcode.
2. Scan the **Modify PDF417 Code ID** barcode.
3. Scan the numeric barcodes “7” and “0” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from 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.

@SETUPE1

Enter Setup

@CID032

Modify PDF417 Code ID

@CID035

Modify Data Matrix Code ID

@CID033

Modify QR Code ID

@CID036

Modify Maxicode Code ID

@CID034

Modify Aztec Code ID

@CID039

Modify Chinese Sensible Code Code ID

@CID042

Modify Micro PDF417 Code ID

@CID043

Modify Micro QR Code ID

@CID004

Modify EAN-8 Code ID

@CID010

Modify ITF-6 Code ID

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

@CID005

Modify EAN-13 Code ID

@CID013

Modify Code 39 Code ID

@CID006

Modify UPC-E Code ID

@CID015

Modify Codabar Code ID

@CID007

Modify UPC-A Code ID

@CID017

Modify Code 93 Code ID

@CID008

Modify Interleaved 2 of 5 Code ID

@CID002

Modify Code 128 Code ID

@CID009

Modify ITF-14 Code ID

@CID024

Modify ISBN Code ID

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

@CID003

Modify UCC/EAN-128 Code ID

@CID025

Modify Industrial 25 Code ID

@CID028

Modify Code 11 Code ID

@CID026

Modify Standard 25 Code ID

@CID030

Modify EAN•UCC Composite Code ID

@CID027

Modify Plessey Code ID

@CID031

Modify GS1 Databar Code ID

@CID029

Modify MSI-Plessey Code ID

@CID011

Modify Matrix 2 of 5 Code ID

@CID019

Modify China Post 25 Code ID

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

@CID023

Modify ISSN Code ID

@CID096

Modify USPS Postnet Code ID

@CID097

Modify USPS Inteligent Mail Code ID

@CID098

Modify Royal Mail Code ID

@CID099

Modify USPS Planet Code ID

@CID100

Modify KIX Post Code ID

@CID101

Modify Australian Postal Code ID

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

Custom Suffix

Enable/Disable Custom Suffix

If custom suffix is enabled, you are allowed to append to the data a user-defined suffix that cannot exceed 10 characters. For example, if the custom suffix is “AB” and the barcode data is “123”, the Host will receive “123AB”.

@CSUENA0

**** Disable Custom Suffix**

@CSUENA1

Enable Custom Suffix

Set Custom Suffix

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

Note: A custom suffix cannot exceed 10 characters.

@CSUSET

Set Custom Suffix

Example

Set the custom suffix to “CODE” (HEX: 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” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Enable Custom Suffix** barcode.
6. Scan the **Exit Setup** barcode.

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

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.

@TSUENA0

Disable Terminating Character Suffix

@TSUENA1

**** Enable Terminating Character Suffix**

Set Terminating Character Suffix

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

Note: A terminating character suffix cannot exceed 2 characters.

@TSUSET

Set Terminating Character Suffix

@TSUSET0D

**** Terminating Character CR (0x0D)**

@TSUSET0D0A

Terminating Character CRLF (0x0D,0x0A)

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” from the “Digit Barcodes” section in Appendix.
4. Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.
5. Scan the **Exit Setup** barcode.

@SETUPE0

**** Exit Setup**

Enter Setup

Chapter 8 Data Formatter

Introduction

You may use the Data Formatter to modify the scanner's output. For example, you can use the Data Formatter to insert characters at certain points in barcode data or to suppress/ replace/ send certain characters in barcode data as it is scanned.

Normally, when you scan a barcode, it gets outputted automatically; however, when you create a format, you must use a "send" command (see the "Send Commands" section in this chapter) within the format programming to output data. The maximum size of formatter commands in a data format is 500 characters. By default, the data formatter is disabled. Enable it when required. If you have changed data format settings, and wish to clear all formats and return to the factory defaults, scan the **Default Data Format** code below.

Default Data Format

Add a Data Format

Data format is used to edit barcode data only. You can program up to four data formats, i.e. Format_0, Format_1, Format_2 and Format_3. When you create a data format, you must specify the application scope of your data format (such as barcode type and data length) and include formatter commands. When scanned data does not match your data format requirements, you will hear the non-match error beep (if the non-match error beep is ON).

There are two methods to program a data format: Programming with barcodes and programming with a batch command.

Programming with Barcodes

The following explains how to program a data format by scanning the specific barcodes. Scanning any irrelevant barcode or failing to follow the setting procedure will result in programming failure. To find the alphanumeric barcodes needed to create a data format, see the "Digit Barcodes" section in Appendix.

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

Step 2: Scan the **Add Data Format** barcode.

Add Data Format

**** Exit Setup**

Enter Setup

Step 3: Select data format.

Scan a numeric barcode **0** or **1** or **2** or **3** to set this to Format_0 or Format_1 or Format_2 or Format_3.

Step 4: Select formatter command type.

Specify what type of formatter commands will be used. Scan a numeric barcode “6” to select formatter command type 6. (See the “Formatter Command Type 6” section in this chapter for more information)

Step 5: Set interface type

Scan **999** for any interface type.

Step 6: Set Symbology ID Number

Refer to the “Symbology ID Number” section in Appendix and find the ID number of the symbology to which you want to apply the data format. Scan three numeric barcodes for the symbology ID number. If you wish to create a data format for all symbologies, scan **999**.

Step 7: Set barcode data length

Specify what length of data will be acceptable for this symbology. Scan the four numeric barcodes that represent the data length. 9999 is a universal number, indicating all lengths. For example, 32 characters should be entered as 0032.

Step 8: Enter formatter command

Refer to the “Formatter Command Type 6” section in this chapter. Scan the alphanumeric barcodes that represent the command you need to edit data. For example, when a command is F141, you should scan F141. A command can contain up to 500 characters.

Step 9: Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix to save your data format.

Example: Program format_0 using formatter command type 6, Code 128 containing 10 characters applicable, send all characters followed by “A”.

1. Scan the **Enter Setup** barcode	Enter the Setup mode
2. Scan the **Add Data Format** barcode	Add a data format
3. Scan the **0** barcode	Select format_0
4. Scan the **6** barcode	Select formatter command type 6
5. Scan the **9** barcode three times	All interface types applicable
6. Scan the barcodes **002**	Only Code 128 applicable
7. Scan the barcodes **0010**	Only a length of 10 characters applicable
8. Scan the alphanumeric barcodes **F141**	Send all characters followed by “A” (HEX: 41)
9. Scan the **Save** barcode	Save the data format

Enter Setup

Programming with Serial Commands

A data format can also be created by serial commands (HEX) sent from the host device. **All commands must be entered in uppercase letters**.

The syntax consists of the following elements:

Prefix: "~<SOH>0000" (HEX: **7E 01 30 30 30 30**), 6 characters.

Storage type: "@" (HEX: **40**) or "**#**" (HEX: **23**), 1 character. "@" means permanent setting which will not be lost by removing power from the scanner or rebooting it; "**#**" means temporary setting which will be lost by removing power from the scanner or rebooting it.

Add Data Format Command: "DFMSET" (HEX: **44 46 4D 53 45 54**), 6 character.

Data format: "0" (HEX: **30**) or "1" (HEX: **31**) or "2" (HEX: **32**) or "3" (HEX: **33**), 1 character. "0", "1", "2" and "3" represent Format_0, Format_1, Format_2 and Format_3 respectively.

Formatter command type: "6" (HEX: **36**), 1 character.

Interface type: "999" (HEX: **39 39 39**), 3 characters.

Symbology ID Number: The ID number of the symbology to which you want to apply the data format, 3 characters. 999 indicates all symbologies.

Data length: The length of data that will be acceptable for this symbology, 4 characters. 9999 indicates all lengths. For example, 32 characters should be entered as 0032.

Formatter commands: The command string used to edit data, max. 116 characters. For more information, see the "Formatter Command Type 6" section in this chapter.

Suffix: ";<ETX>" (HEX: **3B 03**), 2 characters.

Example: Program format_0 using formatter command type 6, Code 128 containing 10 characters applicable, send all characters followed by "A".

Enter: **7E 01 30 30 30 30 40 44 46 4D 53 45 54 30 36 39 39 39 30 30 33 39 39 39 39 46 31 34 31 3B 03**

(~<SOH>0000@DFMSET069990020010F141;<ETX>)

Response: **02 01 30 30 30 30 40 44 46 4D 53 45 54 30 36 39 39 39 30 30 33 39 39 39 39 46 31 34 31 06 3B 03**

(<STX><SOH>0000#@DFMSET069990020010F141<ACK>;<ETX>)

**** Exit Setup**

Enter Setup

Enable/Disable Data Formatter

When Data Formatter is disabled, the barcode data is outputted to the host as read, including prefixes and suffixes.

**** Disable Data Formatter**

You may wish to require the data to conform to a data format you have created. The following settings can be applied to your data format:

Enable Data Formatter, Required, Keep Prefix/Suffix: Scanned data that meets your data format requirements is modified accordingly and gets outputted along with prefixes and suffixes (if prefix and suffix are enabled). Any data that does not match your data format requirements generates an error beep (if Non-Match Error Beep is turned ON) and the data in that barcode is not transmitted.

Enable Data Formatter, Required, Drop Prefix/Suffix: Scanned data that meets your data format requirements is modified accordingly and gets outputted without prefixes and suffixes (even if prefix and suffix are enabled). Any data that does not match your data format requirements generates an error beep (if Non-Match Error Beep is turned ON) and the data in that barcode is not transmitted.

Enable Data Formatter, Not Required, Keep Prefix/Suffix: Scanned data that meets your data format requirements is modified accordingly and gets outputted along with prefixes and suffixes (if prefix and suffix are enabled). Barcode data that does not match your data format requirements is transmitted as read along with prefixes and suffixes (if prefix and suffix are enabled).

Enable Data Formatter, Not Required, Drop Prefix/Suffix: Scanned data that meets your data format requirements is modified accordingly and gets outputted without prefixes and suffixes (even if prefix and suffix are enabled). Barcode data that does not match your data format requirements is transmitted as read along with prefixes and suffixes (if prefix and suffix are enabled).

**** Exit Setup**

Enter Setup

Enable Data Formatter, Required, Keep Prefix/Suffix

Enable Data Formatter, Required, Drop Prefix/Suffix

Enable Data Formatter, Not Required, Keep Prefix/Suffix

Enable Data Formatter, Not Required, Drop Prefix/Suffix

Non-Match Error Beep

If Non-Match Error Beep is turned ON, the scanner generates an error beep when a barcode is encountered that does not match your required data format.

Non-Match Error Beep OFF

**** Non-Match Error Beep ON**

**** Exit Setup**

Enter Setup

Enable Data Format

After enabling the Data Formatter, you may select a data format you want to use by scanning the appropriate barcode below.

**** Format_0**

Format_1

Format_2

Format_3

Change Data Format for a Single Scan

You can switch between data formats for a single scan. The next barcode is scanned using the data format selected here, then reverts to the format you have selected above. For example, you may have set your scanner to the data format you saved as Format_3. You can switch to Format_1 for a single trigger pull by scanning the **Single Scan – Format_1** barcode below. The next barcode that is scanned uses Format_1, then reverts back to Format_3.

Note: This setting will be lostby removing power from the scanner, or turning off/ rebooting the device.

Single Scan – Format_0

Single Scan – Format_1

Single Scan – Format_2

Single Scan – Format_3

**** Exit Setup**

@SETUPE1

Enter Setup

Clear Data Formats

If you want to delete all data formats, scan the **Clear All** barcode below.

@DFMCAL

Clear All

Query Data Formats

You may scan the following barcode to get the information of data format(s) you have created. For instance, if you have added Format_0 as per the example in the “Programming with Barcodes” section in this chapter, then the query result will be **Data Format0:069990020010F141;**.

@DFMQCU

Query Data Formats

@SETUPE0

**** Exit Setup**

Enter Setup

Formatter Command Type 6

When working with the Data Formatter, a virtual cursor is moved along your input data string. The following commands are used to both move this cursor to different positions, and to select, replace, and insert data into the final output. For the hex value of ASCII characters involved in the commands, refer to the “ASCII Table” in Appendix.

Send Commands

F1 Send all characters

Syntax=F1xx (xx: The insert character’s hex value)
Include in the output message all of the characters from the input message, starting from current cursor position, followed by an insert character.

F2 Send a number of characters

Syntax=F2nnxx (nn: The numeric value (00-99) for the number of characters; xx: The insert character’s hex value)

Include in the output message a number of characters followed by an insert character. Start from the current cursor position and continue for “nn” characters or through the last character in the input message, followed by character “xx.”

F2 Example: Send a number of characters

Send the first 10 characters from the barcode above, followed by a carriage return.

Command string: **F2100D**

F2 is the “Send a number of characters” command

10 is the number of characters to send

0D is the hex value for a CR

The data is output as: **1234567890**
<CR>

**** Exit Setup**

Enter Setup

F3 Send all characters up to a particular character

Syntax=F3ssxx (ss: The particular character's hex value; xx: The insert character's hex value)

Include in the output message all characters from the input message, starting with the character at the current cursor position and continuing to, but not including, the particular character "ss," followed by character "xx." The cursor is moved forward to the "ss" character.

F3 Example: Send all characters up to a particular character

Using the barcode above, send all characters up to but not including "D," followed by a carriage return.

Command string: **F3440D**

F3 is the "Send all characters up to a particular character" command

44 is the hex value for a "D"

0D is the hex value for a CR

The data is output as: **1234567890ABC**
<CR>

E9 Send all but the last characters

Syntax=E9nn (nn: The numeric value (00-99) for the number of characters that will not be sent at the end of the message)

Include in the output message all but the last "nn" characters, starting from the current cursor position. The cursor is moved forward to one position past the last input message character included.

F4 Insert a character multiple times

Syntax=F4xxnn (xx: The insert character's hex value; nn: The numeric value (00-99) for the number of times it should be sent)

Send "xx" character "nn" times in the output message, leaving the cursor in the current position.

**** Exit Setup**

E9 and F4 Example: Send all but the last characters, followed by 2 tabs

Send all characters except for the last 8 from the barcode above, followed by 2 tabs.

Command string: **E908F40902**

E9 is the “Send all but the last characters” command

08 is the number of characters at the end to ignore

F4 is the “Insert a character multiple times” command

09 is the hex value for a horizontal tab

02 is the number of time the tab character is sent

The data is output as: **1234567890AB<tab><tab>**

B3 Insert symbology name

Insert the name of the barcode’s symbology in the output message, without moving the cursor.

B4 Insert barcode length

Insert the barcode’s length in the output message, without moving the cursor. The length is expressed as a numeric string and does not include leading zeros.

B3 and B4 Example: Insert the symbology name and length

Send the symbology name and length before the barcode data from the barcode above. Break up these insertions with spaces. End with a carriage return.

Command string: **B3F42001B4F42001F10D**

B3 is the “Insert symbology name” command

F4 is the “Insert a character multiple times” command

20 is the hex value for a space

01 is the number of time the space character is sent

B4 is the “Insert barcode length” command

F4 is the “Insert a character multiple times” command

20 is the hex value for a space

01 is the number of time the space character is sent

F1 is the “Send all characters” command

0D is the hex value for a CR

The data is output as: **Code128 20 1234567890ABCDEFGHIJ**
<CR>

Move Commands

F5 Move the cursor forward a number of characters

Syntax=F5nn (nn: The numeric value (00-99) for the number of characters the cursor should be moved ahead)

Move the cursor ahead “nn” characters from current cursor position.

Enter Setup

F5 Example: Move the cursor forward and send the data

Move the cursor forward 3 characters, then send the rest of the barcode data from the barcode above. End with a carriage return.

Command string: **F503F10D**

F5 is the “Move the cursor forward a number of characters” command

03 is the number of characters to move the cursor

F1 is the “Send all characters” command

0D is the hex value for a CR

The data is output as: **4567890ABCDEFGHIJ**
<CR>

F6 Move the cursor backward a number of characters

Syntax=F6nn (nn: The numeric value (00-99) for the number of characters the cursor should be moved back)

Move the cursor back “nn” characters from current cursor position.

F7 Move the cursor to the beginning

Syntax＝F7

Move the cursor to the first character in the input message.

EA Move the cursor to the end

Syntax＝EA

Move the cursor to the last character in the input message.

**** Exit Setup**

Search Commands

F8 Search forward for a character

Syntax＝F8xx (xx: The search character's hex value)

Search the input message forward for "xx" character from the current cursor position, leaving the cursor pointing to the "xx" character.

F8 Example: Send barcode data that starts after a particular character

Search for the letter "D" in barcodes and send all the data that follows, including the "D". Using the barcode above:

Command string: **F844F10D**

F8 is the "Search forward for a character" command

44 is the hex value for "D"

F1 is the "Send all characters" command

0D is the hex value for a CR

The data is output as: **DEFGHIJ**

<CR>

F9 Search backward for a character

Syntax＝F9xx(xx: The search character's hex value)

Search the input message backward for "xx" character from the current cursor position, leaving the cursor pointing to the "xx" character.

B0 Search forward for a string

Syntax=B0nnnnS (nnnn: The string length (up to 9999); S: The ASCII hex value of each character in the string)

Search forward for “S” string from the current cursor position, leaving cursor pointing to “S” string. For example, B0000454657374 will search forward for the first occurrence of the 4-character string “Test.”

B0 Example: Send barcode data that starts after a string of characters

Search for the letters “FGH” in barcodes and send all the data that follows, including “FGH.” Using the barcode above:

Command string: **B00003464748F10D**

B0 is the “Search forward for a string” command

0003 is the string length (3 characters)

46 is the hex value for “F”

47 is the hex value for “G”

48 is the hex value for “H”

F1 is the “Send all characters” command

0D is the hex value for a CR

The data is output as: **FGHIJ**
<CR>

B1 Search backward for a string

Syntax＝B1nnnnS (nnnn: The string length (up to 9999); S: The ASCII hex value of each character in the string)

Search backward for “S” string from the current cursor position, leaving cursor pointing to “S” string. For example, B1000454657374 will search backward for the first occurrence of the 4-character string “Test.”

E6 Search forward for a non-matching character

Syntax=E6xx (xx: The search character's hex value)

Search the input message forward for the first non-"xx" character from the current cursor position, leaving the cursor pointing to the non-"xx" character.

E6 Example: Remove zeros at the beginning of barcode data

This example shows a barcode that has been zero filled. You may want to ignore the zeros and send all the data that follows. E6 searches forward for the first character that is not zero, then sends all the data after, followed by a carriage return. Using the barcode above:

Command string: **E630F10D**

E6 is the "Search forward for a non-matching character" command

30 is the hex value for 0

F1 is the "Send all characters" command

0D is the hex value for a CR

The data is output as: **37692**

<CR>

E7 Search backward for a non-matching character

Syntax＝E7xx(xx: The search character's hex value)

Search the input message backward for the first non-"xx" character from the current cursor position, leaving the cursor pointing to the non-"xx" character.

@SETUPE1

Enter Setup

Miscellaneous Commands

FB Suppress characters

Syntax＝FBnnxxyy..zz (nn: The numeric value (00-15) for the number of suppressed characters; xxyy..zz: The hex value of the characters to be suppressed)

Suppress all occurrences of up to 15 different characters, starting at the current cursor position, as the cursor is advanced by other commands.

FB Example: Remove spaces in barcode data

This example shows a barcode that has spaces in the data. You may want to remove the spaces before sending the data. Using the barcode above:

Command string: **FB0120F10D**

FB is the “Suppress characters” command

01 is the number of the characters to be suppressed

20 is the hex value for a space

F1 is the “Send all characters” command

0D is the hex value for a CR

The data is output as: **34567890**

<CR>

E4 Replace characters

Syntax＝E4nnxx$_1$xx$_2$yy$_1$yy$_2$…zz$_1$zz$_2$(nn: The total count of the number of characters (characters to be replaced plus replacement characters; xx$_1$: The characters to be replaced, xx$_2$: The replacement characters, continuing through zz$_1$ and zz$_2$)

Replace up to 15 characters in the output message, without moving the cursor.

@SETUPE0

**** Exit Setup**

@SETUPE1

Enter Setup

E4 Example: Replace zeros with CRs in barcode data

If the barcode has characters that the host application does not want included, you can use the E4 command to replace those characters with something else. In this example, you will replace the zeros in the barcode above with carriage returns.

Command string: **E402300DF10D**

E4 is the “Replace characters” command

02 is the total count of characters to be replaced, plus the replacement characters (0 is replaced by CR, so total characters=2)

30 is the hex value for 0

0D is the hex value for a CR (the character that will replace the 0)

F1 is the “Send all characters” command

0D is the hex value for a CR

The data is output as: **1234**
5678
ABC
<CR>

@SETUPE0

**** Exit Setup**

Enter Setup

**** Exit Setup**

BA Replace a string with another

Syntax＝BAnn$NN_1SS_1NN_2SS_2$

nn: The count of replacements to be made, if nn=00 or nn>=the number of occurrences of a string to be replaced, then replace all occurrences of that string.

NN_1: The length of the string to be replaced, NN_1>0.

SS_1: The ASCII hex value of each character in the string to be replaced.

NN_2: The length of replacement string, NN_2>=0. To replace string "SS_1" with NUL (i.e. delete string "SS_1"), you should set NN_2 to 00 and leave out SS_2.

SS_2: The ASCII hex value of each character in the replacement string.

From the current cursor position, search forward for the occurrence of "SS_1" string (of length "NN_1") and replace the string with "SS_2" string (of length "NN_2") in the output message until every "SS_1" stringis replaced or the count of replacements made reaches "nn" times, without moving the cursor.

BA Example: Replace "23"s with "ABC"s in barcode data

cd123abc23bc12ab232

If the barcode has a string of characters that the host application does not want included, you can use the BA command to replace the string with something else. In this example, you will replace the "23"s in the barcode above with "ABC"s.

Command string: **BA00023233034142 43F100**

BA is the "Replace a string with another" command

00 is the count of replacements to be made, 00 means to replace all occurrences of that string

02 is the length of the string to be replaced

Enter Setup

32 is the hex value for 2 (character in the string to be replaced)

33 is the hex value for 3 (character in the string to be replaced)

03 is the length of the replacement string

41 is the hex value for A (character in the replacement string)

42 is the hex value for B (character in the replacement string)

43 is the hex value for C (character in the replacement string)

F1 is the “Send all characters” command

00 is the hex value for a NUL

The data is output as: **cd1ABCabcABCbc12abABC2**

BA Example: Remove only the first occurrence of “23”s in barcode data

If the barcode has a string of characters that the host application wants removed, you can use the BA command to replace the string with NUL. In this example, you will remove the first occurrence of “23” in the barcode above.

Command string: **BA0102323300F100**

BA is the “Replace a string with another” command

01 is the count of replacements to be made

02 is the length of the string to be replaced

32 is the hex value for 2 (character in the string to be replaced)

33 is the hex value for 3 (character in the string to be replaced)

00 is the length of the replacement string, 00 means to replace the string to be replaced with NUL

F1 is the “Send all characters” command

00 is the hex value for a NUL

The data is output as: **cd1abc23bc12ab232**

**** Exit Setup**

Appendix

Digit Barcodes

0~9

0

1

2

3

4

5

6

7

8

9

A~F

A

B

C

D

E

F

Save/Cancel Barcodes

After reading numeric barcode(s), you need to scan the **Save** barcode to save the data. If you scan the wrong digit(s), you can either scan the **Cancel** 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 scanner is still in the setup mode.

Save

Cancel

Delete the Last Digit

Delete All Digits

Factory Defaults Table

Parameter		Factory Default	Remark
System Settings			
Barcode Programming		Disabled	
Programming Barcode Data		Do not transmit	
Illumination		On	
Aiming		On	
Good Read Vibration		Off	
Good Read Vibration Duration		300ms	
Good Read LED		On	
Good Read LED Duration		20ms	
Good Read Beep		On	
Good Read Beep Duration		80ms	
Good Read Beep Frequency		Medium (2730Hz)	
Good Read Beep Volume		Loud	
Power On Beep		On	
Default Scan Mode		Manual Mode	
Manual Mode	Image Decoding Timeout	100ms	1-3,000ms
Sense Mode	Decode Session Timeout	3,000ms	0-3,600,000ms
	Timeout between Decodes (Same Barcode)	Enabled 15,000ms	1-3,600,000ms
	Image Decoding Timeout	100ms	1-3,000ms
Continuous Mode	Timeout between Decodes	500ms	1-10,000ms
	Timeout between Decodes (Same Barcode)	Enabled 15,000ms	1-3,600,000ms
	Image Decoding Timeout	100ms	1-3,000ms
Batch Mode	Image Decoding Timeout	100ms	1-3,000ms
Scanning Preference		Normal Mode	
Decode Area		Whole Area Decoding	
Specify Decoding Area		40% top, 60% bottom, 40% left, 60% right	
Image Flipping		Do Not Flip	

RS-232 Interface		
Baud Rate	9600	
Parity Check	None	
Data Bits	8	
Stop Bits	1	
USB Interface		
Default	USB HID-KBW	
USB Country Keyboard	US keyboard	
Beep on Unknown Character	Disabled	
Emulate ALT+Keypad	Disabled	
Function Key Mapping	Disabled	
Code Page	Windows-1252	
Inter-Keystroke Delay	No Delay	
Caps Lock	Off	
Convert Case	No Case Conversion	
Emulate Numeric Keypad 1	Disabled	
Emulate Numeric Keypad 2	Disabled	
Symbologies		
Code 128		
Code 128	Enabled	
Maximum Length	48	
Minimum Length	1	
EAN-8		
EAN-8	Enabled	
Check Character	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Convert EAN-8 to EAN-13	Disabled	
EAN-13		
EAN-13	Enabled	
Check Character	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	

EAN-13 Beginning with 290 Add-On Code Required	Do Not Require Add-On Code	
EAN-13 Beginning with 378/379 Add-On Code Required	Do Not Require Add-On Code	
EAN-13 Beginning with 414/419 Add-On Code Required	Do Not Require Add-On Code	
EAN-13 Beginning with 434/439 Add-On Code Required	Do Not Require Add-On Code	
EAN-13 Beginning with 977 Add-On Code Required	Do Not Require Add-On Code	
EAN-13 Beginning with 978 Add-On Code Required	Do Not Require Add-On Code	
EAN-13 Beginning with 979 Add-On Code Required	Do Not Require Add-On Code	
UPC-E		
UPC-E	Enabled	
Check Character	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Transmit Preamble Character	System Character	
Convert UPC-E to UPC-A	Disabled	
UPC-A		
UPC-A	Enabled	
Check Character	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Transmit Preamble Character	System Character	
Interleaved 2 of 5		
Interleaved 2 of 5	Enabled	
Check Character Verification	Disabled	
Maximum Length	80	
Minimum Length	6	
ITF-14		
ITF-14	Disabled	

ITF-6		
ITF-6	Disabled	
Matrix 2 of 5		
Matrix 2 of 5	Enabled	
Check Character Verification	Disabled	
Maximum Length	80	
Minimum Length	4	
Code 39		
Code 39	Enabled	
Check Character Verification	Disabled	
Start/Stop Character	Do not transmit	
Code 39 Full ASCII	Disabled	
Code 32	Disabled	
Code 32 Prefix	Disabled	
Code 32 Start/Stop Character	Do not transmit	
Code 32 Check Character	Do not transmit	
Maximum Length	48	
Minimum Length	1	
Codabar		
Codabar	Enabled	
Check Character Verification	Disabled	
Start/Stop Character	Do not transmit ABCD/ABCD as the Start/Stop Character Start/Stop Character in Uppercase	
Maximum Length	60	
Minimum Length	2	
Code 93		
Code 93	Disabled	
Check Character	Do not transmit	
Check Character Verification	Enabled	
Maximum Length	48	
Minimum Length	1	

China Post 25		
China Post 25	Disabled	
Check Character Verification	Disabled	
Maximum Length	48	
Minimum Length	1	
UCC/EAN-128		
UCC/EAN-128	Enabled	
Maximum Length	48	
Minimum Length	1	
GS1 Databar		
GS1 Databar	Enabled	
Application Identifier “01”	Transmit	
EAN•UCC Composite		
EAN·UCC Composite	Disabled	
UPC/EAN Composite	Disabled	
Code 11		
Code 11	Disabled	
Check Character	Transmit	
Check Character Verification	One Check Character, MOD11	
Maximum Length	48	
Minimum Length	4	
ISBN		
ISBN	Disabled	
ISBN Format	ISBN-10	
ISSN		
ISSN	Disabled	
Industrial 25		
Industrial 25	Disabled	
Check Character Verification	Disabled	
Maximum Length	48	
Minimum Length	6	
Standard 25		
Standard 25	Disabled	
Check Character Verification	Disabled	

Maximum Length	48	
Minimum Length	6	
Plessey		
Plessey	Disabled	
Check Character Verification	Disabled	
Maximum Length	48	
Minimum Length	4	
MSI-Plessey		
MSI-Plessey	Disabled	
Check Character	Transmit	
Check Character Verification	One Check Character, MOD10	
Maximum Length	48	
Minimum Length	4	
PDF417		
PDF417	Enabled	
Read Single PDF417 Only	On	
PDF417 Inverse	Decode Regular PDF417 Barcodes Only	
Character Encoding	Default Character Encoding	
PDF417 ECI Output	Enabled	
Maximum Length	2710	
Minimum Length	1	
MicroPDF417		
MicroPDF417	Disabled	
Maximum Length	366	
Minimum Length	1	
QR Code		
QR Code	Enabled	
Read Single QR Only	Enabled	
QR Inverse	Read regular & inverse barcodes	
Character Encoding	Default Character Encoding	
QR ECI Output	Enabled	
Maximum Length	7089	
Minimum Length	1	

Micro QR		
Micro QR	Enabled	
Maximum Length	35	
Minimum Length	1	
Aztec		
Aztec	Disabled	
Read Multi-barcodes on an Image	Mode 1	
Number of Barcodes on an Image	1	
Character Encoding	Default Character Encoding	
Aztec ECI Output	Enabled	
Maximum Length	3832	
Minimum Length	1	
Data Matrix		
Data Matrix	Enabled	
Read Single DM Only	Enabled	
Rectangular Barcode	Enabled	
Data Matrix Inverse	Read regular & inverse barcodes	
Character Encoding	Default Character Encoding	
Data Matrix ECI Output	Enabled	
Maximum Length	3116	
Minimum Length	1	
Maxicode		
Maxicode	Disabled	
Maximum Length	150	
Minimum Length	1	
Chinese Sensible Code		
Chinese Sensible Code	Disabled	
Read Single Chinese Sensible Code Only	Enabled	
Chinese Sensible Code Inverse	Decode regular Chinese Sensible barcodes only	
Maximum Length	7827	
Minimum Length	1	
USPS Postnet		
USPS Postnet	Disabled	

Check Character	Transmit	
USPS Intelligent Mail		
USPS Intelligent Mail	Disabled	
Royal Mail		
Royal Mail	Disabled	
USPS Planet		
USPS Planet	Disabled	
Check Character	Transmit	
KIX Post		
KIX Post	Disabled	
Australian Postal		
Australian Postal	Disabled	
Passport OCR		
Passport OCR	Disabled	
Prefix & Suffix		
Prefix Sequence	Code ID+ Custom +AIM ID	
Custom Prefix	Disabled	Max.: 10 characters
AIM ID Prefix	Disabled	
Code ID Prefix	Disabled	One or two English letters
Custom Suffix	Disabled	Max.: 10 characters
Terminating Character Suffix	Enabled CR (0x0D)	Max.: 2 characters
Data Formatter		
Data Formatter	Disabled	
Non-Match Error Beep	On	
Enable Data Format	Format_0	

AIM ID Table

Symbology	AIM ID	Possible AIM ID Modifiers (m)
Code 128	]C0	
UCC/EAN-128	]C1	
EAN-8	]E4	
EAN-13	]E0	
EAN-13 with Addon	]E3	
UPC-E	]E0	
UPC-E with Addon	]E3	
UPC-A	]E0	
UPC-A with Addon	]E3	
Interleaved 2 of 5	]Im	0, 1, 3
ITF-6	]Im	1, 3
ITF-14	]Im	1, 3
Matrix 2 of 5	]X0	
Code 39	]Am	0, 1, 3, 4, 5, 7
Codabar	]Fm	0, 2, 4
Code 93	]G0	
Code 11	]Hm	0, 1, 3
ISBN, ISSN	]X0	
Industrial 25	]S0	
Standard 25	]R0	
Plessey	]P0	
MSI-Plessey	]Mm	0, 1
GS1 Databar	]e0	
EAN•UCC Composite	]em	0-3
PDF 417	]Lm	0-2
Micro PDF417	]Lm	0-5
QR Code, Micro QR	]Qm	0-6
Aztec	]zm	0-9, A-C
Data Matrix	]dm	0-6
Maxicode	]Um	0-3
Chinese Sensible Code	]X0	

Symbology	AIM ID	Possible AIM ID Modifiers (m)
China Post 25	]X0	
USPS Postnet	]X0	
USPS Inteligent Mail	]X0	
Royal Mail	]X0	
USPS Planet	]X0	
KIX Post	]X0	
Australian Postal	]X0	
Passport OCR	]o2	

Note: “m” represents the AIM modifier character. Refer to ISO/IEC 15424:2008 Information technology – Automatic identification and data capture techniques – Data Carrier Identifiers (including Symbology Identifiers) for AIM modifier character details.

Code ID Table

Symbology	Code ID
Code 128	j
UCC/EAN-128	j
EAN-8	d
EAN-13	d
UPC-E	c
UPC-A	c
Interleaved 2 of 5	e
ITF-6	e
ITF-14	e
Matrix 2 of 5	v
Code 39	b
Codabar	a
Code 93	i
Code 11	H
China Post 25	X
GS1 Databar	R
EAN•UCC Composite	y
ISSN	g
ISBN	B
Industrial 25	I
Standard 25	f
Plessey	n
MSI-Plessey	m
PDF 417	r
QR Code	s
Aztec	z
Data Matrix	u
Maxicode	x
Chinese Sensible Code	h
Micro PDF417	R
Micro QR	X

Symbology	Code ID
USPS Postnet	P
USPS Inteligent Mail	M
Royal Mail	x
USPS Planet	L
KIX Post	K
Australian Postal	A
Passport OCR	O

Symbology ID Number

Symbology	ID Number
Code 128	002
UCC/EAN-128	003
EAN-8	004
EAN-13	005
UPC-E	006
UPC-A	007
Interleaved 2 of 5	008
ITF-14	009
ITF-6	010
Matrix 2 of 5	011
Code 39	013
Codabar	015
Code 93	017
China Post 25	019
ISSN	023
ISBN	024
Industrial 25	025
Standard 25	026
Plessey	027
Code 11	028
MSI-Plessey	029
EAN•UCC Composite	030
GS1 Databar	031
PDF417	032
QR Code	033
Aztec	034
Data Matrix	035
Maxicode	036
Chinese Sensible Code	039
Micro PDF417	042
Micro QR	043

Symbology	ID Number
Passport OCR	066
USPS Postnet	096
USPS Inteligent Mail	097
Royal Mail	098
USPS Planet	099
KIX Post	100
Australian Postal	101

ASCII Table

Hex	Dec	Char
00	0	NUL (Null char.)
01	1	SOH (Start of Header)
02	2	STX (Start of Text)
03	3	ETX (End of Text)
04	4	EOT (End of Transmission)
05	5	ENQ (Enquiry)
06	6	ACK (Acknowledgment)
07	7	BEL (Bell)
08	8	BS (Backspace)
09	9	HT (Horizontal Tab)
0a	10	LF (Line Feed)
0b	11	VT (Vertical Tab)
0c	12	FF (Form Feed)
0d	13	CR (Carriage Return)
0e	14	SO (Shift Out)
0f	15	SI (Shift In)
10	16	DLE (Data Link Escape)
11	17	DC1 (XON) (Device Control 1)
12	18	DC2 (Device Control 2)
13	19	DC3 (XOFF) (Device Control 3)
14	20	DC4 (Device Control 4)
15	21	NAK (Negative Acknowledgment)
16	22	SYN (Synchronous Idle)
17	23	ETB (End of Trans. Block)
18	24	CAN (Cancel)
19	25	EM (End of Medium)
1a	26	SUB (Substitute)
1b	27	ESC (Escape)
1c	28	FS (File Separator)
1d	29	GS (Group Separator)

Hex	Dec	Char
1e	30	RS (Request to Send)
1f	31	US (Unit Separator)
20	32	SP (Space)
21	33	! (Exclamation Mark)
22	34	" (Double Quote)
23	35	# (Number Sign)
24	36	$ (Dollar Sign)
25	37	% (Percent)
26	38	& (Ampersand)
27	39	` (Single Quote)
28	40	((Left/ Opening 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)

Newland

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