



# HR23

## DORADA CORDED

Handheld Scanner

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## Preface

### Introduction

This manual provides detailed instructions for setting up and using the NLS-HR2300 handheld barcode scanner (hereinafter referred to as “**the HR2300**” or “**the scanner**”).

### Chapter Description

|                                      |                                                                                                               |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <i>Chapter 1 Getting Started</i>     | : Gives a general description of HR2300 scanner.                                                              |
| <i>Chapter 2 EasySet</i>             | : Introduces a useful tool you can use to set up HR2300 canner and develop new applications.                  |
| <i>Chapter 3 System Settings</i>     | : Introduces three configuration methods and describes how to configure general parameters of HR2300 scanner. |
| <i>Chapter 4 RS-232 Interface</i>    | : Describes how to configure RS-232 communication parameters.                                                 |
| <i>Chapter 5 USB Interface</i>       | : Describes how to configure USB communication parameters.                                                    |
| <i>Chapter 6 Symbolologies</i>       | : Lists all compatible symbolologies and describes how to configure the relevant parameters.                  |
| <i>Chapter 7 Prefix &amp; Suffix</i> | : Describes how to use prefix and suffix to customize scanned data.                                           |
| <i>Chapter 8 Batch Programming</i>   | : Explains how to integrate a complex programming task into a single barcode.                                 |
| <i>Appendix</i>                      | : 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

HR2300 scanner reads a 1D or 2D barcode by capturing its image. Adopting the advanced technology independently developed by Newland Auto-ID Tech and 2d image embedding application barcode engine, it begins a new era of 2d image embedding application barcode engine.

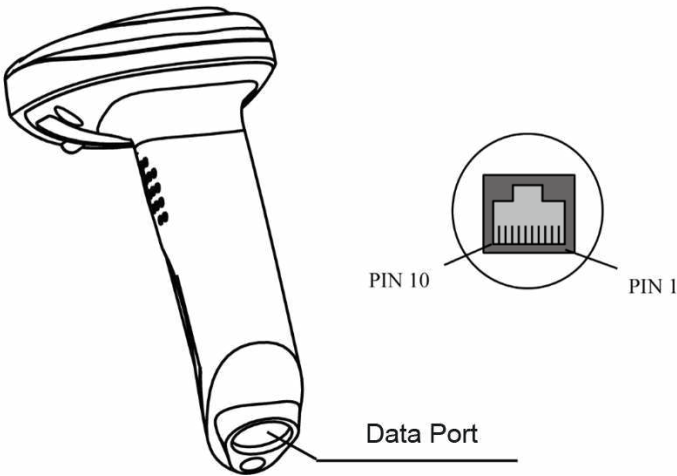
Newland 2D decode IC combines advanced UIMG and IC designation and manufacturing technology, simplifying the difficulties of designation of 2d decode products, establishing remarks of high quality, high reliability and low consumption products.

NLS-HR2300 can read kinds of mainstream 1D barcodes, standard 2D barcodes (all versions of PDF417, QR Code M1/M2/Micro and Data Matrix) and GS1-DataBar™ (RSS) barcodes, including Limited, Stacked, Expanded and so on.

NLS-HR2300 can read barcodes in papers, plastic cards, LCD and other kinds of mediums of printing and displaying. It has great performance. All-in-one design is extremely light and only needs small operation space It can be embedded in varieties of application.

Data Port Pinout

Figure 4



Data port pinout (factory default):

| PIN | Signal | Type | Description         |
|-----|--------|------|---------------------|
| 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  |                     |

---

**Data port pinout (factory default):**

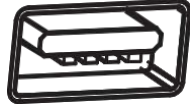
| PIN | Signal | Type | Description           |
|-----|--------|------|-----------------------|
| 1   | CLK1   | I/O  | Keyboard Clock Signal |
| 2   | DATA1  | I/O  | Keyboard Data Signal  |
| 3   | VCC    | P    | Power+ (+5V)          |
| 4   | TXD    | O    | RS-232 Output         |
| 5   | RXD    | I    | RS-232 Input          |
| 6   | CLK2   | I/O  | PC Clock Signal       |
| 7   | DATA2  | I/O  | PC Keyboard Signal    |
| 8   | GND    | P    | Ground                |
| 9   | D-     | I/O  | USB signal            |
| 10  | D+     | I/O  |                       |

---

## Connecting the Scanner 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 port, using a communication cable (USB or RS-232 cable).

USB



USB port on the host device

RS-232

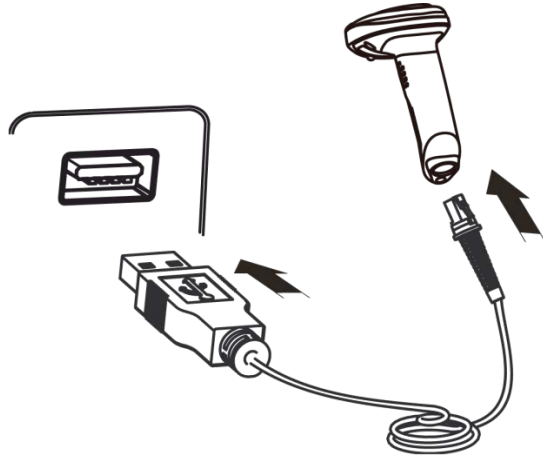


RS-232 port on the host device

**Note:** Please check the port on the host device and purchase the cable accordingly.

---

## Using USB Cable



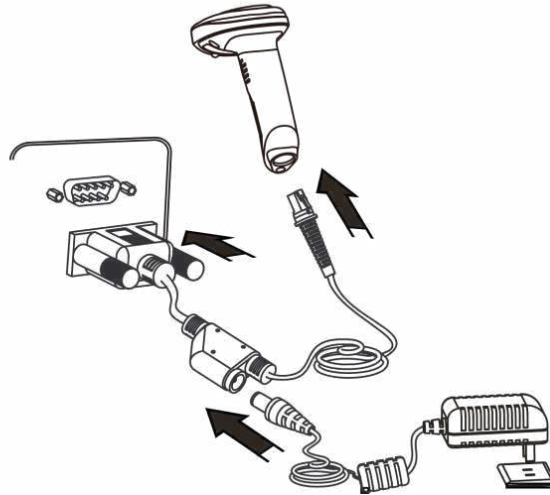
Connect the scanner to a host device through a USB cable with RJ45 and USB connectors:

Plug the RJ45 connector into the data port on the scanner.

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

---

## Using RS-232 Cable

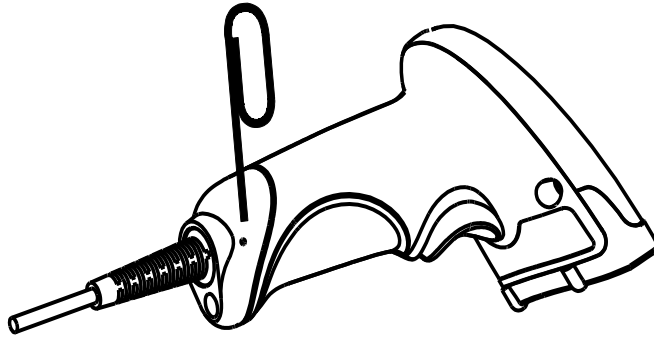


Connect the scanner to a host device through an RS-232 cable with RJ50, RS-232 and power connectors:

- 1, Connect the supplied power adaptor to the power connector of the RS-232 cable.
- 2, Plug the RS-232 connector into the RS-232 port on the Host.
- 3, Plug the RJ50 connector into the data port on the scanner.

---

## Removing Communication Cable



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

- 1, Disconnect the power adaptor from mains if there is one.
- 2, Insert the needle into the hole.
- 3, Pull out the cable slowly from the scanner while pressing the needle in.
- 4, Remove the needle.
- 5, Disconnect the cable from the Host.

---

## **Power On/Off, Reboot**

### **Power on the scanner**

Connect the scanner to a host device. Then the scanner will be turned on automatically

### **Power off the scanner**

There are four ways to turn off the scanner:

- ✧ Remove the communication cable from the scanner; or
- ✧ remove the communication cable from the host device; or
- ✧ disconnect the power adaptor from mains;

### **Reboot the scanner**

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

---

## Maintenance

- 1, The scan window should be kept clean.
- 2, Do not scratch the scan window.
- 3, Use soft brush to remove the stain from the scan window.
- 4, Use the soft cloth to clean the window, such as eyeglass cleaning cloth.
- 5, Do not spray any liquid on the scan window.
- 6, Do not use any detergent to clean other parts of the device except for water.

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

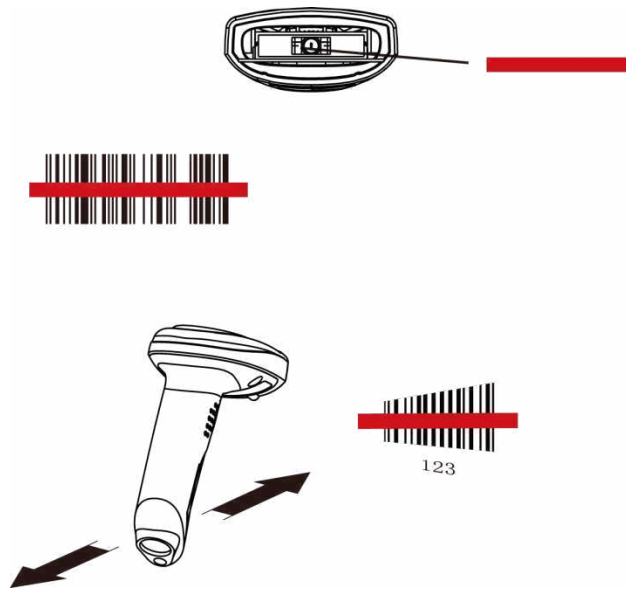
---

## 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 red aiming beam.
2. Aim the red beam across the center of barcode, as shown below.
3. Release the trigger when the red beam goes off. If the barcode is decoded successfully, the scanner will emit a good read beep and the decoded data will be sent to the host device.

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

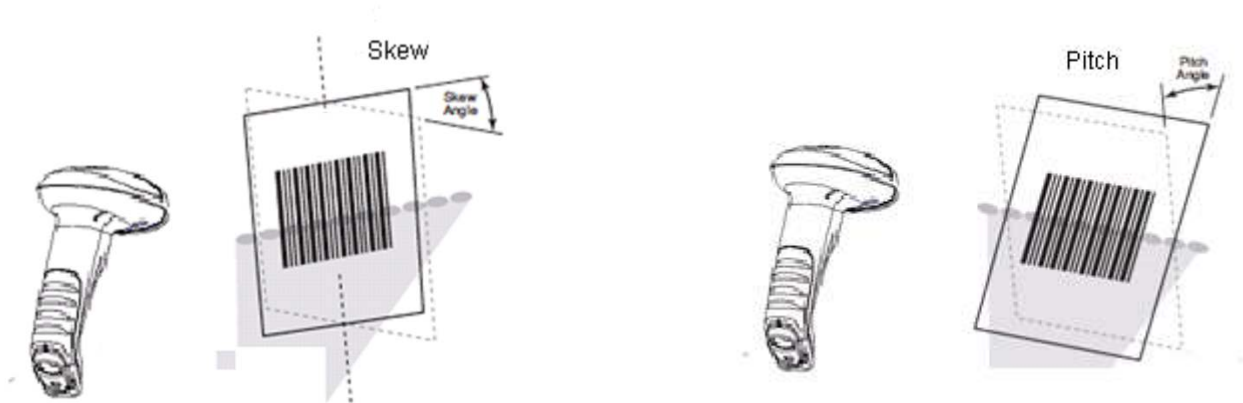


---

## Scan Angle

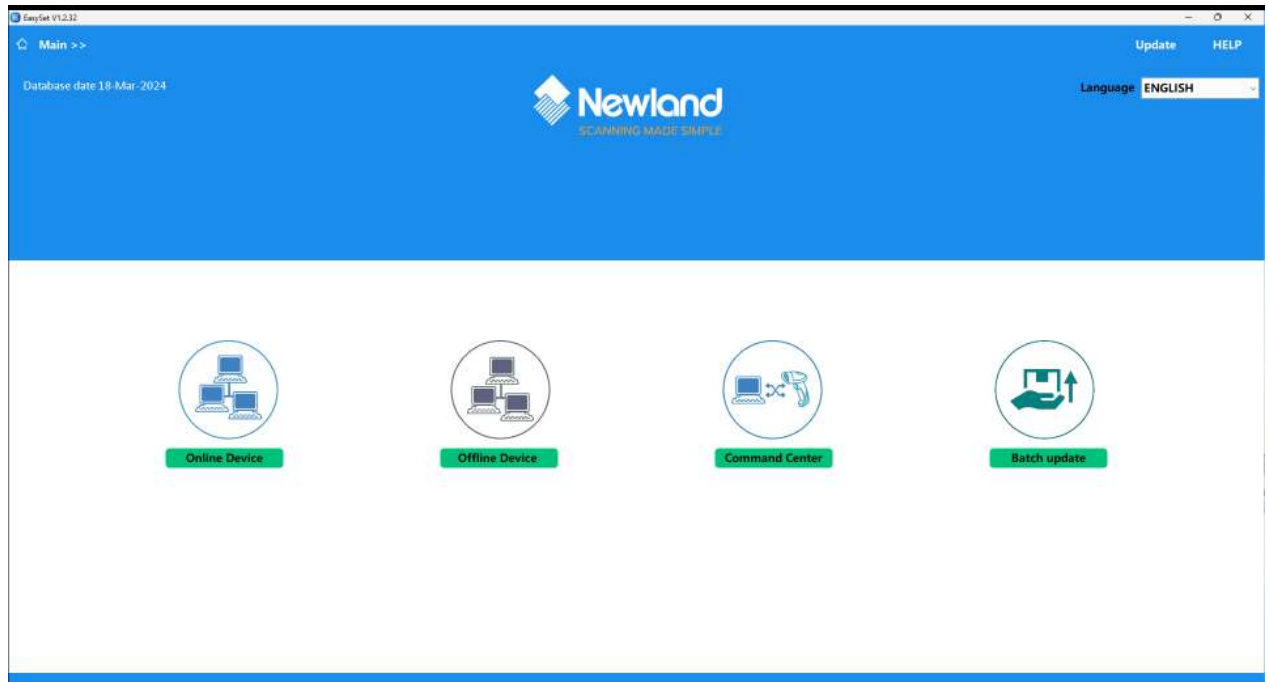
Pitch:  $\pm 60^\circ$ , test condition: roll:  $0^\circ$ , skew:  $0^\circ$ .

Skew:  $\pm 70^\circ$ , test condition: roll:  $0^\circ$ , pitch:  $0^\circ$ .



## Chapter 2 Easyset

EasySet supports Windows operating systems. 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 includes View device & configuration information of online device and send serial commands to online device and receive device response.



---

## Chapter 3 System Settings

### Introduction

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

#### Barcode Programming

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

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

#### Command Programming

The scanner can also be configured by serial commands 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*.



#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 **No Case Conversion** barcode.
2. The **No Case Conversion** command.
3. The description of feature/option.
4. \*\* indicates factory default setting



#SETUPE0



#SETUPE1  
**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.**

## 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 or a non-programming barcode, or reboot the scanner.



@SETUPE0  
**\*\* Exit Setup**



@SETUPE1  
**Enter Setup**

Programming barcode data (i.e. the characters under programming barcode) can be transmitted to the host device. You may 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**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

**Illumination**



@ILLSCN1  
\*\* On



@ILLSCN0  
Off

**Aiming**



@AMLENA1  
\*\* On



@AMLENA0  
Off



@AMLENA2  
Always lighting



#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**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

## 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 1ms increments from 1ms to 2,000ms.



@GRLDUR20  
\*\* Short (20ms)



@GRLDUR120  
Medium (120ms)



@GRLDUR220  
Long (220ms)



@GRLDUR320  
Prolonged (320ms)



@GRLDUR  
Custom (1 - 2,000ms)

**E**  
*xample*

### 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**

---



@GRLDUR100  
**100ms**



@GRLDUR200  
**200ms**



@GRLDUR300  
**300ms**



@GRLDUR400  
**400ms**



@GRLDUR500  
**500ms**



@GRLDUR600  
**600ms**



@GRLDUR700  
**700ms**



@GRLDUR800  
**800ms**



---

#SETUPE0  
**\*\* Exit Setup**



#SETUPE1

**Enter Setup**

---



@GRLDUR900  
**900ms**



@GRLDUR1100  
**1100ms**



@GRLDUR1300  
**1300ms**



@GRLDUR1500  
**1500ms**



@GRLDUR1000  
**1000ms**



@GRLDUR1200  
**1200ms**



@GRLDUR1400  
**1400ms**



@GRLDUR1600  
**1600ms**



#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**

## Good Read Beep

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



@GRBENA1  
**\*\* On**



@GRBENA0  
**Off**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

## Good Read Beep Duration

This parameter sets the length of the beep the scanner emits on a good read. It is programmable in 1ms increments from 20ms to 300ms.



@GRBDUR40

**Short (40ms)**



@GRBDUR80

**\*\* Medium (80ms)**



@GRBDUR120

**Long (120ms)**



@GRBDUR

**Custom (20 – 300ms)**

**E**  
*xample*

### Set the Good Read Beep duration to 200ms:

1. Scan the **Enter Setup** barcode.
2. Scan the **Custom** barcode.
3. Scan the numeric barcodes “2”, “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

This parameter is programmable in 1Hz increments from 20Hz to 20,000Hz



@GRBFRQ800  
**Extra Low (800Hz)**



@GRBFRQ1600  
**Low (1600Hz)**



@GRBFRQ1600  
**\*\* Medium  
(2730Hz)**



@GRBFRQ4200  
**High (4200Hz)**



@GRBFRQ  
**Custom (20 -  
20,000Hz)**

**E**  
*xample*

### Set the Good Read Beep frequency to 2,000Hz:

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.



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

## Good Read Beep Volume

This parameter is programmable in 1 increments from 1 to 20



@GRBVLL20  
\*\* Loud



@GRBVLL2  
Low



@GRBVLL7  
Medium



@GRBVLL  
Custom(1-20)



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

## Scan Mode

- ✧ **Level Mode:** A trigger pull activates a decode session. The decode session continues until a barcode is decoded or you release the trigger.
- ✧ **Sense Mode:** The scanner waits for the image stabilization timeout to expire before activating a decode session everytime it detects a change in ambient illumination. Decode session continues until a barcode is decoded or the decode session timeout expires. In this mode, a trigger pull can also activate a decode session. The decode session continues until a barcode is decoded or the trigger is released. When the session ends, the scanner continues to monitor ambient illumination. **Timeout between Decodes (Same Barcode)** can avoid undesired rereading of same barcode in a given period of time. **Sensitivity** can change the Sense Mode's sensibility to changes in ambient illumination.
- ✧ **Continuous Mode:** The scanner automatically starts one decode session after another. To suspend/resume barcode reading, simply press the trigger. **Timeout between Decodes (Same Barcode)** can avoid undesired rereading of same barcode in a given period of time.
- ✧ **Pulse Mode:** When the trigger is pulled and released, scanning is activated until a barcode is decoded or the decode session timeout expires (The decode session timeout begins when the trigger is released).
- ✧ **Batch Mode:** When the trigger is pulled and released, scanning is activated until the trigger is released. During pulling the trigger, good read barcodes will beep and output barcode information. As long as unrelease the trigger, it will continues decoding. During pulling the trigger, same code can be read only once.



@SCNMOD0  
\*\* Level Mode



@SCNMOD2  
Sense Mode



@SCNMOD3  
Continuous Mode



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
**Enter Setup**

---



@SCNMOD4  
**Pulse Mode**



@SCNMOD7  
**Batch Mode**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

## Decode Session Timeout

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



@ORTSET

### Decode Session Timeout

**E**  
*xample*

#### 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.



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

---

## Image Stabilization Timeout (Sense Mode)

This parameter defines the amount of time the scanner will spend adapting to ambient environment after it decodes a barcode and “looks” for another. It is programmable in 1ms increments from 0ms to 3,000ms. The default setting is 200ms.



@SENIST  
**Image Stabilization Timeout**

**E**  
*xample*

### Set the image stabilization timeout to 800ms:

1. Scan the **Enter Setup** barcode.
2. Scan the **Image Stabilization 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**



#SETUPE1  
**Enter Setup**

## Reread Timeout

Reread Timeout can avoid undesired rereading of same barcode in a given period of time. This feature is only applicable to the Sense and Continuous modes.

**Enable Reread Timeout:** Do not allow the scanner to reread same barcode before the reread timeout expires.

**Disable Reread Timeout:** Allow the scanner to reread same barcode.



**Enable Reread Timeout**



**\*\*Disable Reread Timeout**

The following parameter sets the timeout between decodes for same barcode. It is programmable in 1ms increments from 1ms to 3,600,000ms. When it is set to a value greater than 3,000, the timeout for rereading same programming barcode is limited to 3,000ms. The default setting is 1,000ms.



**Set Reread Timeout**

**E**  
*xample*

**Set the reread timeout to 1,000ms:**

1. Scan the **Enter Setup** barcode.
2. Scan the **Timeout between Decodes (Same Barcode)** barcode.
3. Scan the numeric barcodes "1", "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.



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

You may wish to restart the reread timeout when the scanner encounters the same barcode that was decoded in the last scan session before the reread timeout expires. To enable this feature, scan the **Reread Timeout Reset On** barcode. This feature is only effective when **Reread Timeout** is enabled.



@RRDREN1  
**Reread Timeout Reset On**



@RRDREN0  
**\*\* Reread Timeout Reset Off**

## Image Decoding Timeout

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 500ms.



@DETSET  
**Image Decoding Timeout**

**E**  
*xample*

**Set the image decoding timeout to 1,000ms:**

1. Scan the **Enter Setup** barcode.
2. Scan the **Image Decoding Timeout** barcode.
3. Scan the numeric barcodes “1”, “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.



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

## Scanning Preference

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

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



@EXPLVL0  
**\*\* Normal Exposure Mode**



@EXPLVL2  
**Mobile Mode**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

## Surround GS1 Application Identifiers (AI's) with Parentheses

When **Surround GS1 AI's with Parentheses** is selected, each application identifier (AI) contained in scanned data will be enclosed in parentheses in the output message.



@GS1AIP0

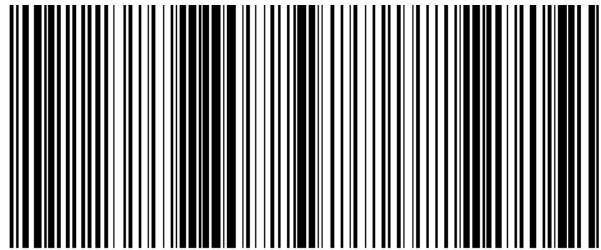
**\*\* Do Not Surround GS1 AI's with Parentheses**



@GS1AIP1

**Surround GS1 AI's with Parentheses**

**E**  
*xample*



(01) 0 0614141 99999 6 (10) 10ABCEDF123456

If **Surround GS1 AI's with Parentheses** is selected, the barcode above is output as

(01)00614141999996(10)10ABCEDF123456.

If **Do Not Surround GS1 AI's with Parentheses** is selected, the barcode above is output as

01006141419999961010ABCEDF123456.



#SETUPE0

**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

## Sensitivity

Sensitivity specifies the degree of acuteness of the scanner's response to changes in images captured.

The higher the sensitivity, the lower requirement in image change to trigger the scanner. You can select an appropriate degree of sensitivity that fits the application environment. The feature is only applicable to the Sense mode. It is programmable from 1 to 20. The default setting is Medium (5).



@SENLVL14  
**Low Sensitivity**



@SENLVL11  
**\*\* Medium Sensitivity**



@SENLVL8  
**High Sensitivity**



@SENLVL5  
**Enhanced Sensitivity**



@SENLVL  
**Custom Sensitivity (1-20)**

**E**  
*xample*

### Set the sensitivity to Level 10:

1. Scan the **Enter Setup** barcode.
2. Scan the **Custom Sensitivity** barcode.
3. Scan the numeric barcodes "1" 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

## Trigger Commands

When **Enable Trigger Commands** is selected, you can activate and deactivate the scanner in the Level mode with serial trigger commands. Sending the **Start Scanning** command (default: <SOH> T <EOT>, user-programmable) to the scanner in the Level mode activates a decode session. The decode session continues until a barcode is decoded or the decode session timeout or the scanner receives the **Stop Scanning** command (default: <SOH> P <EOT>, user-programmable).



@SCNTCE0  
\*\* Disable Trigger Commands



@SCNTCE1  
Enable Trigger Commands

## Modify Start Scanning Command

The **Start Scanning Command** can stimulate the trigger unreleased and consist of 1-10 characters (HEX values from 0x01 to 0xFF). In this command, the character “?” (HEX: 0x3F) cannot be the first character. The default **Start Scanning** command is <SOH> T <EOT>.



@SCNTCT  
Modify Start Scanning Command

**E**  
*xample*

Set the **Start Scanning** command to “\*T”:

1. Scan the **Enter Setup** barcode.
2. Scan the **Modify Start Scanning Command** barcode.
3. Scan the numeric barcodes “2”, “A”, “5” and “4” 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

---

## Modify Stop Scanning Command

The **Stop Scanning Command** can stimulate the trigger unreleased and consist of 1-10 characters (HEX values from 0x01 to 0xFF). In this command, the character “?” (HEX: 0x3F) cannot be the first character. The default **Stop Scanning** command is **<SOH> P <EOT>**.



@SCNTCP

Modify Stop Scanning Command



---

#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

---

## Read Barcode On/Off

Sending the Read Barcode Off command `~<SOH>0000#SCNENA0;<ETX>` to the scanner can disable it from reading barcode, and the scanner is unable to scan barcode unless you send the Read Barcode On command `~<SOH>0000#SCNENA1;<ETX>` to it or power cycle it. By default, Read Barcode is On.



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

## Decode Area

**Whole Area Decoding:** 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.

**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.



@CADENA0  
\*\* Whole Area Decoding



@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. 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). The value of Bottom must be greater than that of Top; the value of Right must be greater than that of Left.



@CADTOP  
Top of Decoding Area



@CADBOT  
Bottom of Decoding Area



@CADLEF  
Left of Decoding Area



@CADRIG  
Right of Decoding Area



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup



**E**  
xample

Program the scanner to only read Barcode 1 in the figure above by setting the decoding area to 10% top, 45% bottom, 15% left and 30% right:

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



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

## Image Flipping



@MIRROR0  
\*\* Do Not Flip



@MIRROR1  
Flip Horizontally



@MIRROR2  
Flip Vertically



@MIRROR3  
Flip Horizontally & Vertically

Example of image not flipped



Example of image flipped horizontally



Example of image flipped vertically



Example of image flipped horizontally & vertically



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
**Enter Setup**

---

## Smart Stand Mode

After this feature is turned on, the scanner will switch from its current scan mode to the Sense mode when it is inserted in the stand, and it will operate in its previous scan mode when it is removed from the stand.



@SMTENA0  
**Off**



@SMTENA1  
**\*\*On**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

## Bad Read Message

Scan the appropriate barcode below to select whether or not to send a bad read message (user-programmable) when a good read does not occur before trigger release, or the decode session timeout expires, or the scanner receives the **Stop Scanning** command (For more information, see the “Serial Trigger Command” section in this chapter).



**\*\* Bad Read Message OFF**



**Bad Read Message ON**

## Set Bad Read Message

A bad read message can contain up to 7 characters (HEX values from 0x00 to 0xFF). To set a bad read message, scan the **Set Bad Read Message** barcode, the numeric barcodes representing the hexadecimal values of desired character(s) and the **Save** barcode. The default setting is “NG”.



**Set Bad Read Message**

**E**  
*sample*

**Set the bad read message to “F” (HEX: 0x46):**

1. Scan the **Enter Setup** barcode.
2. Scan the **Set Bad Read Message** barcode.
3. Scan the numeric barcodes “4” and “6” 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

---

## 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:

1. The scanner is not properly configured so that it fails to decode barcodes.
2. You forget previous configuration and want to avoid its impact.



@FACDEF  
**\*\*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.



@CUSSAV  
**Save as Custom Defaults**



@CUSDEF  
**Restore All Custom Defaults**



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



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

---

## Query Product Information

After scanning the barcode below, the product information (including product name, firmware version, decoder version, hardware version, product serial number, OEM serial number, manufacturing date and data formatter version) will be sent to the host device.



@QRYSYS  
**Query Product Information**

## Query Product Name



@QRYPDN  
**Query Product Name**

## Query Firmware Version



@QRYFWV  
**Query Firmware Version**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

### Query Decoder Version



@QRYDCV  
Query Decoder Version

### Query Hardware Version



@QRYHWW  
Query Hardware Version

### Query Product Serial Number



@QRYPSN  
Query Product Serial Number



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

---

### Query OEM Serial Number



@QRYESN  
Query OEM Serial Number

### Query Manufacturing Date



@QRYDAT  
Query Manufacturing Date

### Query Data Formatter Version



@QRYDFM  
Query Data Formatter Version



#SETUPE0  
\*\* Exit Setup

---

## Chapter 4 RS-232 Interface

### Introduction

When the scanner is connected to the RS-232 port of a host device, the scanner will automatically enable RS-232 communication. However, you need to set communication parameters (including interface cables auto match, baud rate, parity check, data bit and stop bit) on the scanner to match the host device so that two devices can communicate with each other.



@INTERF0

**RS-232**



#SETUPE1  
Enter Setup

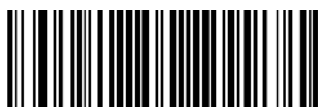
## Interface Cables Auto Match (USB and RS-232 Interface Only)

**Off:** The scanner is connected to the host device according to communication parameters.

**On:** When the scanner is connected to the RS-232 port of a host device, the scanner will automatically enable RS-232 communication. When the scanner is connected to the USB port of a host device, the scanner will automatically enable USB communication.



This feature is only effective after rebooting the scanner



@AUTOUR0  
Off



@AUTOUR1  
\*\* On



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
**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.



@232BAD8  
**115200**



@232BAD6  
**38400**



@232BAD4  
**14400**



@232BAD2  
**4800**



@232BAD7  
**57600**



@232BAD5  
**19200**



@232BAD3  
**\*\* 9600**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

---



@232BAD1  
**2400**



@232BAD0  
**1200**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

## Parity Check

Set the parity type to match the host requirements.

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



@232PAR0  
\*\* None



@232PAR1  
Even Parity



@232PAR2  
Odd Parity



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
**Enter Setup**

---

## Data Bit

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



@232DAT1  
**7 Data Bits**



@232DAT0  
**\*\* 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.



@232STP0  
**\*\* 1 Stop Bit**



@232STP1  
**2 Stop Bits**



#SETUPE0  
**\*\* Exit Setup**

---

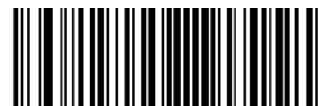
## Chapter 5 USB Interface

### Introduction

There are four options for USB connection:

- ✧ USB HID Keyboard: The scanner's transmission is simulated as USB keyboard input with no need for command configuration or a driver. Barcode data could be entered by the virtual keyboard directly and it is also convenient for the host device to receive data.
- ✧ USB CDC: It is compliant with the standard USB CDC class specifications defined by the USB-IF and allows the host device to receive data in the way as a serial port does. A driver is needed when using this feature.
- ✧ HID POS (POS HID Barcode Scanner): It is based on the HID interface, with no need for a custom driver. It excels virtual keyboard and traditional RS-232 interface in transmission speed.
- ✧ IBM SurePOS: It conforms to IBM (now Toshiba Global Commerce Solutions) 4698 USB scanner interface specifications.

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



#SETUPE1  
**Enter Setup**

---

## USB HID Keyboard

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



@INTERF3  
**\*\* USB HID Keyboard**



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



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

---

## USB Country Keyboard Types

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



@KBWCTY0  
**\*\* U.S. (English)**



@KBWCTY2  
**Brazil**



@KBWCTY4  
**Czechoslovakia**



@KBWCTY6  
**Finland (Swedish)**



@KBWCTY1  
**Belgium**



@KBWCTY3  
**Canada (French)**



@KBWCTY5  
**Denmark**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

---



@KBWCTY7  
**France**



@KBWCTY8  
**Germany / Austria**



@KBWCTY9  
**Greece**



@KBWCTY10  
**Hungary**



@KBWCTY11  
**Israel (Hebrew)**



@KBWCTY12  
**Italy**



@KBWCTY13  
**Latin America/ South America**



@KBWCTY14  
**Netherlands (Dutch)**



---

#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

---



@KBWCTY15  
**Norway**



@KBWCTY16  
**Poland**



@KBWCTY17  
**Portugal**



@KBWCTY18  
**Romania**



@KBWCTY19  
**Russia**



@KBWCTY21  
**Slovakia**



@KBWCTY22  
**Spain**



@KBWCTY23  
**Sweden**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

---



@KBWCTY24  
**Switzerland  
(German)**



@KBWCTY25  
**Turkey\_F**



@KBWCTY26  
**Turkey\_Q**



@KBWCTY27  
**UK**



@KBWCTY28  
**Japan**



@KBWCTY29  
**Poland(Programmer)**



@KBWCTY30  
**Czech(Programmer)**



@KBWCTY31  
**German(No Dead Key)**



---

#SETUPE0  
**\*\* 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**

**E**  
*xample*

Supposing French keyboard (Country Code: 7) is selected and barcode data "ADF" is being dealt with, the keyboard will fail to locate the "Ð" (0xD0) character and the scanner will ignore the character and continue to process the next one.

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

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



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 character is sent via the numeric keypad and overlook USB country keyboard type. This mode need to set **Code Page Option** and **Unicode Output**. **Code Page** determines the target language. **Unicode Output** determines the ASCII input to the host device.



\*\* Emulate ALT+Keypad OFF



Emulate ALT+Keypad ON



ASCII characters between 0x00~0x1F will be input in way of Function Key Mapping Set.



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



Supposing **Emulate ALT+Keypad** is ON, **Unicode Encoding** is Off, and **Code Page 1252 (West European Latin)** is selected, 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

---

## Code Page

Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the barcode being scanned was created using a code page that is different from the one the host program is expecting. If this is the case, select the code page with which the barcodes were created by scanning the appropriate barcode below. For PDF417, QR Code, Aztec and Data Matrix, besides setting the code page, you also need to set the character encoding in the “Character Encoding” section in Chapter 6. This feature is only effective when **Emulate ALT+Keypad** is turned on. The default setting is Code Page 1252(West European, Latin)



@KBWC PG0

**\*\* Code Page 1252 (West European Latin)**



@KBWC PG1

**Code Page 1251 (Cyrillic)**



@KBWC PG2

**Code Page 1250**

**(Central and East European Latin)**



@KBWC PG3

**Code Page 1253 (Greek)**



@KBWC PG4

**Code Page 1254 (Turkish)**



@KBWC PG5

**Code Page 1255 (Hebrew)**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

---



@KBWCPG6  
**Code Page 1256 (Arabic)**



@KBWCPG7  
**Code Page 1257 (Baltic)**



@KBWCPG8  
**Code Page 1258 (Vietnamese)**



@KBWCPG9  
**Code Page 936**  
**(Simplified Chinese, GB2312,GBK)**



@KBWCPG11  
**Code Page 874(Thai)**



---

#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

## Unicode Encoding

Different host program may use different character encodings for handling incoming barcode data. For instance, Microsoft Office Word uses Unicode encoding and therefore you should turn **Unicode Encoding** on, whereas Microsoft Office Excel or Notepad uses Code Page encoding and therefore you should turn **Unicode Encoding** off. This feature is only effective when **Emulate ALT+Keypad** is turned on. The default setting is Off



@KBWCPU0  
\*\* Off



@KBWCPU1  
On

## Emulate Keypad with Leading Zero

You may turn this feature on to send character sequences sent over the numeric keypad as ISO characters which have a leading zero. For example, ASCII A transmits as "ALT MAKE" 0065 "ALT BREAK". This feature is only effective when **Emulate ALT+Keypad** is enabled.



@KBWALZ1  
\*\* On



@KBWALZ0  
Off



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

---

## Function Key Mapping

When **Ctrl+ASCII Mode** is selected, function characters (0x00 - 0x1F) are sent as ASCII sequences. The default setting is Off.



@KBWFKM0  
\*\* Disable



@KBWFKM1  
Ctrl+ASCII Mode



@KBWFKM2  
Alt+Keypad Mode

**E**  
*xample*

If **Ctrl+ASCII Mode** is selected and other parameters of USB HID Keyboard adopt factory defaults, barcode data "A<HT> (i.e. Horizontal Tab) F" (0x41/0x09/0x46) is sent as below:

"A" - Keystroke "A".

<HT> - "Ctrl Make" + Keystroke "I" + "Ctrl

Break" "F" - Keystroke "F"

For some text editors, "Ctrl I" means italic convert. So the output may be "AF".

If **Alt+Keypad Mode** is selected and other parameters of USB HID Keyboard adopt factory defaults, the data above is sent as below:

"A" - Keystroke "A".

<HT> - "Alt Make" + Keystrokes "009" + "Alt

Break" "F" - Keystroke "F"



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

### ASCII Function Key Mapping Table

| ASCII Function | ASCII Value (HEX) | Function Key Mapping Disabled | Ctrl+ASCII |
|----------------|-------------------|-------------------------------|------------|
| NUL            | 00                | Null                          | Ctrl+@     |
| SOH            | 01                | Keypad Enter                  | Ctrl+A     |
| STX            | 02                | Caps Lock                     | Ctrl+B     |
| ETX            | 03                | ALT                           | Ctrl+C     |
| EOT            | 04                | Null                          | Ctrl+D     |
| ENQ            | 05                | CTRL                          | Ctrl+E     |
| ACK            | 06                | Null                          | Ctrl+F     |
| BEL            | 07                | Enter                         | Ctrl+G     |
| BS             | 08                | Left Arrow                    | Ctrl+H     |
| HT             | 09                | Horizontal Tab                | Ctrl+I     |
| LF             | 0A                | Down Arrow                    | 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+-     |



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
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        | Ctrl+ASCII |         |         |        |        |  |
|----------------|------------|---------|---------|--------|--------|--|
| United States  | Ctrl+[     | Ctrl+\  | Ctrl+]  | Ctrl+6 | Ctrl+- |  |
| Belgium        | Ctrl+[     | Ctrl+<  | Ctrl+]  | Ctrl+6 | Ctrl+- |  |
| Scandinavia    | Ctrl+8     | Ctrl+<  | Ctrl+9  | Ctrl+6 | Ctrl+- |  |
| France         | Ctrl+^     | Ctrl+8  | Ctrl+\$ | Ctrl+6 | Ctrl+= |  |
| Germany        |            | Ctrl+Ã  | Ctrl++  | Ctrl+6 | Ctrl+- |  |
| Italy          |            | Ctrl+\  | Ctrl++  | Ctrl+6 | Ctrl+- |  |
| Switzerland    |            | Ctrl+<  | Ctrl+.. | Ctrl+6 | Ctrl+- |  |
| United Kingdom | Ctrl+[     | Ctrl+ ¢ | Ctrl+]  | Ctrl+6 | Ctrl+- |  |
| Denmark        | Ctrl+8     | Ctrl+\  | Ctrl+9  | Ctrl+6 | Ctrl+- |  |
| Norway         | Ctrl+8     | Ctrl+\  | Ctrl+9  | Ctrl+6 | Ctrl+- |  |
| Spain          | Ctrl+[     | Ctrl+\  | Ctrl+]  | Ctrl+6 | Ctrl+- |  |



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

## Inter-Keystroke Delay

This parameter specifies the delay between emulated keystrokes. Scanning below barcodes to delay longer when the host device needs slower data transmission. The default setting is No Delay.



@KBWDLY0  
\*\* No Delay



@KBWDLY40  
Long Delay (40ms)



@KBWDLY20  
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 (Non-Japanese keyboard)



Caps Lock ON (Non-Japanese keyboard)



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".



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

---

## Convert Case

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



@KBWCAS0  
\*\* No Case Conversion



@KBWCAS1  
Convert All to Upper Case



@KBWCAS2  
Convert All to Lower Case

**E**  
*xample*

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**



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
**Enter Setup**

---



@KBWNCH0

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



@KBWNCH1

**Emulate Numeric Keypad 2**



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

**E**  
*sample*

Supposing the **Emulate Numeric Keypad 1** and **Emulate Numeric Keypad 2** features are

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;
4. "5" is not sent as it does not correspond to any function key.

Finally the host device will get ".A"



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

Character”+”, ”-“, ”\*”, ”/” Adopt Numeric Keypad



@KBWNCH0  
\*\* Off



@KBWNCH1  
On



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
**Enter Setup**

---

## **Fast Mode**

When **Fast Mode On** is selected, the scanner sends characters to the host faster. If the host drops characters, turn the Fast Mode off or change the polling rate to a bigger value.



@KBWFAS0  
**\*\* Fast Mode Off**



@KBWFAS1  
**Fast Mode On**



---

#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

## Polling Rate

This parameter specifies the polling rate for a USB keyboard. The smaller value rate is, the faster characters transmission from scanner to the host. If the host drops characters, change the polling rate to a bigger value.



@KBWPOR0  
\*\* 1ms



@KBWPOR1  
2ms



@KBWPOR2  
3ms



@KBWPOR3  
4ms



@KBWPOR4  
5ms



@KBWPOR5  
6ms



@KBWPOR6  
7ms



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
**Enter Setup**

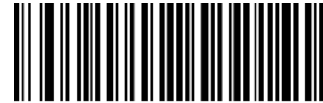
---



@KBWPOR7  
**8ms**



@KBWPOR8  
**9ms**



@KBWPOR9  
**10ms**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

---

## 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](http://www.newlandaidc.com).



@INTERF8  
**USB CDC**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

---

## **HID POS (POS HID Barcode Scanner)**

### **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:

1. HID based, no custom driver required.
2. More efficient in communication than keyboard emulation and traditional RS-232 interface.



@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](http://www.USB.org).



---

#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
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                                  |   |   |   |   |   |   |                        |
| 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 |   |   |   |   |   |   |   |
| 2-63 | Command (1-62)    |   |   |   |   |   |   |   |



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

## IBM SurePOS (Tabletop)



@INTERF6  
IBM SurePOS (Tabletop)

## IBM SurePOS (Handheld)



@INTERF7  
IBM SurePOS (Handheld)

## 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) |
|---------|------------------------|-----------|-----------|
| HR2300  | USB HID Keyboard       | 3822      | 14370     |
|         | USB CDC                | 3806      | 14342     |
|         | HID POS                | 3810      | 14352     |
|         | IBM SurePOS (Tabletop) | 3820      | 14368     |
|         | IBM SurePOS(Handheld)  | 3821      | 14369     |



#SETUPE0  
\*\* Exit 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.

### 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.



@ALLNA1

**Enable All Symbologies**



@ALLNA0

**Disable All Symbologies**

#### Enable/Disable 1D Symbologies



@ALL1DC1

**Enable 1D Symbologies**



@ALL1DC0

**Disable 1D Symbologies**



#SETUPE1  
Enter Setup

---

## Enable/Disable 2D Symbologies



@ALL2DC1  
Enable 2D Symbologies



@ALL2DC0  
Disable 2D Symbologies

## Enable/Disable Postal Symbologies



@ALLPST1  
Enable 2D Symbologies



@ALLPST0  
Disable 2D Symbologies

## 1D Twin Code

1D twin code is two 1D barcodes of a symbology or of different symbologies paralleled vertically. Both barcodes must have similar specifications and be placed closely together.

There are 3 options for reading 1D twin code:

**Single 1D Code Only:** Read either 1D code.

**Twin 1D Code Only:** Read both 1D codes. Transmission sequence: upper 1D code followed by lower 1D code.

**Both Single & Twin:** Read both 1D codes. If successful, transmit as twin 1D code only. Otherwise, try single 1D code only.



#SETUPE0



#SETUPE1  
**Enter Setup**

---



@A1DDOU0  
**\*\* Single 1D Code Only**



@A1DDOU2  
**Twin 1D Code Only**



@A1DDOU1  
**Both Single & Twin**



#SETUPE1  
**\*\* 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



#SETUPE1  
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.



@128MIN

Set the Minimum Length (Default: 1)



@128MAX

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 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  
\*\* Exit Setup



#SETUPE1  
Enter Setup

## EAN-8

### Restore Factory Defaults



@EA8DEF

Restore the Factory Defaults of EAN-8

### Enable/Disable EAN-8



@EA8ENA1

\*\* Enable EAN-8



@EA8ENA0

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.



@EA8CHK2

\*\* Transmit EAN-8 Check Character



@EA8CHK1

Do Not Transmit EAN-8 Check Character



#SETUPE0



#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.



@EA8AD20  
**\*\* Disable 2-Digit Add-On Code**



@EA8AD21  
**Enable 2-Digit Add-On Code**



**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.



#SETUPE1  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

## 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**



**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



#SETUPE1  
Enter Setup

---

### Add-On Code Required

When **EAN-8 Add-On Code Required** is selected, the scanner will only read EAN-8 barcodes that contain add-on codes.



@EA8REQ0  
**\*\* EAN-8 Add-On Code Not Required**



**EAN-8 Add-On Code Required**

### 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.



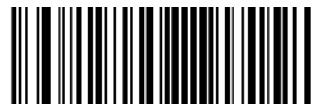
@EA8EXP0  
**\* Do Not Convert EAN-8 to EAN-13**



**Convert EAN-8 to EAN-13**



#SETUPE1  
**\*\* 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**

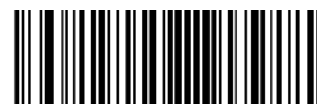


@E13ENA0

**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.



#SETUPE0



#SETUPE1  
Enter Setup

### Transmit Check Character



@E13CHK2

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



@E13CHK1

**Do Not Transmit EAN-13 Check Character**

### 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.



#SETUPE1  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

## 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.



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



**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



#SETUPE1  
Enter Setup

### 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.



@E132900

\*\* Do Not Require Add-On Code



@E132901

Require Add-On Code

### 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.



@E133780

\*\* Do Not Require Add-On Code



@E133781



#SETUPE1  
\*\* Exit Setup



#SETUPE1  
Enter Setup

---

Require Add-On Code



#SETUPE0



#SETUPE1  
Enter Setup

### 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

### 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



@E134341



#SETUPE1  
\*\* Exit Setup

Enter Setup

Require Add-On Code



#SETUPE1



#SETUPE0

\*\* Exit Setup



#SETUPE1  
Enter Setup

---

### 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

### 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



#SETUPE1  
\*\* Exit Setup



#SETUPE1  
**Enter Setup**

---



@E139781  
**Require Add-On Code**



#SETUPE0



#SETUPE1  
Enter Setup

---

### **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.



@E139790

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



@E139791

**Require Add-On Code**



#SETUPE1  
**\*\* 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



@UPEEN01

\*\* Enable UPC-E0



@UPEEN00

Disable UPC-E0



@UPEEN11

Enable UPC-E1



@UPEEN10

\*\*Disable UPC-E1



If the scanner fails to identify **UPC-E/UPC-E0/UPC-E1** barcodes, you may first try this solution by scanning the **Enter Setup** barcode and then **Enable UPC-E/UPC-E0/UPC-E1** barcode.



#SETUPE1  
\*\* Exit Setup



#SETUPE1  
Enter Setup

### 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

### 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.



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

## 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



#SETUPE1  
Enter Setup

### Add-On Code Required

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



@UPAREQ0  
\*\* UPC-E Add-On Code Not Required



@UPAREQ1  
UPC-E Add-On Code Required

### 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.



@UPEPRE1  
\*\* System Character



@UPEPRE0  
No Preamble



@UPEPRE2  
System Character & Country Code



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

---

## 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.



@UPEEXP0

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



@UPEEXP1

**Convert UPC-E to UPC-A**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

## UPC-A

### Restore Factory Defaults



@UPADEF

Restore the Factory Defaults of UPC-A

### Enable/Disable UPC-A



@UPAENA1

\*\* Enable UPC-A



@UPAENA0

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.

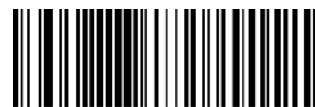
### Transmit Check Character

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



@UPACHK2

\*\* Transmit UPC-A Check Character



@UPACHK1

Do Not Transmit UPC-A Check Character



#SETUPE0  
\*\* 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.



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

### 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

---

### Add-On Code Required

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



@UPAREQ0

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



@UPAREQ1

**UPC-A Add-On Code Required**

### Transmit Preamble Character

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



@UPAPRE0

**No Preamble**



@UPAPRE1

**\*\* System Character**



@UPAPRE2

**System Character & Country Code**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

## Coupon

### UPC-A/EAN-13 with Extended Coupon Code

The following three types of coupon code + extended coupon code are supported:

1. UPC-A (starting with "5") + GS1-128
2. UPC-A (starting with "5") + GS1 Databar
3. EAN-13 (starting with "99") + GS1-128

Use the appropriate barcode below to enable or disable UPC-A/EAN-13 with Extended Coupon Code. When left on the default setting (**Off**), the scanner treats Coupon Codes and Extended Coupon Codes as single bar codes.

If you scan the **Allow Concatenation** code, when the scanner sees the coupon code and the extended coupon code in a single scan, it transmits both as separate symbologies. Otherwise, it transmits the first coupon code it reads.

If you scan the **Require Concatenation** code, the scanner must see and read the coupon code and extended coupon code in a single read to transmit the data. No data is output unless both codes are read.



@CPNENA0  
\*\* Off



@CPNENA1  
**Allow Concatenation**



@CPNENA2  
**Require Concatenation**



When using the UPC-A Coupon feature, please ensure that **System Character** or **System Character & Country Code** is selected for the "Transmit UPC-A Preamble Character" feature.



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

## Coupon GS1 Databar Output

If you scan coupons that have both UPC and GS1 Databar codes, you may wish to scan and output only the data from the GS1 Databar code. Scan the **GS1 Output On** barcode below to scan and output only the GS1 Databar code data.

When **GS1 Output Off** is selected, coupons that have both UPC and GS1 Databar codes are transmitted depending on your selection for the “UPC-A/EAN-13 with Extended Coupon Code” feature.



@CPNGS10  
\*\* GS1 Output Off



@CPNGS11  
GS1 Output On



When using the UPC-A Coupon feature, please ensure that **System Character** or **System Character & Country Code** is selected for the “Transmit UPC-A Preamble Character” feature.



#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.



**Set the Minimum Length (Default: 6)**



**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 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 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.)



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

## Safety Level

Higher safety level. higher good read decoding rate and slower decoding speed



@I25SEC0  
\*\* level 1



@I25SEC1  
level 2



@I25SEC2  
level 3



@I25SEC3  
level 4



High Safety Level can improve decoding performance but slow decoding speed.



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

---

## Febraban

### Disable/Enable Febraban



@I25FBB0  
\*\* Disable Febraban



@I25FBB2  
Enable Febraban, Expand



@I25FBB1  
Enable Febraban, Do Not Expand

## 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: For the 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



@I14DEF  
Restore the Factory Defaults of ITF-14

### Enable/Disable ITF-14

---



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

---



@I14ENA0  
Disable ITF-14



@I14ENA1  
\*\* Enable ITF-14 But Do Not Transmit Check Character



@I14ENA2  
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.



#SETUPE0  
\*\* 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**



#SETUPE1  
**Enter Setup**

---

## Matrix 2 of 5

### Restore Factory Defaults



@M25DEF

**Restore the Factory Defaults of Matrix 2 of 5**

### Enable/Disable Matrix 2 of 5



@M25ENA1

**Enable Matrix 2 of 5**



@M25ENA0

**\*\* 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.



#SETUPE0  
**\*\* 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.



@M25MIN

Set the Minimum Length (Default: 4)



@M25MAX

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 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 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 transmits Matrix 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.



#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.



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 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



#SETUPE1  
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 transmits Code 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.



@C39CHK0  
\*\* Disable



@C39CHK1

**Do Not Transmit Check Character After Verification**



@C39CHK2

**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.)



@SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

---

### Transmit Start/Stop Character

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



@C39TSC0

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



@C39TSC1

**Transmit Start/Stop Character**

### Enable/Disable Code 39 Full ASCII

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



@C39ASC0

**Disable Code 39 Full ASCII**



@C39ASC1

**\*\* Enable Code 39 Full ASCII**



@SETUPE0

**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

### 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



#SETUPE1  
Enter Setup

---

### Transmit Code 32 Start/Stop Character

Code 32 must be enabled for this parameter to function.



@C39T320

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



@C39T321

**Transmit Code 32 Start/Stop Character**

### Transmit Code 32 Check Character

Code 32 must be enabled for this parameter to function.



@C39C320

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



@C39C321

**Transmit Code 32 Check Character**



#SETUPE0  
**\*\* 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: 1)



Set the Maximum Length (Default: 127)



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



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

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8” 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 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



#SETUPE1  
Enter Setup

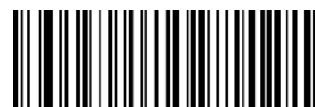
## Start/Stop Character

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



@CBATSC0

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



@CBATSC1

**Transmit Start/Stop Character**



@CBASCF0

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



@CBASCF1

**ABCD/TN\*E as the Start/Stop Character**



@CBASCF2

**abcd/abcd as the Start/Stop Character**



@CBASCF3

**abcd/tn\*e as the Start/Stop Character**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

---

## Code 93

### Restore Factory Defaults



@C93DEF  
**Restore the Factory Defaults of Code 93**

### Enable/Disable Code 93



@C93ENA1  
**\*\* Enable Code 93**



@C93ENA0  
**Disable Code 93**



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



#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: 127)



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



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

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8” 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

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



#SETUPE1  
**Enter Setup**

---

## China Post 25

### Restore Factory Defaults



@CHPDEF

**Restore the Factory Defaults of China Post 25**

### Enable/Disable China Post 25



@CHPENA1

**Enable China Post 25**



@CHPENA0

**\*\* Disable 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.



#SETUPE0  
**\*\* 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: 127)



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.



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
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.



@CHPCHK0  
\*\* Disable



@CHPCHK1

**Do Not Transmit Check Character After Verification**



@CHPCHK2

**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.)



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
**Enter Setup**

---

## GS1-128 (UCC/EAN-128)

### Restore Factory Defaults



@GS1DEF

**Restore the Factory Defaults of GS1-128**

### Enable/Disable GS1-128



@GS1ENA1

**\*\* Enable GS1-128**



@GS1ENA0

**Disable GS1-128**



If the scanner fails to identify GS1-128 barcodes, you may first try this solution by scanning the **EnterSetup** barcode and then **Enable GS1-128** barcode.



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

## Set Length Range for GS1-128

The scanner can be configured to only decode GS1-128 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: 127)



If minimum length is set to be greater than maximum length, the scanner only decodes GS1-128 barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only GS1-128 barcodes with that length are to be decoded.



**Set the scanner to decode GS1-128 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.



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

## GS1 Databar (RSS)

### 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"



@RSSTA1

\*\* Transmit Application Identifier "01"



@RSSTA0

Do Not Transmit Application Identifier "01"



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

## GS1 Composite (EAN-UCC Composite)

### Restore Factory Defaults



@CPTDEF

Restore the Factory Defaults of GS1 Composite

### Enable/Disable GS1 Composite



@CPTENA1

Enable GS1 Composite



@CPTENA0

**\*\* Disable GS1 Composite**



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

### Enable/Disable UPC/EAN Composite



@CPTUPC1

Enable UPC/EAN Composite



@CPTUPC0

**\*\* Disable UPC/EAN Composite**



#SETUPE0  
**\*\* Exit Setup**



#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**



#SETUPE1  
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: 1)



Set the Maximum Length (Default: 127)



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



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

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8” 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

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.



@C11CHK0  
Disable



@C11CHK1

**\*\* One Check Character, MOD11**



@C11CHK2

**Two Check Characters, MOD11/MOD11**



@C11CHK3

**Two Check Characters, MOD11/MOD9**



@C11CHK4

**One Check Character, MOD11 (Len<=10)**

**Two Check Characters, MOD11/MOD11(Len>10)**



@C11CHK5

**One Check Character, MOD11 (Len<=10)**

**Two Check Characters, MOD11/MOD9 (Len>10)**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

## Transmit Check Character



@C11TCK0

\*\* Do Not Transmit Code 11 Check Character



@C11TCK1

Transmit Code 11 Check Character



If you select a 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.)



#SETUPE0  
\*\* 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.



#SETUPE0  
**\*\* Exit Setup**



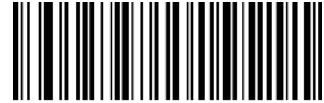
#SETUPE1  
Enter Setup

---

## Set ISBN Format



@ISBT101  
ISBN-10



@ISBT100  
\*\* ISBN-13



#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: 1)



@L25MAX

Set the Maximum Length (Default: 127)



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



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

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8” 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.)



#SETUPE0  
\*\* Exit Setup



#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.



#SETUPE0  
**\*\* Exit Setup**



#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.



Set the Minimum Length (Default: 1)



Set the Maximum Length (Default: 127)



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



**Set the scanner to decode Standard 25 barcodes containing between 8 and 12 characters:**

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8” 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 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.



@S25CHK0  
Disable



@S25CHK1

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



@S25CHK2

**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.)



#SETUPE0  
\*\* 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: 1)**



@PLYMAX

**Set the Maximum Length (Default: 127)**



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



**Set the scanner to decode Plessey barcodes containing between 8 and 12 characters:**

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8” 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

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.



@PLYCHK0  
Disable



@PLYCHK1

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



@PLYCHK2

**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.)



#SETUPE0  
**\*\* 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.



#SETUPE0  
**\*\* Exit Setup**



#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: 1)**



**Set the Maximum Length (Default: 127)**



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



### Set the scanner to decode MSI-Plessey barcodes containing between 8 and 12 characters:

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8” 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**



#SETUP E1  
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.



@MSIC HK0  
Disable



@MSIC HK1  
\*\* One Check Character, MOD10



@MSIC HK2  
Two Check Characters, MOD10/MOD10



@MSIC HK3  
Two Check Characters, MOD10/MOD11



#SETUP E0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

---

### Transmit Check Character



@MSITCK1

Transmit MSI-Plessey Check Character



@MSITCK0

**\*\* Do Not Transmit MSI-Plessey 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**

---

## AIM 128

### Restore Factory Defaults



@AIMDEF  
**Restore the Factory Defaults of AIM 128**

### Enable/Disable AIM 128



@AIMENA1  
**\*\* Enable AIM 128**



@AIMENA0  
**Disable AIM 128**



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



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

## Set Length Range for AIM 128

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



Set the Minimum Length (Default: 1)



Set the Maximum Length (Default: 127)



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



### Set the scanner to decode AIM 128 barcodes containing between 8 and 12 characters:

1. Scan the **Enter Setup** barcode.
2. Scan the **Set the Minimum Length** barcode.
3. Scan the numeric barcode “8” 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**

---

## ISBT 128

### Restore Factory Defaults



@IBTDEF  
**Restore the Factory Defaults of ISBT 128**

### Enable/Disable ISBT 128



@IBTENA1  
**Enable ISBT 128**



@IBTENA0  
**\*\* Disable ISBT 128**



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



#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.



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

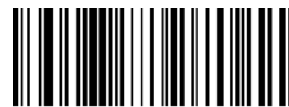
## Set Length Range for PDF417

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



#SETUPE1  
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.



@PDFDOU0  
**\*\* Single PDF417 Only**



@PDFDOU1  
**Twin PDF417 Only**



@PDFDOU2  
**Both Single & Twin**



---

#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

## PDF417 Inverse

Regular barcode: Dark bars on a bright background. Inverse barcode: Bright bars on a dark background.



@PDFINV0

**\*\* Decode Regular PDF417 Barcodes Only**



@PDFINV1

**Decode Inverse PDF417 Barcodes Only**



@PDFINV2

**Decode Both**

## Character Encoding



@PDFENC0

**\*\* Default Character Encoding**



@PDFENC1

**UTF-8**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

## PDF417 ECI Output



@PDFECI0  
\*\* Disable PDF417 ECI Output



@PDFECI1  
Enable PDF417 ECI Output



#SETUPE0  
\*\* Exit Setup



#SETUPE1

**Enter Setup**

---

## Micro PDF417

### Restore Factory Defaults



@MPDDEF

**Restore the Factory Defaults of Micro PDF417**

### Enable/Disable Micro PDF417



@MPDENA1

**Enable Micro PDF417**



@MPDENA0

**\*\* Disable Micro PDF417**



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



#SETUPE0

**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

## Set Length Range for Micro PDF417

The scanner can be configured to only decode Micro 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.



@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 Micro PDF417 barcodes with a specific length, set both minimum and maximum lengths to be that desired length.

## Example

**Set the scanner to decode Micro 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**



#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.



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
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.



@QRCMIN

Set the Minimum Length (Default: 1)



@QRCMAX

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.



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
**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.



@QRCDU0  
**\*\* Single QR Only**



@QRCDU1  
**Twin QR Only**



@QRCDU2  
**Both Single & Twin**



#SETUPE0  
**\*\* 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**



#SETUPE0

**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---



@QRCENC2  
KOI8-R



@QRCENC3  
Auto Select UTF-8 or Code Page

QR ECI Output



@QRCECI0  
\*\*Disable QR ECI Output



@QRCECI1  
Enable QR ECI Output



#SETUPE0  
\*\* Exit Setup



#SETUPE1

**Enter Setup**

---

## URL QR Code



@QRCURL0

**Disable URL QR Code**



@QRCURL1

**\*\* Enable URL QR Code**



#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.



#SETUPE0

**\*\* Exit Setup**



#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.



Set the Minimum Length (Default: 1)



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.

## Example

**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.



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
**Enter Setup**

## Set Length Range for Aztec Code

The scanner can be configured to only decode Aztec 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: 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**



#SETUPE1  
**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.



@AZTMOD1  
**\*\* Mode 1**



@AZTMOD2  
**Mode 2**



@AZTMOD3  
**Mode 3**



#SETUPE0  
**\*\* Exit Setup**



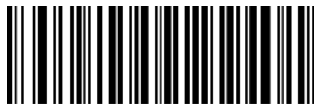
#SETUPE1  
Enter Setup

---

## Set the Number of Barcodes



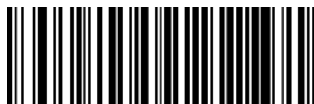
@AZTMUL1  
\*\* 1



@AZTMUL3  
3



@AZTMUL5  
5



@AZTMUL7  
7



@AZTMUL2  
2



@AZTMUL4  
4



@AZTMUL6  
6



@AZTMUL8  
8



---

#SETUPE0  
\*\* Exit Setup



#SETUPE1  
Enter Setup

---

## Character Encoding



@AZTENC0  
\*\* Default Character Encoding



@AZTENC1  
UTF-8

## Aztec ECI Output



@AZTECI0  
\*\*Disable Aztec ECI Output



@AZTECI1  
\*\* Enable 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.



#SETUPF0



#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.

**E**  
*xample*

**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**



#SETUPE1  
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.



@DMCDOU0

**\*\* Single Data Matrix Only**



@DMCDOU1

**Twin Data Matrix Only**



@DMCDOU2

**Both Single & Twin**



#SETUPE0

**\*\* Exit Setup**



#SETUPE1  
Enter Setup

## 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,



@DMCREC1  
6\*14...14\*22.

**\*\* Enable Rectangular Barcode**



**Disable Rectangular Barcode**

## Data Matrix Inverse

Regular barcode: Dark bars on a bright

background. Inverse barcode: Bright bars on a



@DMCINV0  
dark background.

**\*\* Decode Regular Data Matrix Barcodes Only**



**Decode Inverse Data Matrix Barcodes Only**



@DMCINV2  
**Decode Both**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

## Character Encoding



@DMCENC0  
\*\* Default Character Encoding



@DMCENC1  
UTF-8

## Data Matrix ECI Output



@DMCEC0  
Disable Data Matrix ECI Output



@DMCEC1  
\*\* Enable Data Matrix ECI Output



#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.



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

## Chinese ID Card OCR

### Restore Factory Defaults



@IDCDEF

**\*\* Restore the Factory Defaults of Chinese ID Card OCR**

### Enable/Disable Chinese ID Card OCR



@IDCENA1

**Enable Chinese ID Card OCR**



@IDCENA0

**\*\* Disable Chinese ID Card OCR**



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---

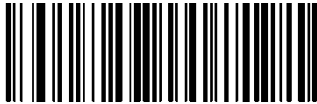
## China Travel Permit OCR

### Restore Factory Defaults



@CTPDEF  
\*\* Restore the Factory Defaults of China Travel  
Permit OCR

### Enable/Disable Chinese Travel Permit OCR



@CTPENA1  
Enable Chinese Travel Permit OCR



@CTPENA0  
\*\* Disable Chinese Travel Permit OCR



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
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.

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



Barcode processing procedure:

1. Edit data with Data Formatter
2. Append prefix/suffix
3. Pack data
4. Append terminating character



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
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.



@APSENA0  
**\*\* Disable All Prefixes/Suffixes**



@APSENA1  
**Enable All Prefixes/Suffixes**

## Prefix Sequence



@PRESEQ0  
**\*\* Code ID+ Custom +AIM ID**



@PRESEQ1  
**Custom + Code ID + AIM ID**



#SETUPE0  
**\*\* 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”.



**\*\* Disable Custom Prefix**



**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 desired prefix then the **Save** barcode.

**Note:** A custom prefix cannot exceed 10 characters.



**Set Custom Prefix**

**E**  
*xample*

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



#SETUPE0  
**\*\* 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.



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

---

## 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**

## 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.



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

---

**E**  
*xample*

**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.



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

---

## Modify 1D symbologies



@CID002  
**Modify Code 128 Code ID**



@CID004  
**Modify EAN-8 Code ID**



@CID006  
**Modify UPC-E Code ID**



@CID008  
**Modify Interleaved 2 of 5 Code ID**



@CID003  
**Modify GS1-128 Code ID**



@CID005  
**Modify EAN-13 Code ID**



@CID007  
**Modify UPC-A Code ID**



---

#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

---



@CID009  
Modify ITF-14 Code ID



@CID010  
Modify ITF-6 Code ID



@CID011  
Modify Matrix 2 of 5 Code ID



@CID013  
Modify Code 39



@CID015  
Modify Codabar Code ID



@CID017  
Modify Code 93 Code ID



@CID019  
Modify China Post 25 Code ID



@CID020  
Modify AIM 128 Code ID



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
**Enter Setup**

---



@CID021  
**Modify ISBT 128 Code ID**



@CID023  
**Modify ISSN Code ID**



@CID024  
**Modify ISBN Code ID**



@CID025  
**Modify Industrial 25 Code ID**



@CID026  
**Modify Standard 25 Code ID**



@CID027  
**Modify Plessey Code ID**



@CID028  
**Modify Code 11 Code ID**



@CID029  
**Modify MSI Plessey Code ID**



---

#SETUPE0  
**\*\* Exit Setup**



#SETUPE1

**Enter Setup**

---



@CID030

**Modify GS1 Composite Code ID**



@CID031

**Modify GS1 Databar (RSS) Code ID**



#SETUPE0

**\*\* Exit Setup**



#SETUPE1  
**Enter Setup**

---

**Modify 2D  
symbolologies:**



@CID034  
**Modify Aztec Code ID**



@CID033  
**Modify QR Code ID**



@CID032  
**Modify PDF417 Code ID**



@CID035  
**Modify Data Matrix 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

**E**  
xample

**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

---

## Data Packing

### Introduction

Data packing is designed for a specific group of users who want to have the data packed before transmission. Data packing influences data format, so it is advised to disable this feature when it is not required.

### Data Packing Options

**Disable Data Packing:** Transmit decoded data in raw format (unpacked).

**Enable Data Packing, Format 1:** Transmit decoded data with the packet format 1 defined below.

Packet format 1: [STX + ATTR + LEN] + [AL\_TYPE + DATA] +

[LRC] STX: 0x02

ATTR: 0x00

LEN: Barcode data length is expressed in 2 bytes ranging from 0x0000 (0) to 0xFFFF

(65535). AL\_TYPE: 0x36

DATA: Raw barcode data.

LRC: Check digit.

LRC calculation algorithm: computation sequence: 0xFF+LEN+AL\_TYPE+DATA; computation method is XOR, byte by byte.

**Enable Data Packing, Format 2:** Transmit decoded data with the packet format 2 defined below.

Packet format 2: [STX + ATTR + LEN] + [AL\_TYPE] + [Symbology\_ID + DATA] +

[LRC] STX: 0x02

ATTR: 0x00

LEN: Barcode data length is expressed in 2 bytes ranging from 0x0000 (0) to 0xFFFF

(65535). AL\_TYPE: 0x3B

Symbology\_ID: The ID number of symbology, 1

byte. DATA: Raw barcode data.

LRC: Check digit.

LRC calculation algorithm: computation sequence: 0xFF+LEN+AL\_TYPE+Symbology\_ID+DATA; computation method is XOR, byte by byte.



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
**Enter Setup**

---



@PACKAG0  
**\*\* Disable Data Packing**



@PACKAG1  
**Enable Data Packing, Format 1**



@PACKAG2  
**Enable Data Packing, Format 2**



#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  
\*\* Set Terminating Character to CR (0x0D)



@TSUSET0D0A  
Set Terminating Character to CRLF (0x0D,0x0A)



#SETUPE0  
\*\* Exit Setup



#SETUPE1  
**Enter Setup**

---

**E**  
*sample*

**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 **Enable Terminating Character Suffix** barcode.
6. Scan the **Exit Setup** barcode.



#SETUPE0  
**\*\* Exit Setup**



#SETUPE1  
Enter Setup

## Chapter 8 Batch Programming

### Introduction

Batch programming enables users to integrate a batch of commands into a single batch

barcode. Listed below are batch programming rules:

1. Command format: Command + Parameter Value.
2. Each command is terminated by a semicolon (;). Note that there is no space between a command and its terminator semicolon.
3. Use the barcode generator software to generate a 2D batch barcode.

Example: Create a batch barcode for **Illumination On, Sense Mode, Decode Session Timeout = 2s**:

1. Input the commands:

@ILLSCN1;SCNMOD2;ORTSET

2000;

2. Generate a batch barcode.

When setting up a scanner with the above configuration, scan the **Enable Batch Barcode** barcode and then the batch barcode generated.



@BATCHS  
Enable Batch Barcode



#SETUPE0  
\*\* Exit Setup



#SETUPE1

Enter Setup

---

## Create a Batch Command

A batch command may contain a number of individual commands each of which is terminated by a semicolon (;). For more information, refer to the “Use of Programming Command” section in Chapter 3.

## Create a Batch Barcode

Batch barcodes can be produced in the format of PDF417, QR Code or Data Matrix.

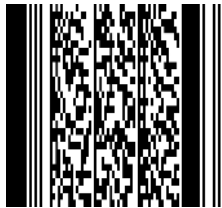
Example: Create a batch barcode for **Illumination On, Sense Mode, Decode Session Timeout = 2s**:

1. Input the following commands:

@ILLSCN1;SCNMOD2;ORTSET

2000;

2. Generate a PDF417 batch barcode.



#SETUPE0

\*\* Exit Setup



#SETUPE1  
**Enter Setup**

---

## Use Batch Barcode

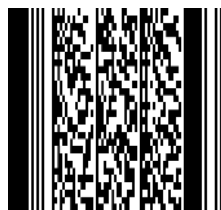
To put a batch barcode into use, scan the following barcodes. (Use the example above.)



@SETUPE1  
**Enter Setup**



@BATCHS  
**Enable Batch Barcode**



**Batch Barcode**



@SETUPE0  
**Exit Setup**



#SETUPE0  
**\*\* Exit Setup**



@SETUP E1  
Enter Setup

## Appendix

### Digit Barcodes

0~9



@DIGIT 0  
0



@DIGIT 2  
2



@DIGIT 4  
4



@DIGIT 1  
1



@DIGIT 3  
3



@DIGIT 5  
5



@DIGIT6

6



@DIGIT7

7



@DIGIT8

8



@DIGIT9

9

---

A~F



@DIGITA

A



@DIGITB

B



@DIGITC

C



@DIGITD

D



@DIGITE

E



@DIGITF

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.



## Factory Defaults Table

| Parameter                                | Factory Default       | Remark        |
|------------------------------------------|-----------------------|---------------|
| <b>System Settings</b>                   |                       |               |
| Barcode Programming                      | Disabled (Exit Setup) |               |
| Programming Barcode Data                 | Do not transmit       |               |
| Illumination                             | On                    |               |
| Aiming                                   | On                    |               |
| Good Read LED                            | On                    |               |
| Good Read LED Duration                   | Short (20ms)          |               |
| Power On Beep                            | On                    |               |
| Good Read Beep                           | On                    |               |
| Good Read Beep Duration                  | Medium (80ms)         |               |
| Good Read Beep Frequency                 | Medium (2730Hz)       |               |
| Good Read Beep Volume                    | Loud                  |               |
| Scan Mode                                | Level Mode            |               |
| Decode Session Timeout                   | 3,000ms.              | 1-3,600,000ms |
| Image Stabilization Timeout (Sense Mode) | 200ms                 | 0-3,000ms     |
| Reread Timeout                           | Disabled              |               |
|                                          | 1,000ms               | 1-3,600,000ms |
| Reset Reread Timeout                     | Off                   |               |
| Image Decoding Timeout                   | 500ms                 | 1-3,000ms     |
| Surround GS1 AI's with Parentheses       | Off                   |               |
| Sensitivity                              | Enhanced Sensitivity  |               |
| Trigger Commands                         | Disabled              |               |
| Scanning Preference                      | Normal                |               |
| Read Barcode                             | On                    |               |
| Decode Area                              | Whole Area Decoding   |               |
| Image Flipping                           | Do Not Flip           |               |
| Bad Read Message                         | Off                   |               |
|                                          | NG                    |               |
| Smart Stand Mode                         | On                    |               |
| Default Interface                        | USB HID Keyboard      |               |
| <b>RS-232 Interface</b>                  |                       |               |
| Interface Cables Auto Match              | On                    |               |
| Baud Rate                                | 9600                  |               |

|                                  |                                      |                  |
|----------------------------------|--------------------------------------|------------------|
| Parity Check                     | None                                 |                  |
| Data Bits                        | 8                                    |                  |
| Stop Bits                        | 1                                    |                  |
| <b>USB Interface</b>             |                                      |                  |
| USB Country Keyboard             | US keyboard                          | USB HID Keyboard |
| Beep on Unknown Character        | Off                                  | USB HID Keyboard |
| Emulate ALT+Keypad               | Off                                  | USB HID Keyboard |
| Code Page                        | Code Page 936 (Chinese, GB2312, GBK) | USB HID Keyboard |
| Unicode Encoding                 | Off                                  | USB HID Keyboard |
| Emulate Keypad with Leading Zero | On                                   | USB HID Keyboard |
| Function Key Mapping             | Disable                              | USB HID Keyboard |
| Inter-Keystroke Delay            | No Delay                             | USB HID Keyboard |
| Caps Lock                        | Off(Non Japanese Keypad)             | USB HID Keyboard |
| Convert Case                     | No Case Conversion                   | USB HID Keyboard |
| Emulate Numeric Keypad 1         | Off                                  | USB HID Keyboard |
| Emulate Numeric Keypad 2         | Off                                  | USB HID Keyboard |
| Fast Mode                        | Off                                  | USB HID Keyboard |
| Polling Rate                     | 1ms                                  | USB HID Keyboard |
| <b>Symbologies</b>               |                                      |                  |
| <b>Global Settings</b>           |                                      |                  |
| 1D Twin Code                     | Single 1D Code Only                  |                  |
| <b>Code 128</b>                  |                                      |                  |
| Code 128                         | Enabled                              |                  |
| Maximum Length                   | 48                                   |                  |
| Minimum Length                   | 1                                    |                  |
| <b>EAN-8</b>                     |                                      |                  |
| EAN-8                            | Enabled                              |                  |
| Check Character                  | Transmit                             |                  |
| 2-Digit Add-On Code              | Disabled                             |                  |
| 5-Digit Add-On Code              | Disabled                             |                  |
| Add-On Code Required             | Not Required                         |                  |
| Convert EAN-8 to EAN-13          | Disabled                             |                  |

|                                                    |                            |  |
|----------------------------------------------------|----------------------------|--|
| <b>EAN-13</b>                                      |                            |  |
| EAN-13                                             | Enabled                    |  |
| Check Character                                    | Transmit                   |  |
| 2-Digit Add-On Code                                | Disabled                   |  |
| 5-Digit Add-On Code                                | Disabled                   |  |
| 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 |  |
| <b>UPC-E</b>                                       |                            |  |
| <b>UPC-E</b>                                       | Enabled                    |  |
| UPC-E0                                             | Enabled                    |  |
| UPC-E1                                             | Disabled                   |  |
| Check Character                                    | Transmit                   |  |
| 2-Digit Add-On Code                                | Disabled                   |  |
| 5-Digit Add-On Code                                | Disabled                   |  |
| Add-On Code Required                               | Not Required               |  |
| Transmit Preamble Character                        | System Character           |  |
| <b>UPC-A</b>                                       |                            |  |
| UPC-A                                              | Enabled                    |  |
| Check Character                                    | Transmit                   |  |
| 2-Digit Add-On Code                                | Disabled                   |  |
| 5-Digit Add-On Code                                | Disabled                   |  |
| Add-On Code Required                               | Not Required               |  |
| Transmit Preamble Character                        | System Character           |  |

|                                        |                                                |                |
|----------------------------------------|------------------------------------------------|----------------|
| <b>Coupon</b>                          |                                                |                |
| UPC-A/EAN-13 with Extended Coupon Code | Off                                            |                |
| Coupon GS1 DataBar Output              | Off                                            |                |
| <b>Interleaved 2 of 5</b>              |                                                |                |
| Interleaved 2 of 5                     | Enabled                                        |                |
| Maximum Length                         | 127                                            |                |
| Minimum Length                         | 1                                              |                |
| Check Character Verification           | Do not transmit check digit after verification |                |
| Safety Level                           | 1                                              |                |
| <b>Febraban</b>                        |                                                |                |
| Febraban                               | Disable                                        |                |
| Transmit Delay per Character           | Disable                                        |                |
| Transmit Delay per 12 Character        | Disable                                        |                |
| <b>ITF-14</b>                          |                                                |                |
| ITF-14                                 | Enable, But Do Not Transmit Check Character    |                |
| <b>ITF-6</b>                           |                                                |                |
| ITF-6                                  | Disabled                                       |                |
| <b>Matrix 2 of 5</b>                   |                                                |                |
| Matrix 2 of 5                          | Disabled                                       |                |
| Maximum Length                         | 127                                            |                |
| Minimum Length                         | 1                                              | No less than 4 |
| Check Character Verification           | Do not transmit check digit after verification |                |
| <b>Code 39</b>                         |                                                |                |
| Code 39                                | Enabled                                        |                |
| Maximum Length                         | 127                                            |                |
| Minimum Length                         | 1                                              |                |
| Check Character Verification           | Disabled                                       |                |
| Start/Stop Character                   | Do not transmit                                |                |
| Code 39 Full ASCII                     | Enabled                                        |                |
| Code 32 Pharmaceutical (PARAF)         | Disabled                                       |                |
| Code 32 Prefix                         | Disabled                                       |                |
| Code 32 Start/Stop Character           | Do not transmit                                |                |
| Code 32 Check Character                | Do not transmit                                |                |
| <b>Codabar</b>                         |                                                |                |
| Codabar                                | Enabled                                        |                |

|                              |                                                    |                |
|------------------------------|----------------------------------------------------|----------------|
| Maximum Length               | 127                                                |                |
| Minimum Length               | 1                                                  |                |
| Check Character Verification | Disabled                                           |                |
| Start/Stop Character         | Do not transmit                                    |                |
|                              | ABCD/ABCD                                          | All capital    |
| <b>Code 93</b>               |                                                    |                |
| Code 93                      | Enabled                                            |                |
| Maximum Length               | 127                                                |                |
| Minimum Length               | 1                                                  |                |
| Check Character Verification | Do Not Transmit Check Character After Verification |                |
| <b>China Post 25</b>         |                                                    |                |
| China Post 25                | Disabled                                           |                |
| Maximum Length               | 127                                                |                |
| Minimum Length               | 1                                                  |                |
| Check Character Verification | Disabled                                           |                |
| <b>UCC/EAN-128</b>           |                                                    |                |
| UCC/EAN-128                  | Enabled                                            |                |
| Maximum Length               | 127                                                |                |
| Minimum Length               | 1                                                  |                |
| <b>GS1 Databar</b>           |                                                    |                |
| GS1 Databar                  | Enabled                                            |                |
| Application Identifier "01"  | Transmit                                           |                |
| <b>EAN-UCC Composite</b>     |                                                    |                |
| GS1 Composite                | Disabled                                           |                |
| UPC/EAN Composite            | Disabled                                           |                |
| <b>Code 11</b>               |                                                    |                |
| Code 11                      | Disabled                                           |                |
| Maximum Length               | 127                                                |                |
| Minimum Length               | 1                                                  | No less than 4 |
| Check Character Verification | One Check Character, MOD11                         |                |
| Check Character              | Do Not Transmit                                    |                |
| <b>ISBN</b>                  |                                                    |                |
| ISBN                         | Enabled                                            |                |
| Set ISBN Format              | ISBN-13                                            |                |
| <b>ISSN</b>                  |                                                    |                |

|                              |                                                    |                |
|------------------------------|----------------------------------------------------|----------------|
| ISSN                         | Disabled                                           |                |
| <b>Industrial 25</b>         |                                                    |                |
| Industrial 25                | Enabled                                            |                |
| Maximum Length               | 127                                                |                |
| Minimum Length               | 1                                                  |                |
| Check Character Verification | Disabled                                           |                |
| <b>Standard 25</b>           |                                                    |                |
| Standard 25                  | Enabled                                            |                |
| Maximum Length               | 127                                                |                |
| Minimum Length               | 1                                                  | No less than 4 |
| Check Character Verification | Do Not Transmit Check Character After Verification |                |
| <b>Plessey</b>               |                                                    |                |
| Plessey                      | Enabled                                            |                |
| Maximum Length               | 127                                                |                |
| Minimum Length               | 1                                                  | No less than 4 |
| Check Character Verification | Do Not Transmit Check Character After Verification |                |
| <b>MSI-Plessey</b>           |                                                    |                |
| MSI-Plessey                  | Enabled                                            |                |
| Maximum Length               | 127                                                |                |
| Minimum Length               | 1                                                  | No less than 4 |
| Check Character Verification | One Check Character, MOD10                         |                |
| Check Character              | Disable                                            |                |
| <b>AIM 128</b>               |                                                    |                |
| AIM 128                      | Enabled                                            |                |
| Maximum Length               | 127                                                |                |
| Minimum Length               | 1                                                  |                |
| <b>ISBT 128</b>              |                                                    |                |
| ISBT 128                     | Disabled                                           |                |
| <b>PDF417</b>                |                                                    |                |
| PDF417                       | Enabled                                            |                |
| Maximum Length               | 2710                                               |                |
| Minimum Length               | 1                                                  |                |
| PDF417 Twin Code             | Single PDF417 Only                                 |                |
| PDF417 Inverse               | Decode Regular PDF417 Barcodes Only                |                |
| Character Encoding           | Default Character Encoding                         |                |

|                                  |                                          |  |
|----------------------------------|------------------------------------------|--|
| PDF417 ECI Output                | Disabled                                 |  |
| <b>QR Code</b>                   |                                          |  |
| QR Code                          | Enabled                                  |  |
| Maximum Length                   | 7089                                     |  |
| Minimum Length                   | 1                                        |  |
| QR Twin Code                     | Single QR Only                           |  |
| QR Inverse                       | Decode Regular QR Barcodes Only          |  |
| Character Encoding               | Default Character Encoding               |  |
| QR ECI Output                    | Disabled                                 |  |
| URL QR Code                      | Enabled                                  |  |
| <b>Aztec</b>                     |                                          |  |
| Aztec Code                       | Disabled                                 |  |
| Maximum Length                   | 3832                                     |  |
| Minimum Length                   | 1                                        |  |
| Read Multi-barcodes on an Image  | Mode 1                                   |  |
| Character Encoding               | Default Character Encoding               |  |
| Aztec ECI Output                 | Disabled                                 |  |
| <b>Data Matrix</b>               |                                          |  |
| Data Matrix                      | Enabled                                  |  |
| Maximum Length                   | 3116                                     |  |
| Minimum Length                   | 1                                        |  |
| Data Matrix Twin Code            | Single Data Matrix Only                  |  |
| Rectangular Barcode              | Enabled                                  |  |
| Data Matrix Inverse              | Decode Regular Data Matrix Barcodes Only |  |
| Character Encoding               | Default Character Encoding               |  |
| Data Matrix ECI Output           |                                          |  |
| <b>Passport OCR</b>              |                                          |  |
| Passport OCR                     | Disabled                                 |  |
| <b>Chinese ID Card OCR</b>       |                                          |  |
| Chinese ID Card OCR              | Disabled                                 |  |
| <b>Chinese Travel Permit OCR</b> |                                          |  |
| Chinese Travel Permit OCR        | Disabled                                 |  |
| <b>Prefix &amp; Suffix</b>       |                                          |  |
| All Prefixes/Suffixes            | Disabled                                 |  |
| Prefix Sequence                  | Code ID+ Custom +AIM ID                  |  |

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|                              |                      |  |
|------------------------------|----------------------|--|
| Custom Prefix                | Disabled             |  |
| AIM ID Prefix                | Disabled             |  |
| Code ID Prefix               | Disabled             |  |
| Custom Suffix                | Disabled             |  |
| Data Packing                 | Disable Data Packing |  |
| Terminating Character Suffix | Disabled             |  |

## AIM ID Table

| Symbology                    | AIM ID | Possible AIM ID Modifiers (m) |
|------------------------------|--------|-------------------------------|
| Code128                      | JC0    |                               |
| GS1-128 (UCC/EAN-128)        | JC1    |                               |
| EAN-8                        | JE4    |                               |
| EAN-8 with Addon             | JE3    |                               |
| EAN-13                       | JE0    |                               |
| EAN-13 with Addon            | JE3    |                               |
| UPC-E                        | JE0    |                               |
| UPC-E with Addon             | JE3    |                               |
| UPC-A                        | JE0    |                               |
| UPC-A with Addon             | JE3    |                               |
| Interleaved 2 of 5, Febraban | JIm    | 0, 1, 3                       |
| ITF-14                       | JIm    | 1, 3                          |
| ITF-6                        | JIm    | 1, 3                          |
| Matrix 2 of 5                | JX0    |                               |
| Code 39                      | JAm    | 0, 1, 3, 4, 5, 7              |
| Codabar                      | JFm    | 0, 2, 4                       |
| Code 93                      | JG0    |                               |
| China Post 25                | JX0    |                               |
| AIM 128                      | JC2    |                               |
| ISBT 128                     | JC4    |                               |
| ISSN                         | JX0    |                               |
| ISBN                         | JX0    |                               |
| Industrial 25                | JS0    |                               |
| Standard 25                  | JR0    |                               |
| Plessey                      | JP0    |                               |
| Code 11                      | JHm    | 0, 1, 3                       |
| MSI Plessey                  | JMm    | 0, 1                          |
| GS1 Composite                | Jem    | 0-3                           |
| GS1 Databar (RSS)            | Je0    |                               |

| Symbology               | AIM ID | Possible AIM ID Modifiers (m) |
|-------------------------|--------|-------------------------------|
| PDF417                  | ]Lm    | 0-2                           |
| QR Code                 | ]Qm    | 0-6                           |
| Aztec                   | ]zm    | 0-9, A-C                      |
| Data Matrix             | ]dm    | 0-6                           |
| Micro PDF417            | ]L0    |                               |
| Micro QR                | ]Q1    |                               |
| Passport OCR            | ]o2    |                               |
| Chinese ID Card         | ]o2    |                               |
| China Travel Permit 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 |
|-----------------------|---------|
| Code128               | j       |
| GS1-128 (UCC/EAN-128) | j       |
| EAN-8                 | d       |
| EAN-13                | d       |
| UPC-E                 | c       |
| UPC-A                 | c       |
| Interleaved 2 of 5    | e       |
| ITF-14                | e       |
| ITF-6                 | e       |
| Matrix 2 of 5         | v       |
| Code 39               | b       |
| Codabar               | a       |
| Code 93               | i       |
| China Post 25         | X       |
| AIM 128               | X       |
| ISBT 128              | X       |
| ISSN                  | g       |
| ISBN                  | B       |
| Industrial 25         | l       |
| Standard 25           | f       |
| Plessey               | n       |
| Code 11               | H       |
| MSI Plessey           | m       |
| GS1 Composite         | y       |
| GS1 Databar (RSS)     | R       |
| PDF417                | r       |
| QR Code               | s       |
| Aztec                 | z       |
| Data Matrix           | u       |
| MaxiCode              | x       |
| Micro PDF417          | R       |
| Micro QR              | X       |
| Passport OCR          | O       |

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|                         |   |
|-------------------------|---|
| Chinese ID Card         | S |
| China Travel Permit OCR | S |

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## Symbology ID Number

| Symbology             | ID Number |
|-----------------------|-----------|
| Code 128              | 002       |
| GS1-128 (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       |
| AIM 128               | 020       |
| China Post 25         | 019       |
| ISBT 128              | 021       |
| ISSN                  | 023       |
| ISBN                  | 024       |
| Industrial 25         | 025       |
| Standard 25           | 026       |
| Plessey               | 027       |
| Code11                | 028       |
| MSI-Plessey           | 029       |
| GS1 Composite         | 030       |
| GS1 Databar (RSS)     | 031       |
| PDF417                | 032       |
| QR Code               | 033       |
| Aztec                 | 034       |
| Data Matrix           | 035       |
| Maxicode              | 036       |
| Micro PDF417          | 042       |
| Micro QR              | 043       |

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|                         |     |
|-------------------------|-----|
| Chinese ID Card         | 065 |
| Passport OCR            | 066 |
| China Travel Permit OCR | 068 |

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## 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)                 |

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| 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)             |

Unicode Key Maps

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 6E | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 7A | 7B | 7C | 7D | 7E |    |    |    |    |    |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A | 0B | 0C | 0D | 0F | 4B | 50 | 55 | 5A | 5F | 64 | 69 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 1A | 1B | 1C | 1D | 4C | 51 | 56 | 5B | 60 | 65 | 6A |
| 1E | 1F | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 2B |    |    |    |    | 5C | 61 | 66 |    |
| 2C | 2E | 2F | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 39 |    |    | 53 |    |    | 5D | 62 | 67 | 6C |
| 3A | 3B | 3C | 3D |    |    |    |    |    | 3E | 3F | 38 | 40 | 4F | 54 | 59 | 63 | 68 |    |    |    |

104 Key U.S. Style Keyboard

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 6E | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 7A | 7B | 7C | 7D | 7E |    |    |    |    |    |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A | 0B | 0C | 0D | 0F | 4B | 50 | 55 | 5A | 5F | 64 | 69 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 1A | 1B | 1C | 2B | 4C | 51 | 56 | 5B | 60 | 65 | 6A |
| 1E | 1F | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 1D |    |    |    |    | 5C | 61 | 66 |    |
| 2C | 2D | 2E | 2F | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 39 |    |    | 53 |    | 5D | 62 | 67 | 6C |
| 3A | 3B | 3C | 3D |    |    |    |    |    | 3E | 3F | 38 | 40 | 4F | 54 | 59 | 63 |    | 68 |    |    |

105 Key European Style Keyboard

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