

BCR12E Fixed Scanner User Guide v1.0



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

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Revision History

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Table of Contents

Preface	1
About This Manual	1
Chapter Outline	1
Reading Tips	1
Tools Download	2
Programming Barcode	2
 Chapter1 About BCR12E	 3
Introduction	3
Main Features	3
User Scenario	3
Specification	4
Dimension	5
Scanner	5
Cable	5
USB Cable.....	5
RS-232 Cable.....	6
Component	6
Installation Instruction	7
Prepare the scanner and connection cable	7
Connecting the scanner to the host	7
Using USB Cable.....	7
Using RS-232 Cable.....	8
Connecting & Scanning Instructions	8
Query Product Information	9
Query the Firmware Version	9
Query the Serial Number	9
Factory Defaults	10
 Chapter2 Communication Settings	 11
232 Serial Communication	11
232 Serial Interface	11
TTL-232 Interface	11
Baud Rate	12
Parity Check & Data Bit & Stop Bit	13
USB Communication Settings	15
USB Interface	15
USB HID-KB	15
USB Country Keyboard Types.....	15
Convert Case.....	20
Keyboard Turbo Mode.....	20
Transmission Speed.....	21
Intercharacter Delay.....	22
USB COM Port Emulation	22
USB HID-POS	23

Chapter3 System Settings	24
Scan Mode	24
Trigger Mode	24
Presentation Mode	25
Good Read Delay	25
Reread Delay	26
Illumination	27
On/Off	27
Illumination Level - Trigger Mode	27
Illumination Level - Presentation Mode	28
Good Read Beeper	29
On/Off	29
Good Read Beeper Volume	29
Good Read Beeper Duration	30
Good Read Beeper Frequency	30
Inverse Color	31
 Chapter4 Prefix & Suffix	 32
General Configuration	32
Add Prefix	32
Add Suffix	33
Clear All Prefix and Suffix	34
 Chapter5 Symbolologies	 35
General Setting	35
1D Symbolologies	36
Code 128	36
Enable/Disable Code 128	36
Message Length	36
EAN-8	37
Enable/Disable EAN-8	37
Transmit Check Digit	37
Add-On Code	37
EAN-13	40
Enable/Disable EAN-13	40
Transmit Check Digit	40
Add-On Code	41
ISBN Translate	42
UPC-E	43
Enable/Disable UPC-E0	43
Enable/Disable UPC-E1	43
UPC-E0 Transmit Check Digit.....	44
UPC-E0 Expand	44
UPC-E0 Number System	45
Add-On Code	45
UPC-A	47
Enable/Disable UPC-A	47
Transmit Check Digit.....	47

Number System.....	48
Add-On Code	48
Interleaved 2 of 5.....	50
Enable/Disable Interleaved 2 of 5.....	50
Message Length	50
Check Digit	51
Matrix 2 of 5.....	51
Enable/Disable Matrix 2 of 5.....	51
Message Length	52
Industrial 2 of 5.....	52
Enable/Disable Industrial 2 of 5.....	52
Message Length	53
Code 39	53
Enable/Disable Code 39	53
Message Length	53
Start/Stop Character.....	54
Check Digit	54
Code 39 Full ASCII	55
Code 39 Append	55
Codabar	55
Enable/Disable Codabar	55
Message Length	56
Start/Stop Character.....	56
Check Digit	57
Code 93	57
Enable/Disable Code 93	57
Message Length	57
Code 93 Append	58
GS1-128	58
Enable/Disable GS1-128	58
Message Length	59
MSI	59
Enable/Disable MSI	59
Message Length	60
Check Digit	60
Code 11	61
Enable/Disable Code 11	61
Check Digit	62
Code 32	62
Enable/Disable Code 32	62
CodaBlock F Code	63
Enable/Disable CodaBlock F Code	63
GS1 DataBar	63
Enable/Disable GS1 DataBar	63
GS1 DataBar Limited	64

Enable/Disable GS1 DataBar Limited	64
GS1 DataBar Expanded	64
Enable/Disable GS1 DataBar Expanded	64
2D Symbolologies	65
PDF417	65
Enable/Disable PDF417	65
Message Length	65
Enable/Disable Micro PDF417	65
QR Code	66
Enable/Disable QR Code	66
Message Length	66
QR Code Append	67
QR Code - URLs	67
Data Matrix	68
Enable/Disable Data Matrix	68
Message Length	68
Maxi Code	69
Enable/Disable Maxi Code	69
Message Length	69
Aztec	70
Enable/Disable Aztec	70
Message Length	70
Aztec Append	70
Hanxin	71
Enable/Disable Hanxin	71
Message Length	71
ECI	72
Postal Code	73
China Postal Code	73
Enable/Disable China Postal Code	73
Telepen	73
Enable/Disable Telepen	73

Chapter6 Data Formatter	74
Introduction	74
Add a Data Format	74
Change Data Format for Single Scan	75
Clear All Data Formats	76
Data Formatting	77
Send all characters	77
Send a number of characters	77
Send all characters up to a particular character.....	79
Send all characters up to a string.....	79
Send all but the last characters.....	80
Insert a character multiple times.....	81

Insert a string.....	82
Insert symbology name.....	83
Insert bar code length.....	83
Insert Key Strokes	85
Insert a Delay	86
Move the cursor forward a number of characters.....	87
Move the cursor backward a number of characters.....	88
Move the cursor to the beginning.....	89
Move the cursor to the end.....	89
Search forward for a character.....	90
Search backward for a character.....	91
Search forward for a string	91
Search backward for a string	92
Search forward for a non-matching character.....	93
Search backward for a non-matching character.....	94
Suppress characters.....	94
Stop suppressing characters.....	95
Replace characters.....	96
Stop replacing characters.....	97
Compare characters	97
Compare string	98
Check for a number	99
Check for non-numeric character	100

Chapter7 Q&A 101

How to print out the Chinese in the QR code?	101
How to print out the Japanese in the QR code?	102
How to print out the Korean in the QR code?	103
How to print out the Thai in the QR code?	104

Appendix.....105

Digit Barcode	105
ASCII Table	106
AIM ID	109
Code ID	111
Terminal ID	111
Unicode Key Maps	112
Key Modifiers	112
Factory Defaults Table	113

Preface

About This Manual

This manual mainly provides the function introduction and settings of the BCR12E Fixed Scanner of Star-Asia Technology Ltd. by scanning the [programming barcode](#), user can change the parameter settings of the products.

Chapter Outline

- Chapter1** [About BCR12E](#) : Introduce BCR12E's specifications, installation instructions, etc.
- Chapter2** [Communication Settings](#) : Introduces parameter settings for communication via USB and RS-232.
- Chapter3** [System Settings](#) : Introduces how to set parameters for the scanner.
- Chapter4** [Prefix&Suffix](#) : Introduces how to use prefix and suffix to customize scanned data.
- Chapter5** [Symbolologies](#) : Lists all compatible symbolologies and describes how to configure the relevant parameters.
- Chapter6** [Data Formatter](#) : Introduces how to customize scanned data with the data formatter.
- Chapter7** [Q&A](#) : Provides output settings in Chinese, Japanese, Korean and Thai.
- [Appendix](#) : Provides ASCII Table, AIM ID, Code ID, etc.

Reading Tips



NOTICE



Example



Jump Link

Tools Download

You can download the package, driver and SuperConfig User Guide by visiting the website www.starasia.com.

Programming Barcode



- ① The Trigger Mode Barcode
- ② The Trigger Mode Command
- ③ The description of the feature, * indicates factory defaults settings.

Generally, the scanner does not send the contents of the programming barcode to the host after scanning. If the user wants to output the programming barcode information, it can be implemented by scanning the barcode below.



Not Print Out *



Print Out

Chapter1 About BCR12E

Introduction

Based on the world's advanced image decoding technology, the StarAsia BCR12E Fixed Scanner offers industry-leading performance and reliability. As a professional mobile phone barcode reader, it has an extra-large field of view and a simple and stylish exterior design, making it easy to read all mainstream one-dimensional codes and two-dimensional codes.

Powered by area-imaging technology and StarAsia 2D Barcoder Reader patented “Hercules” technology, the StarAsia 2D Barcoder Reader features fast scanning and decoding accuracy. Barcodes rotated at any angle can still be read with ease. When scanning a barcode, simply center the aiming beam or pattern projected by the StarAsia 2D Barcoder Reader over the barcode.

Main Features

- ✧ Professional mobile phone reader
- ✧ Large field of view
- ✧ Object auto sense
- ✧ Build in RS232 and USB interface
- ✧ Fully read mainstream 1D and 2D
- ✧ Can read barcode on screen even without backlight from cellphone ✧ Multiple language barcode message transfer

User Scenario

Retail supermarket, catering, warehouse management, library management, distribution centers, manufacturing, etc.

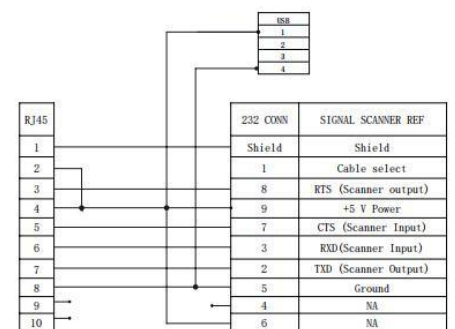
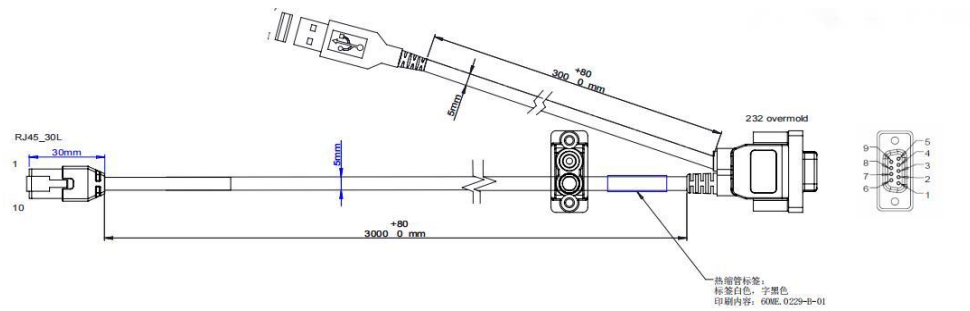
Specification

Physical Characteristics		
Dimensions		67.7mm x 67.7mm x 35.5mm
Weight		95g
Voltage/Current		5 VDC / 220mA
Performance Characteristics		
Image (Pixels)		640 p(H) x 480 p(V)
Light Source		Illumination: 6500K LED
Field of View		72°(H)x 57°(V)
Scan Angle		Pitch ±65° Yaw 360° Roll ±60°
Resolution		≥5mil
Symbol Contrast		≥25%
Interface		USB, RS232
Symbologies	1D	Code 128, EAN-8, EAN-13, UPC-A, UPC-E, Interleaved 2 of 5, Matrix 2 of 5, Industrial 2 of 5, Code 39, Code93, Codabar, GS1-128, MSI Plessey, Code 11, Code 32, CodaBlock F Code, GS1 DataBar, China Post, Telepen
	2D	PDF417, Micro PDF417, QR Code, Micro QR Code, Data Matrix, Aztec, Maxi Code, Hanxin
User Environment		
Operating Temperature		0℃ ~ 50℃
Storage Temperature		-40℃ ~ 70℃
Humidity		0% ~ 95%, non-condensing
Drop Resistance		Withstand drop 1.5m(5′) on concrete
Ambient Light Immunity		100,000 Lux.
Typical Depth of Field		
Code 39 (5.13mil)		15mm - 40mm
Code 39 (10.15mil)		5mm - 100mm
Code 39 (20mil)		5mm - 195mm
UPC-A (13mil)		5mm - 140mm
PDF417 (6.88mil)		0mm - 60mm
QR (20mil)		0mm - 95mm

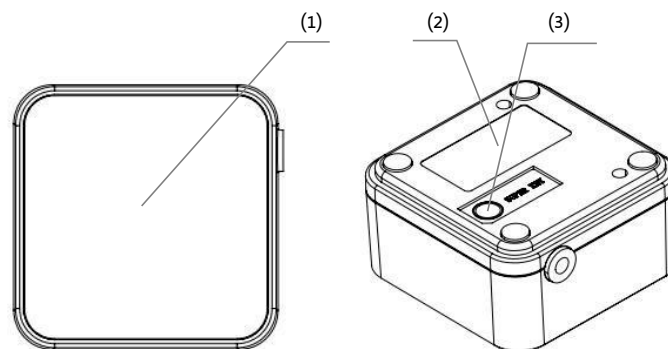
THE ABOVE PARAMETERS SUBJECT TO CHANGE WITHOUT NOTICE.

RS-232 Cable

unit: mm



Component



(1) Scan Window

(2) StarAsia Label

(3) SUPER KEY

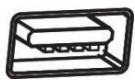
Installation Instruction

Prepare the scanner and connection cable

Take the BCR12E and the connection cable out of the packing box, and the user can choose the USB cable or RS-232 cable based on actual usage.

Connecting the scanner to the host

The BCR12E must be connected to a host in actual application, such as PC, POS or any smart terminal with a USB or RS-232 port, using a communication cable ([USB cable](#) or [RS-232 cable](#)).



USB port on the host



RS-232 port on the host



RJ45 port on the scanner

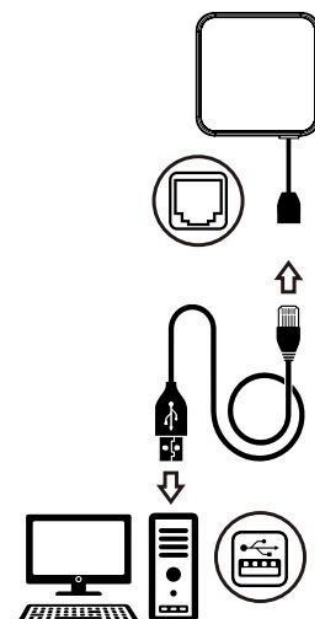
Using USB Cable

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

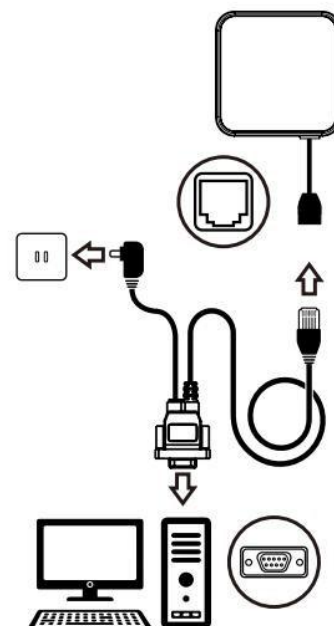
1. Plug the RJ45 connector into the data port on the scanner.
2. Plug the USB connector into the USB port on the host.

Using RS-232 Cable

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



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



Connecting & Scanning Instructions

1. When the scanner is connected to the host via **USB cable**, there are three communication methods. The steps are as follow:

a. USB HID-KB

Step 1: Scan the programming barcode [USB HID-KB](#).

Step 2: Open text editor on the host.

Step 3: Place the barcode in front of the scanning window, as shown in the figure above.

If the barcode is decoded successfully, the scanner will emit a good read beep and the decoded data will be sent to the text editor that open in *step 2*.

b. USB COM Port Emulation

Step 1: Scan the programming barcode [USB COM Port Emulation](#).

Step 2: Open the SuperConfig, select the correct port, connect the scanner.

Step 3: Place the barcode in front of the scanning window, as shown in the figure above.

If the barcode is decoded successfully, the scanner will emit a good read beep and the decoded data will be sent to the *Data Terminal* in the SuperConfig.

c. USB HID-POS

Step 1: Scan the programming barcode [USB HID-POS](#).

Step 2: Open the POS tool, select the correct port, connect the scanner.

Step 3: Place the barcode in front of the scanning window, as shown in the figure above.

If the barcode is decoded successfully, the scanner will emit a good read beep and the decoded data will be sent to the *POS tool*.

2. When the scanner is connected to the host via **RS-232 cable**, the steps are as follow:

Step 1: Open the SuperConfig, select the correct port, [baud rate](#) and [parity check & data bit & stop bit](#), connect the scanner.

Step 2: Place the barcode in front of the scanning window, as shown in the figure above.

If the barcode is decoded successfully, the scanner will emit a good read beep and the decoded data will be sent to the *Data Terminal* in the SuperConfig.

Query Product Information

Query the Firmware Version

Scanning the programming barcode below can display the firmware version.



Display the Firmware Version

Query the Serial Number

Scanning the programming barcode below can display the product serial number.



Display the Serial Number

Factory Defaults

Scanning the programming barcode below can restore the scanner to the factory defaults.



Restore All Factory Defaults

 Please use this feature with discretion.

Chapter2 Communication Settings

StarAsia 2D barcode scanner provides 232 serial communication interface and USB interface to communicate with the host. The following functions can be achieved through the communication interface.

- Receiving decoded data
- Interaction by serial commands
- Gain access to decoded data and captured image, to configure scanners

232 Serial Communication

232 Serial Interface

The product with non-auto cable must be set the interface to *232 Cable* by scanning the programming barcode below, the product with auto cable is plug and play.



232 Cable

TTL-232 Interface

Serial communication interface is a common way to connect a scanner to a host, such as PC, POS, etc.

When the serial communication interface is used, the communication parameters ([baud rate](#), [parity check & data bit & stop bit](#)) between the scanner and the host must be fully matched to ensure smooth communication and accuracy of data. You can configure the correct parameters by scanning the programming barcode.

The serial communication interface provided by the engine is based on TTL-level signals. TTL-232 can be used for most application architectures. For those requiring RS-232, an external conversion circuit is needed. The conversion circuit is available only to some models.

The default serial communication parameters are as follows. Make sure all parameters match the host requirements.

Parameter	Factory Default
Serial Communication	Standard TTL-232
Baud Rate	115200
Parity Check	None
Data Bits	8
Stop Bits	1
Hardware Flow Control	None

Baud Rate

The baud rate is the number of bits of data transmitted per second. The baud rate must match that of the host.



0607023.

2400



0607024.

4800



0607025.

9600



0607026.

19200



0607027.

38400



0607028.

57600



0607029.

115200 *

Parity Check & Data Bit & Stop Bit



0607030.

None Parity/7 Data Bits/1 Stop Bit



0607031.

None Parity/7 Data Bits/2 Stop Bits



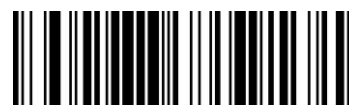
0607032.

None Parity/8 Data Bits/1 Stop Bit *



0607033.

Even Parity/7 Data Bits/1 Stop Bit



0607034.

Even Parity/7 Data Bits/2 Stop Bits



0607035.

Even Parity/8 Data Bits/1 Stop Bit



0607036.

Odd Parity/7 Data Bits/1 Stop Bit



0607037.

Odd Parity/7 Data Bits/2 Stop Bits



0607038.

Odd Parity/8 Data Bits/1 Stop Bit

 Some products only support *None Parity/8 Data Bits/1 Stop Bit*.

USB Communication Settings

When using USB communication, you can select the following three connection modes based on actual requirements.

- [USB HID-KB](#)
- [USB COM Port Emulation](#)
- [USB HID-POS](#)

USB Interface

The product with non-auto cable must be set the interface to *USB Cable* by scanning the programming barcode below, the product with auto cable is plug and play.



USB Cable

USB HID-KB

When the scanner connecting to the host via USB cable, the scanner can be enumerated as a HID keyboard device by scanning the following barcode. In this mode, the scanner acts as a plug-and-play device that simulates keyboard strokes to output data to the host.



USB HID-KB *

USB Country Keyboard Types

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



060E000.

USA *



060E007.

UK



060E008.

Denmark



060E003.

France



060E002.

Finland



060E0027.

Turkey_F



060E005.

Italy



060E009.

Norway



060E0035.

Albania



060E001.

Belgium



060E0033.

Bosnia



060E0016.

Brazil



060E0032.

Croatia



060E0038.

Czech



060E0011.

Dutch



060E0041.

Estonia



060E004.

Germany



060E0066.

Greek



060E0019.

Hungary



060E0073.

Irish



060E0043.

Latvia



060E0044.

Lithuania



060E0034.

Macedonia



060E0010.

Spain



060E0057.

Poland



060E0013.

Portugal



060E0025.

Romania



060E0026.

Russia



060E0046.

Japan

 Work for [USB HID-KB](#).

Convert Case

Convert all to upper case: All letters in the barcode data are converted to uppercase letters regardless of whether they are uppercase or lowercase.

Convert all to lower case: All letters in the barcode data are converted to lowercase letters regardless of whether they are uppercase or lowercase.



060D020.

No Case Conversion *



060D021.

Convert All to Upper Case



060D022.

Convert All to Lower Case

 Work for [USB HID-KB](#).

Keyboard Turbo Mode

In Keyboard Turbo Mode, the data transfer speed is accelerated.



060D041.

Enable



060D040.

Disable *

Work for [USB HID-KB](#).

Transmission Speed

Scanning the programming barcode below can set the transmission speed.



060F0C1.

High



060F0C8.

Medium *



060F0C20.

Slow

Work for [USB HID-KB](#).

Intercharacter Delay



080B000.

Delay-0ms *



080B0010.

Delay-50ms



080B0020.

Delay-100ms

Work for [USB HID-KB](#).

USB COM Port Emulation

When the scanner uses the USB communication interface, but the application on the host uses serial communication to receive data, you can set the scanner to *USB COM Port Emulation* to connect to the host.



060802130.

USB COM Port Emulation

User can download the package and driver by visiting www.starasia.com.

USB HID-POS

When you want to use the scanner on the POS, you can scan the programming barcode below to switch.



USB HID-POS

Chapter3 System Settings

Scan Mode

Trigger Mode

If the Trigger Mode is enabled, you could activate the scanner by pressing an external button or using a trigger command.



Trigger Mode

Triggered by an external button

When the external button is pressed, the scanner will continue scanning until the decoding is successful or the external key is manually released.

Triggered by serial command

When the trigger command is sent, the scanner will continue scanning until the decoding is successful or the release command is sent.

Serial Trigger/Release Command:

Trigger Command	[0x02][0xF4][0x03]
Release Command	[0x02][0xF5][0x03]

-  1. In the trigger mode, the decoding timeout is set to 30ms by default. When this time is exceeded, the scanning will be terminated.
2. See the *SuperConfig User Guide* for details on how to use the serial port tool.

Presentation Mode

Presentation Mode - Normal

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



Presentation Mode - Normal *

Presentation Mode - Continue Scan

The scanner automatically starts one decode session after another. To suspend/resume barcode reading, simply press the trigger. Reread Timeout can avoid undesired rereading of same barcode in a given period of time.



Presentation Mode - Continue Scan



In this scan mode, enable reread delay can avoid undesired rereading of same barcode in a given period of time.

Good Read Delay

Good read delay sets the minimum amount of time before the scanner can read another barcode. To set the good read delay, scan the programming barcode below.



No Delay *



Delay 500 ms



Delay 1000 ms

Reread Delay

Reread delay can avoid undesired rereading of same barcode in a given period of time. This feature is only applicable to the presentation mode (Normal and Continue scan).



Delay 350 ms *



Delay 750 ms



Delay 1000 ms

Illumination

On/Off



Illumination On *



Illumination Off

 Applies in the [manual trigger mode](#).

Illumination Level - Trigger Mode

The higher the illumination level, the brighter the illumination.



Level-4 *



Level-3



Level-2



0401001.

Level-1

Illumination Level - Presentation Mode

Illumination setting when **decoding**, the higher the illumination level, the brighter the illumination.



0401024.

Level-4 *



0401023.

Level-3



0401022.

Level-2



0401021.

Level-1

Illumination setting when **idle**, the higher the illumination level, the brighter the illumination.



0401013.

Level-4



0401012.

Level-3 *



0401011.

Level-2



0401010.

Level-1

Good Read Beeper

On/Off



0502101.

On *



0502100.

Off

Good Read Beeper Volume



05021D1.

Low



05021D2.

Middle



05021D3.

High *

Good Read Beeper Duration



0502160.

Normal *



0502161.

Short

Good Read Beeper Frequency



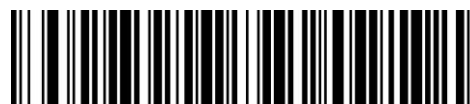
05020D800.

Extra Low



05020D2730.

Low *



05020D3280.

Medium



05020D4290.

High

Inverse Color



024B000.

Off *



024B001.

Only Inverse ON



024B002.

Inverse and Normal Both ON

Chapter4 Prefix & Suffix

General Configuration



090200.

Add CR



090202.

Add LF



090300.

Add CRLF



090201.

Add TAB

Add Prefix



080400.

Set Custom Prefix

Steps for adding prefix

Step1: Scan the programming barcode: **Set Custom Prefix**

Step2: Select the symbology to which the prefix is applied (Appendix [Code ID](#)), scan the [Digit Barcode](#).

Step3: Set the prefix, scan the [Digit Barcode](#) for hex values for characters to be added.

Step4: Scan the programming barcode: **Save**, If you want to discard the setting, scan the programming barcode: **Not Save**.



0D0400.

Save



0D0500.

Not Save



Set the custom prefix to “ODE”.

Steps are as follows:

1. Scan the programming barcode: *Set Custom Prefix*
2. Scan the [Digit Barcode](#): “9”, “9”
3. Check the hex values of ODE in the [ASCII Table](#) (O:4F, D:44, E:45)
4. Scan the [Digit Barcode](#): “4”, “F”, “4”, “4”, “4”, “5”
5. Scan the programming barcode: *Save*

Add Suffix



080500.

Set Custom Suffix

Steps for adding suffix

Step1: Scan the programming barcode: **Set Custom Suffix**

Step2: Select the symbology to which the suffix is applied (Appendix [Code ID](#)), scan the [Digit Barcode](#).

Step3: Set the suffix, scan the [Digit Barcode](#) for hex values for characters to be added.

Step4: Scan the programming barcode: **Save**, If you want to discard the setting, scan the programming barcode: **Not Save**.



0D0400.

Save



0D0500.

Not Save



Set the custom suffix to “ODE”.

Steps are as follows:

1. Scan the programming barcode: *Set Custom Suffix*
2. Scan the [Digit Barcode](#): “9”, “9”
3. Check the hex values of ODE in the [ASCII Table](#) (O:4F, D:44, E:45)
4. Scan the [Digit Barcode](#): “4”, “F”, “4”, “4”, “4”, “5”
5. Scan the programming barcode: *Save*

Clear All Prefix and Suffix



080404.

Clear All Prefix And Suffix

Chapter5 Symbologies

General Setting

Enable All Symbologies

If the *Enable All Symbologies* feature is enabled, the scanner will be able to read any barcodes supported by the product.



Enable All Symbologies

Disable All Symbologies

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



Disable All Symbologies

1D Symbolologies

Code 128

Enable/Disable Code 128



Enable Code 128 *



Disable Code 128

Message Length

Message length can be set to the maximum value or minimum value. The value between the maximum and the minimum is valid. The maximum value and minimum value can be set using *Programming Command*.

Code 128 max length command: 020A03. The parameter of this command can be set from min to 90.

Code 128 min length command: 020A02. The parameter of this command can be set from 0 to max.

 Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 020A0325; Min: 020A0210.

EAN-8

Enable/Disable EAN-8



Enable EAN-8 *



Disable EAN-8

Transmit Check Digit

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



Transmit EAN-8 Check Digit *



Do Not Transmit EAN-8 Check Digit

Add-On Code

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

2-Digit Add-On Code



Enable 2-Digit Add-On Code



Disable 2-Digit Add-On Code *

5-Digit Add-On Code



Enable 5-Digit Add-On Code



Disable 5-Digit Add-On Code *

Add-On Code Required

When this feature is enabled, the scanner can only read the EAN-8 barcodes with add-on code.



EAN-8 Add-On Code required



EAN-8 Add-On Code Not Required *

Addenda Separator

When this feature is enabled, there is a space between barcode and addenda. When this feature is disabled, there is no space.



Enable EAN-8 Addenda Separator *



Disable EAN-8 Addenda Separator

EAN-13

Enable/Disable EAN-13



Enable EAN-13 *



Disable EAN-13

Transmit Check Digit

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



Transmit EAN-13 Check Digit *



Do Not Transmit EAN-13 Check Digit

Add-On Code

2-Digit Add-On Code



Enable 2-Digit Add-On Code



Disable 2-Digit Add-On Code *

5-Digit Add-On Code



Enable 5-Digit Add-On Code



Disable 5-Digit Add-On Code *

Add-On Code Required

When this feature is enabled, the scanner can only read the EAN-13 barcodes with add-on code.



EAN-13 Add-On Code Required



EAN-13 Add-On Code Not Required *

Addenda Separator

When this feature is enabled, there is a space between barcode and addenda. When this feature is disabled, there is no space.



Enable EAN-13 Addenda Separator *



Disable EAN-13 Addenda Separator

ISBN Translate

When enable this feature, EAN-13 book land symbols will be translated into their equivalent ISBN number format.



0213071.

Enable ISBN Translate



0213070.

Disable ISBN Translate *

UPC-E

Enable/Disable UPC-E0



0212011.

Enable UPC-E0 *



0212010.

Disable UPC-E0

Enable/Disable UPC-E1



0212021.

Enable UPC-E1



Disable UPC-E1 *

UPC-E0 Transmit Check Digit



Transmit Check Digit *



Do Not Transmit Check Digit

UPC-E0 Expand

When enable this feature, convert UPC-E decode data to UPC-A format before transmission.



Enable UPC-E0 Expand



Disable UPC-E0 Expand *

UPC-E0 Number System

The number system digit of UPC-E0 symbol is normally transmitted at the beginning of the scanned data, but the unit can be programmed so it will be not transmitted.



Enable UPC-E0 Number System *



Disable UPC-E0 Number System

Add-On Code

2-Digit Add-On Code



Enable UPC-E0 2-Digit Add-On Code



Disable UPC-E0 2-Digit Add-On Code *

5-Digit Add-On Code



0212071.

Enable UPC-E0 5-Digit Add-On Code



0212070.

Disable UPC-E0 5-Digit Add-On Code *

Add-On Code Required

When this feature is enabled, the scanner can only read the UPC-E0 barcodes with add-on code.



0212081.

UPC-E0 Add-On Code Required



0212080.

UPC-E0 Add-On Code Not Required *

Addenda Separator



0212091.

Enable UPC-E0 Addenda Separator *



0212090.

Disable UPC-E0 Addenda Separator

UPC-A

Enable/Disable UPC-A



0211011.

Enable UPC-A *



0211010.

Disable UPC-A

Transmit Check Digit



0211021.

Enable UPC-A Transmit Check Digit *



Disable UPC-A Transmit Check Digit

Number System

The number system digit of UPC-A symbol is normally transmitted at the beginning of the scanned data, but the unit can be programmed so it will be not transmitted.



Enable UPC-A Number System *



Disable UPC-A Number System

Add-On Code

2-Digit Add-On Code



Enable UPC-A 2-Digit Add-On Code *



Disable UPC-A 2-Digit Add-On Code

5-Digit Add-On Code



Enable UPC-A 5-Digit Add-On Code *



Disable UPC-A 5-Digit Add-On Code

Add-On Code Required

When this feature is enabled, the scanner can only read the UPC-A barcodes with add-on code.



UPC-A Add-On Code Required



UPC-A Add-On Code Not Required *

Addenda Separator

When this feature is enabled, there is a space between barcode and addenda. When this feature is disabled, there is no space.



Enable UPC-A Addenda Separator *



Disable UPC-A Addenda Separator

Interleaved 2 of 5

Enable/Disable Interleaved 2 of 5



Enable Interleaved 2 of 5 *



Disable Interleaved 2 of 5

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid. The maximum value and minimum value can be set using Programming Command.

Max length command: 020404. The parameter of this command can be set from min to 80.

Min length command: 020403. The parameter of this command can be set from 2 to max.

 Set the barcode message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02040425; Min: 02040310.

Check Digit



No Check Char *



Validate Not Transmit



Validate And Transmit

Matrix 2 of 5

Enable/Disable Matrix 2 of 5



Enable Matrix 2 of 5



Disable Matrix 2 of 5 *

Message Length

Message length can be set to the maximum value, minimum value. The value is valid between the maximum and the minimum. The maximum value and minimum value can be set using Programming command.

Matrix 2 of 5 max length command: 020803. The parameter of this command can be set from min to 80.

Matrix 2 of 5 min length command: 020802. The parameter of this command can be set from 1 to max.

 Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02080325; Min: 02080210.

Industrial 2 of 5

Enable/Disable Industrial 2 of 5



Enable Industrial 2 of 5



Disable Industrial 2 of 5 *

Message Length

Message length can be set to the maximum value, minimum value. The value is valid between the maximum and the minimum. The maximum value and minimum value can be set using Programming command.

Industrial 2 of 5 max length command: 020603. The parameter of this command can be set from min to 48.

Industrial 2 of 5 min length command: 020602. The parameter of this command can be set from 1 to max.

 Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02060325; Min: 02060210.

Code 39

Enable/Disable Code 39



0203011.

Enable Code 39 *



0203010.

Disable Code 39

Message Length

Message length can be set to the maximum value, minimum value. The value is valid between the maximum and the minimum. The maximum value and minimum value can be set using Programming command.

Code 39 max length command: 020308. The parameter of this command can be set from min to 48.

Code 39 min length command: 020307. The parameter of this command can be set from 0 to max.

 Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02030825; Min: 02030710.

Start/Stop Character



Transmit Start/Stop Character



Do Not Transmit Start/Stop Character *

Check Digit



No Check Char *



Validate Not Transmit



Validate And Transmit

Code 39 Full ASCII



Enable Code 39 Full ASCII



Disable Code 39 Full ASCII *

Code 39 Append

This function allows the scanner to append several Code 39 barcode data together before transmitting to host. When the scanner encounters a Code 39 barcode with append character (ex. Space character), it buffers the data until it reads a Code 39 barcode which does not have append character. Then the data is transmitted in the order that the barcodes were read.



Enable Code 39 Append



Disable Code 39 Append *

Codabar

Enable/Disable Codabar



0202011.

Enable Codabar *



0202010.

Disable Codabar

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid. The maximum value and minimum value can be set using Programming command.

Coda bar max length command: 020206. The parameter of this command can be set from min to 60.

Coda bar min length command: 020205. The parameter of this command can be set from 2 to max.

 Set the barcode message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02020625; Min: 02020510.

Start/Stop Character



0202021.

Transmit Start/Stop Character



0202020.

Do Not Transmit Start/Stop Character *

Check Digit



No Check Char *



Validate Not Transmit



Validate And Transmit

Code 93

Enable/Disable Code 93



Enable Code 93 *



Disable Code 93

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid. The maximum value and minimum value can be set using Programming command.

Code 93 max length command: 020D03. The parameter of this command can be set from min to 80.

Code 93 min length command: 020D02. The parameter of this command can be set from 0 to max.

 Set the barcode message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 020D0325; Min: 020D0210.

Code 93 Append

This function allows the scanner to append several Code 93 barcode data together before transmitting to host. When the scanner encounters a Code 93 barcode with append character (ex. Space character), it buffers the data until it reads a Code 93 barcode which does not have append character. Then the data is transmitted in the order that the barcodes were read.



Enable Code 93 Append



Disable Code 93 Append *

GS1-128

Enable/Disable GS1-128



Enable GS1-128 *



020B000.

Disable GS1-128

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid. The maximum value and minimum value can be set using Programming command.

GS1-128 max length command: 020B03. The parameter of this command can be set from min to 80.

GS1-128 min length command: 020B02. The parameter of this command can be set from 0 to max.

 Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 020B0325; Min: 020B0210.

MSI

Enable/Disable MSI



020E011.

Enable MSI



020E010.

Disable MSI *

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid. The maximum value and minimum value can be set using Programming command.

MSI max length command: 020E04. The parameter of this command can be set from min to 48.

MSI min length command: 020E03. The parameter of this command can be set from 4 to max.

 Set the barcode message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 020E0425; Min: 020E0310.

Check Digit



One Check Character (MOD10), Not Transmit *



One Check Character (MOD10) And Transmit



Two Check Characters (MOD10/MOD11), Not Transmit



Two Check Characters (MOD10/MOD11) And Transmit



Two Check Characters (MOD10/MOD10), Not Transmit



Two Check Characters (MOD10/MOD10) and Transmit



Disable

Code 11

Enable/Disable Code 11



Enable Code 11 *



Disable Code 11

Check Digit



One Check Digit



Two Check Digits *

Code 32

Enable/Disable Code 32



Enable Code 32



Disable Code 32 *

CodaBlock F Code

Enable/Disable CodaBlock F Code



0224011.

Enable CodaBlock F Code



0224010.

Disable CodaBlock F Code *

GS1 DataBar

Enable/Disable GS1 DataBar



0219011.

Enable GS1 DataBar *



0219010.

Disable GS1 DataBar

GS1 DataBar Limited

Enable/Disable GS1 DataBar Limited



021A011.

Enable GS1 DataBar Limited *



021A010.

Disable GS1 DataBar Limited

GS1 DataBar Expanded

Enable/Disable GS1 DataBar Expanded



021B011.

Enable GS1 DataBar Expanded *



021B010.

Disable GS1 DataBar Expanded

2D Symbolologies

PDF417

Enable/Disable PDF417



Enable PDF417 *



Disable PDF417

Message Length

Message length can be set to the maximum value, minimum value. The data is valid between the maximum and the minimum. The maximum value and minimum value can be set using Programming command.

PDF417 max length command: 021F06. The parameter of this command can be set from min to 2750.

PDF417 min length command: 021F05. The parameter of this command can be set from 1 to max.

 Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 021F0625; Min: 021F0510.

Enable/Disable Micro PDF417



Enable Micro PDF417



Disable Micro PDF417 *

QR Code

Enable/Disable QR Code



Enable QR Code *



Disable QR Code

Message Length

Message length can be set to the maximum value, minimum value. The data is valid between the maximum and the minimum is valid. The maximum value and minimum value can be set using Programming command.

QR max length command: 023703. The parameter of this command can be set from min to 7089.

QR min length command: 023702. The parameter of this command can be set from 1 to max.

 Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02370325; Min: 02370210.

QR Code Append

This function allows the scanner to append several QR barcode data together before transmitting to host. When the scanner encounters a QR barcode with append character (ex. Space character), it buffers the data until it reads a QR barcode which does not have append character. Then the data is transmitted in the order that the barcodes were read.



Enable QR Code Append



Disable QR Code Append *

QR Code - URLs

Enable/Disable QR Code-URLs

If this feature is disabled, the QR Code-URLs will not be decoded, you can set the beep by scanning the programming barcode [Error Read Beeper](#).



Enable *



Disable

 A uniform resource locator (abbreviated URL, also known as a web address, particularly when used with HTTP) is a specific character string that constitutes a reference to a resource.

Error Read Beeper



05021F1.

On



05021F0.

Off *

Data Matrix

Enable/Disable Data Matrix



0236011.

Enable Data Matrix *



0236010.

Disable Data Matrix

Message Length

Message length can be set to the maximum value, minimum value. The data is valid between the maximum and the minimum. The maximum value and minimum value can be set using Programming command.

Data Matrix max length command: 023603. The parameter of this command can be set from min to 3116.

Data Matrix min length command: 023602. The parameter of this command can be set from 1 to max.

 Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02360325; Min: 02360210.

Maxi Code

Enable/Disable Maxi Code



0234011.

Enable Maxi Code



0234010.

Disable Maxi Code *

Message Length

Message length can be set to the maximum value, minimum value. The data is valid between the maximum and the minimum. The maximum value and minimum value can be set using Programming command.

Maxi Code max length command: 023403. The parameter of this command can be set from min to 150.

Maxi Code min length command: 023402. The parameter of this command can be set from 1 to max.

 Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02340325; Min: 02340210.

Aztec

Enable/Disable Aztec



0233011.

Enable Aztec



0233010.

Disable Aztec *

Message Length

Message length can be set to the maximum value, minimum value. The data is valid between the maximum and the minimum. The maximum value and minimum value can be set using Programming command.

Aztec max length command: 023306. The parameter of this command can be set from min to 3832.

Aztec min length command: 023305. The parameter of this command can be set from 1 to max.

 Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02330625; Min: 02330510.

Aztec Append



0233081.

Enable Aztec Append



0233080.

Disable Aztec Append *

Hanxin

Enable/Disable Hanxin



0238011.

Enable Hanxin



0238010.

Disable Hanxin *

Message Length

Message length can be set to the maximum value, minimum value. The data is valid between the maximum and the minimum. The maximum value and minimum value can be set using Programming command.

Hanxin max length command: 023803. The parameter of this command can be set from min to 7833.

Hanxin min length command: 023802. The parameter of this command can be set from 1 to max.

 Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02380325; Min: 02380210.

ECI



0615021.

Enable ECI



0615020.

Disable ECI *

Postal Code

China Postal Code

Enable/Disable China Postal Code



0218011.

Enable China Postal Code



0218010.

Disable China Postal Code *

Telepen

Enable/Disable Telepen



0210011.

Enable Telepen



0210010.

Disable Telepen *

Chapter6 Data Formatter

Introduction

You may use the Data Formatter to modify the scanner's output. For example, you can use the Data Formatter to insert characters at certain points in barcode data.

Normally, when you create a data format, you can save a total of four different data formats (Format 0, Format 1, Format 2 and Format 3), Format 0 is primary format in the program. The data format includes the application of the data format (such as barcode type, barcode length) and data editing commands.

Add a Data Format



Enter Data Format

Steps to add a data formatting

- Step1** Scan the programming barcode: *Enter Data Format*.
- Step2** Select Primary/Alternate Format, scan "0", "1", "2" or "3" from the appendix [Digit Barcode](#), they represent data formats 0~3.
- Step3** Select Terminal Type (Appendix [Terminal ID](#)), 099 indicates all terminal types.
- Step4** Select [Code ID](#). The data format takes effect only for the specified symbologies, 99 indicates all symbologies.
- Step5** Set the barcode data length. Specify what length (up to 9999 characters) of data will be acceptable for this symbology. Scan the four digit data length from appendix [Digit Barcode](#). For example, 50 characters is entered as 0050, 9999 indicates all lengths.
- Step6** Editor Commands. Refer to the [Data Formatting](#) section in this chapter. Scan the [Digit Barcode](#) that represent the command you need to edit data. For example, when a command is F120, you should scan "F", "1", "2" and "0".

Step7 Scan the programming barcode: *Save*. To save your data format. If you want to discard this setting, scan the programming barcode: *Not Save*.



Save



Not Save

 Program a Format 0 data format using data formatting, Code 128 containing 10 characters applicable, send all characters followed by "A" .

Steps are as below:

1. Scan the "Enter Data Format" barcode.
2. Add data Format 0, scan digit barcode "0".
3. Select all terminal types, scan digit barcode "0", "9", "9" in sequence.
4. Select all symbologies, scan digit barcode "6", "A" in sequence.
5. Set barcode data length, scan digit barcode "0", "0", "1", "0" in sequence.
6. Send all characters followed by "A", scan digit barcode "F", "1", "4", "1".
7. Scan the "Save" barcode.

Change Data Format for Single Scan

You can switch between data formats for a single scan. The next barcode is scanned using the data format selected here, then reverts to the format you have selected above.

For example, you may have set your scanner to use the data format you saved as Format 0. You can switch to Format 1 for a single trigger pull by scanning the "Single Scan Format 1" barcode below. The next barcode that is scanned uses Format 1, then reverts back to Format 0.



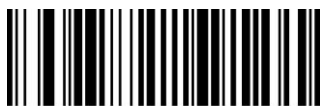
091300.

Single Scan Format 0



091301.

Single Scan Format 1



091302.

Single Scan Format 2



091303.

Single Scan Format 3

 This setting will be lost by removing power from the scanner, or turning off/rebooting the device.

Clear All Data Formats

If you want remove the data format created from your scanner, scan the programming barcode below.



080304.

Clear All Data Formats

 Default data formatting is null.

Data Formatting

 If the scanner cannot read the *Data Formatting code* below, you need to [enable the Data Matrix](#) first.

Send all characters

Syntax	Description
F1xx	Include in the output message all of the characters from the input message, starting from current cursor position, followed by an insert character.
	xx stands for the insert character's hex value for its ASCII code.

 Output the full contents of the barcode below and insert the character "a" at the end.



Command string: **F161**

F1: the "Send all characters" command

61: the hex value of "a"

The data is output as: **1234567890ABCDEFGHIJa**

Data Formatting:



Send a number of characters

Syntax	Description
F2nnxx	Include in the output message a number of characters followed by an insert character. Start from the current cursor position and continue for "nn" characters or through the last character in the input message, followed by character "xx".
	nn stands for the numeric value (00-99) for the number of characters. xx stands for the insert character's hex value for its ASCII code.

 Send the first 3 characters from the barcode below, followed by a character "A".



Command string: **F20341**

F2: the "Send a number of characters" command

03: the number of characters to send

41: the hex value of "A"

the data is output as: **123A**

Data Formatting:



F1&F2 Example

Split the content of the barcode below into two lines for output, the first line outputs the first 10 characters and the second line outputs the remaining content.



Command String: **F2100DF100**

F2: the "Send a number of characters" command

10: the number of characters to send

0D: the hex value of CR

F1: the "Send all characters" command

00: the hex value of <NUL> The

data is output as:

1234567890

ABCDEFGHIJ

Data Formatting:



Send all characters up to a particular character

Syntax	Description
F3ssxx	Include in the output message all characters from the input message, starting with the character at the current cursor position and continuing to, but not including, the search character "ss", followed by an insert character. The cursor is moved forward to the "ss" character.
	ss stands for the search character's hex value for its ASCII code. xx stands for the insert character's hex value for its ASCII code.



Output all characters before the character "D" in the barcode below and insert the character "0" at the end.



Command String: **F34430**

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

44: the hex value of "D"

30: the hex value of "0"

The data is output as: **1234567890ABCO**

Data Formatting:



Send all characters up to a string

Syntax	Description
B9nnns...s	Include in the output message all characters from the input message, starting with the character at the current cursor position and continuing to, but not including, the search string "s...s". the cursor is moved forward to the begin of the "s...s" string.
	nnnn stands for the length of the string. s...s stands for the string to be matched.



Outputs all characters before the string "BC" in the barcode below.



Command String: **B900024243**

B9: the "Send all characters up to a string" command

0002: the length for the added string

4243: The hex value combination of the string "BC"

The data is output as: **1234567890A**

Data Formatting:



Send all but the last characters

Syntax	Description
E9nn	Include in the output message all but not the last "nn" characters, starting from the current cursor position. The cursor is moved forward to one position past the last input message character included.
	nn stands for the numeric value (00-99) for the number of characters that will not be sent at the end of the message.



The last 9 characters of the barcode are not output.



Command string: **E909**

E9: the "Send all but the last characters" command 09:

The length of the string that is not sent.

The data is output as: **1234567890A**

Data Formatting:



Insert a character multiple times

Syntax	Description
F4xxnn	Send “xx” character “nn” times in the output message, leaving the cursor in the current position.
	xx stands for the insert character’s hex value for its ASCII code. nn is the numeric value (00-99) for the number of times it should be sent.



Insert the character A three times.



Command string: **F44103**

F4: the “Insert a character multiple times” command

41: the hex value for “A”

03: the number of times the tab character is sent

The data is output as: **AAA**

Data Formatting:



E9&F4 Example

Send all characters except for the last 10 from the barcode below, and insert the character “a” twice.



Command string: **E910F46102**

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

10: the number of characters at the end to ignore

F4: the “Insert a character multiple times” command

61: the hex value for “a”

02: the number of times the tab character is sent

The data is output as: **1234567890aa**

Data Formatting:



Insert a string

Syntax	Description
BA <i>nnns...s</i>	Send “ss” string of “nn” length in the output message, leaving the cursor in the current position.
	nnnn stands for the length of the string. s...s stands for the string.



Insert a string “abc”.



Command string: **BA0003616263**

BA: the “Insert a string” command

0003: the length of the string to be inserted

616263: the hex value for the string “abc”

The data is output as: **abc**

Data Formatting:



E9&BA Example

Send all characters except for the last 9 from the barcode below, insert a string “ABC”.



Command string: **E909BA0003414243**

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

09: the number of characters at the end to ignore

BA: the “Insert a string” command

0003: the length of the string to be added (3 characters)

414243: the hex value for the string “ABC”

The data is output as: **1234567890AABC**

Data Formatting:



Insert symbology name

Syntax	Description
B3	Insert the name of the barcode's symbology in the output message, without moving the cursor.



Output the symbology of the barcode below.

Barcode 1:



Barcode 2:



Command string: **B3**

B3: the "Insert symbology name" command

The data is output as:

Barcode 1: **PDF417**

Barcode 2: **Code 39**

Data Formatting:



Insert bar code length

Syntax	Description
B4	Insert the barcode's length in the output message, without moving the cursor.



Output the length of the barcode below.

Barcode 1:



Barcode 2:



123456789012

Command string: **B4**

B3: the “Insert barcode length” command The data is output as:

Barcode 1: **8**

Barcode 2: **12**

Data Formatting:



B3&B4 Example

Insert the code name and length before the bar code content, and separate them with a space.



1234567890ABCDEFGHIJ

Command string: **B3F42001B4F42001F100**

B3: the “Insert symbology name” command

F4: the “Insert a character multiple time” command

20: the value for a space

01: the number of times the space character is sent

B4: the “Insert bar code length” command

F4: the “Insert a character multiple times” command

20: the hex value for CR

01: the number of times the space character is sent

F1: the “Send all characters” command

00: the hex value for <NUL>

The data is output as: **Code 128 20 1234567890ABCDEFGHIJ**

Data Formatting:



Insert Key Strokes

Syntax	Description
B5xxssnn	Insert a key stroke or combination of key strokes (depend on your keyboard), any key can be inserted, including arrows and functions.
	xx is the number of keys pressed (without key modifiers). ss is the key modifier . nn is the key number from the Unicode Key Maps .



To insert a key combination, the command string is **B5xxss₁nn₁ss₂nn₂...ss_xnn_x**.



Under the U.S. style keyboard, insert an “A”.



Command string: **B501021F**

B5: the “Insert Key Strokes” command

01: the number of keys pressed

02: Shift Right ([Key Modifiers](#))

1F: the key number of “a”

The data is output as: **A** Data

Formatting:



Under the U.S. style keyboard, insert an “a”.



Command string: **B501001F**

B5: the “Insert Key Strokes” command

01: the number of keys pressed

00: No Key Modifier

1F: the key number of “a”

The data is output as: **a**

Data Formatting:



Under the U.S. style keyboard, Insert key combination “Abc”.



12345678

Command string: **B503011F00320030**

B5: the “Insert Key Strokes” command

03: the number of keys pressed

01: Shift Left ([Key Modifiers](#))

1F: the key number of “a”

00: No Key Modifier

32: the key number of “b”

00: No Key Modifier

30: the key number of “c”

The data is output as: **Abc**

Data Formatting:



Insert a Delay

Syntax	Description
EFnnnn	Insert a delay of up to 49995 milliseconds (in multiples of 5), starting from the current cursor position.
	nnnn stands for the delay in 5ms increments, up to 9999.



this command can only be used with USB HID-KB.



Insert a delay (2s) after the 5th and 11th characters of the barcode below.



Command string: **F20500EF0400F20600EF0400F100**

F2: the "Send a number of characters" command

05: the number of characters to send (from the current cursor)

00: the hex value for <NUL>

EF: the "Insert a delay" command

0400: the delay in 5ms increments (5ms*400), that is 2s.

F2: the "Send a number of characters" command

06: the number of characters to send (from the current cursor)

00: the hex value for <NUL>

EF: the "Insert a delay" command

0400: the delay in 5ms increments (5ms*400), that is 2s.

F1: the "Send all characters" command

00: the hex value for <NUL>

The data is output as: **12345{delay 2s}67890A{delay 2s}BCDEFGHIJ**

Data Formatting:



Move the cursor forward a number of characters

Syntax	Description
F5nn	Move the cursor ahead (right) "nn" characters from current cursor position.
	nn is the numeric value (00-99) for the number of characters the cursor should be moved ahead.



Delete the first three characters of the bar code and output the remaining content.



Command string: **F503F100**

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

03: the number of characters to move the cursor

F1: the “Send all characters” command

00: the hex value for <NUL>

The data is output as: **4567890ABCDEFGHIJ**

Data Formatting:



Move the cursor backward a number of characters

Syntax	Description
F6nn	Move the cursor back (left) “nn” characters from current cursor position.
	nn is the numeric value (00-99) for the number of characters the cursor should be moved back.



Delete the first three characters of the bar code and output the remaining content.



Command string: **EAF603F100**

EA: the “Move the cursor to the end” command

F6: the “Move the cursor backward a number of characters” command

03: the number of characters to move the cursor

F1: the “Send all characters” command

00: the hex value for <NUL>

The data is output as: **GHIJ**

Data Formatting:



Move the cursor to the beginning

Syntax	Description
F7	Move the cursor to the first character in the input message.



FE&F7 Example

Manipulate barcodes that begin with a "1".

Barcode 1:



Barcode 2:



Command string: FE31F7F20600

FE: the "Compare characters" command

31: the hex value for "1"

F7: the "Move the cursor to the beginning" command

F2: the "Send a number of characters" command

06: the number of characters to send

00: the hex value for <NUL> The

data is output as:

Barcode 1: **123456**

Barcode 2: ABCDEFGHIJ123456789

Data Formatting:



Move the cursor to the end

Syntax	Description
EA	Move the cursor to the last character in the input message.



EA&F1 Example

Output the symbology name and the last barcode content, separated by Space.



Command string: **EAB3F42001F100**

EA: the "Move the cursor to the end" command

B3: the "Insert symbology name" command

F4: the "Insert a character multiple times" command

20: the hex value for a space

01: the number of times the space is sent

F1: the "Send all characters" command

00: the hex value for <NUL>

The data is output as: **Code 128 J**

Data Formatting:



Search forward for a character

Syntax	Description
F8xx	Search the input message forward (right) for "xx" character from the current cursor position, leaving the cursor pointing to the "xx" character.
	xx stands for the search character's hex value for its ASCII code.



Output all content after the character D in the barcode below.



Command string: **F844F100**

F8: the "Search forward for a character" command

44: the hex value for the "D"

F1: the "Send all characters" command

00: the hex value for <NUL>

The data is output as: **DEFGHIJ** Data

Formatting: 

Search backward for a character

Syntax	Description
F9xx	Search the input message backward (left) for “xx” character from the current cursor position, leaving the cursor pointing to the “xx” character.
	xx stands for the search character’s hex value for its ASCII code.



Output all content after the character D in the barcode below.



Command string: **EAF944F100**

EA: the “Move the cursor to the end” command

F9: the “Search backward for a character” command

44: the hex value for the D

F1: the “Send all characters” command

00: the hex value for <NUL> The

data is output as: **DEFGHIJ** Data

Formatting: 

Search forward for a string

Syntax	Description
B0nnns...s	Search forward for “s...s” string from the current cursor position, leaving cursor pointing to “s..s” string.

nnnn is the string length (up to 9999). s...s consists of the hex value of each character in the match string.

 Output all the content after “EFG” in the barcode below.



Command string: **B00003454647F100**

B0: the “Search forward for a string” command

0003: the string length (3 characters)

454647: the hex value combination of the “EFG”

F1: the “Send all characters” command

00: the hex value for <NUL>

The data is output as: **EFGHIJ**

Data Formatting:



Search backward for a string

Syntax	Description
B1nnns...s	Search backward for “s...s” string from the current cursor position, leaving cursor pointing to “s...s” string.
	nnnn is the string length (up to 9999). s...s consists of the hex value of each character in the match string.

 Output all the content after “EFG” in the barcode below.



Command string: **EAB10003454647F100**

EA: the “Move the cursor to the end” command

B1: the “Search backward for a string” command

0003: the string length (3 characters)

454647: the hex value combination of the "EFG"

F1: the "Send all characters" command

00: the hex value for <NUL>

The data is output as: **EFGHIJ**

Data Formatting:



Search forward for a non-matching character

Syntax	Description
E6xx	Search the input message forward for the first non-"xx" character from the current cursor position, leaving the cursor pointing to the non-"xx" character.
	xx stands for the search character's hex value for its ASCII code.



Remove zeros at the beginning of barcode below.



Command string: **E630F100**

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

30: the hex value for the "0"

F1: the "Send all characters" command

00: the hex value for <NUL> The

data is output as: **12345678**

Data Formatting:



Search backward for a non-matching character

Syntax	Description
E7xx	Search the input message backward for the first non-"xx" character from the current cursor position, leaving the cursor pointing to the non-"xx" character.
	xx stands for the search character's hex value for its ASCII code.



E7 Example



Command string: **F503E730F100**

F5: the "Move the cursor forward a number of characters" command

03: the number of characters to move the cursor

E7: the "Search backward for a non-matching character" command

30: the hex value for 30

F1: the "Send all characters" command

00: the hex value for <NUL> The

data is output as: **20345678**

Data Formatting:



Suppress characters

Syntax	Description
FBnnxyy...zz	Suppress all occurrences of up to fifteen different characters, starting at the current cursor position, as the cursor is advanced by other commands.
	nn is a count of the number of suppressed characters in the list. xyy...zz is the list of characters to be suppressed.



Remove space, asterisk, underline in barcode data.



Command string: **FB03205F2AF100**

FB: the “Suppress characters” command

03: the number of character types to be suppressed

20: the hex value for a space

5F: the hex value for “_”

2A: the hex value for “*”

F1: the “Send all characters” command

00: the hex value for <NUL> The

data is output as: **123456789A!**

Data Formatting:



Stop suppressing characters

Syntax	Description
FC	Disables suppress filter and clear all suppressed characters.



Remove space, asterisk, underline in barcode data, but disable this data formatting.



Command string: **FB03205F2AFCF100**

FB: the “Suppress characters” command

03: the number of character types to be suppressed

20: the hex value for a space

5F: the hex value for “_”

2A: the hex value for “*”

FC: the “Stop suppressing characters” command

F1: the “Send all characters” command

00: the hex value for <NUL>

The data is output as: **123 456*789_A!**

Data Formatting:



Replace characters

Syntax	Description
E4nnxx₁xx₂yy₁yy₂...zz₁zz₂	Replaces up to 15 characters in the output message, without moving the cursor.
	nn is the total count of the number of characters in the list (characters to be replaces plus replacement characters). xx ₁ defines characters to be replaced. xx ₂ defines replacement characters, continuing through zz ₁ and zz ₂ .



Replace the "l" with "L" and the "o" with "O" in the barcode data below.



HELloWoRlD

Command string: **E4046c4c6f4fF100**

E4: the "Replace characters" command

04: the total count of characters to be replaced ("l", "o"), plus the replacement characters ("L", "O")

6c: the hex value for "l"

4c: the hex value for "L" 6f:

the hex value for "o"

4f: the hex value for "O"

F1: the "Send all characters" command

00: the hex value for <NUL> The

data is output as: **HELLOWORLD**

Data Formatting:



Stop replacing characters

Syntax	Description
E5	Terminates characters replacement.



Replace the "1" and "0" in the bar code data below with "A", but terminate this



1023004115

Command string: **E40331413041E5F100**

E4: the "Replace characters" command

04: the total count of characters to be replaced ("1", "0"), plus the replacement character ("A", "A")

31: the hex value for "1"

41: the hex value for "A"

30: the hex value for "0"

41: the hex value for "A"

E5: the "Stop replacing characters" command

F1: the "Send all characters" command

00: the hex value for <NUL>

The data is output as: **1023004115**

Data Formatting:



Compare characters

Syntax	Description
FExx	Compare the character in the current cursor position to the character "xx". If characters are equal, move the cursor forward one position.
	xx stands for the comparison character's hex value for its ASCII code.



Output the number in the bar code below.



ABC123456789

Command string: **FE41FE42FE43F100**

FE: the "Compare characters" command

41: the hex value for "A"

FE: the "Compare characters" command

42: the hex value for "B"

FE: the "Compare characters" command

43: the hex value for "C"

F1: the "Send all characters" command

00: the hex value for <NUL> The

data is output as: **123456789**

Data Formatting:



Compare string

Syntax	Description
B2nnns...s	Compare the string in the input message to the string "S". if the strings are equal, move the cursor forward past the end of the string.
	nnnn is the string length (up to 9999). s...s consists of the hex value of each character in the match string.



Output the number in the barcode below.



ABC123456789

Command string: **B20003414243F100**

B2: the "Compare string" command

0003: the string length

41: the hex value for "A"

42: the hex value for "B"

43: the hex value for "C"

F1: the "Send all characters" command

00: the hex value for <NUL>

The data is output as: **123456789**

Data Formatting:



Check for a number

Syntax	Description
EC	Check to make sure there is an ASCII number at the current cursor position. The format is aborted if the character is not numeric.



Add suffix "A" to barcode beginning with a number only.

Barcode 1:



Barcode 2:



Command string: **ECF141**

EC: the "Check for a number" command

F1: the "Send all characters" command

41: the hex value for "A" The

data is output as:

Barcode 1: **T12345** (The first character is a T, not a number, F141 after the EC does not work)

Barcode 2: **12345678A**

Data Formatting:



Check for non-numeric character

Syntax	Description
ED	Check to make sure there is a non-numeric ASCII character at the current cursor position. The format is aborted if the character is numeric.



Add suffix "A" to barcode beginning with a letter only.

Barcode 1:



Barcode 2:



Barcode 3:



Command string: **EDF141**

EC: the "Check for non-numeric character" command

F1: the "Send all characters" command

41: the hex value for "A" The

data is output as:

Barcode 1: **T12345A**

Barcode 2: **12345678** (The first character is a T, not a letter, F141 after the ED does not work)

Barcode 3: ***12345678A**

Data Formatting:

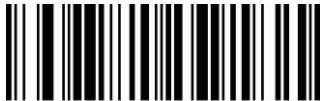


Chapter7 Q&A

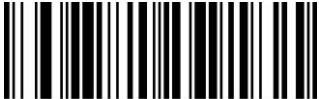
How to print out the Chinese in the QR code?

Application Environment	QR Coding Rule		
	UTF8/GB2312	Big5	Shift-JIS
Word	 091842.	 091841.	 091840.
Excel or Notepad++; The system language on the PC is Chinese.	 091842.	 091841.	 091840.
QR Sample	 (GB2312) 采菊东篱下，悠然见南山。  (UTF8) 鳳凰臺上鳳凰遊鳳去臺空江自流	 關關雎鳩，在河之洲。窈窕淑女，君子好逑。	 123 あいうえ ABC かきくけこ 456

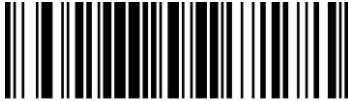
How to print out the Japanese in the QR code?

Application Environment	QR Coding Rule	
	UTF8/GB2312	Shift-JIS
Word	 091842.	 091840.
Excel or Notepad++; The system language on the PC is Japanese.	 091846.	 091845.
QR Sample	 こんにちは	 123 あいうえ ABC かきくけこ 456

How to print out the Korean in the QR code?

Application Environment	QR Coding Rule	
	UTF8	CP949
Word	 091842.	 091844.
Excel or Notepad++; The system language on the PC is Korean.	 09184B.	 09184A.
QR Sample	 안녕하세요	 123바깥쪽크다 트.채 ㄷㅍ

How to print out the Thai in the QR code?

Application Environment	QR Coding Rule	
	UTF8	CP874
Word	 091842.	 091843.
Excel or Notepad++; The system language on the PC is Thai.	 09184D.	 09184C.
QR Sample	 แบบทดสอบภาษาไทยบาร์โค้ด	 12345678 ห ฟ ค์ คาชกฟฟ้า แสง KTB CO.,LTD

Appendix

Digit Barcode

0	1	2	3
 Y0Y	 Y1Y	 Y2Y	 Y3Y
4	5	6	7
 Y4Y	 Y5Y	 Y6Y	 Y7Y
8	9	A	B
 Y8Y	 Y9Y	 YAY	 YBY
C	D	E	F
 YCY	 YDY	 YFY	 YFY

ASCII Table

Hex	Dec	Char
00	0	NUL
01	1	SOH
02	2	STX
03	3	ETX
04	4	EOT
05	5	ENQ
06	6	ACK
07	7	BEL
08	8	BS
09	9	HT
0a	10	LF
0b	11	VT
0c	12	FF
0d	13	CR
0e	14	SO
0f	15	SI
10	16	DLE
11	17	DC1
12	18	DC2
13	19	DC3
14	20	DC4
15	21	NAK
16	22	SYN
17	23	ETB
18	24	CAN
19	25	EM
1a	26	SUB
1b	27	ESC
1c	28	FS
1d	29	GS
1e	30	RS
1f	31	US
20	32	SP
21	33	!
22	34	"
23	35	#
24	36	\$
25	37	%
26	38	&
27	39	`
28	40	(
29	41	)
2a	42	*
2b	43	+
2c	44	,

Hex	Dec	Char
2d	45	-
2e	46	.
2f	47	/
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	:
3b	59	;
3c	60	<
3d	61	=
3e	62	>
3f	63	?
40	64	@
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	[
5c	92	\

Hex	Dec	Char
5d	93	]
5e	94	^
5f	95	_
60	96	`
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	{
7c	124	
7d	125	}
7e	126	~
7f	127	DEL

AIM ID

Symbology	AIM ID	Note
EAN-13	]E0	Standard EAN-13
	]E3	EAN-13 + 2-Digit Add-on Code EAN-13 + 5-Digit Add-on Code
EAN-8	]E4	Standard EAN-8
	]E4...]E1. ..	EAN-8 + 2-Digit Add-on Code
	]E4...]E2. ..	EAN-8 + 5-Digit Add-on Code
UPC-E	]E0	Standard UPC-E
	]E3	UPC-E + 2-Digit Add-on Code UPC-E + 5-Digit Add-on Code
UPC-A	]E0	Standard UPC-A
	]E3	UPC-A + 2-Digit Add-on Code UPC-A + 5-Digit Add-on Code
Code 128	]C0	Standard Code 128
GS1-128 (UCC/EAN-128)	]C1	FNC1 is the character right after the start character
AIM-128	]C2	FNC1 is the 2 nd character after the start character
ISBT-128	]C4	
Interleaved 2 of 5	]I0	No parity check
	]I1	Transmit check digit after parity check
	]I3	Do not transmit check digit after parity check
ITF-6	]I1	Transmit check digit
	]I3	Do not transmit check digit
ITF-14	]I1	Transmit check digit
	]I3	Do not transmit check digit
Industrial 2 of 5	]S0	Not specified
Standard 2 of 5	]R8	One check digit, MOD10; Do not transmit check digit
	]R9	One check digit, MOD 10; Transmit check digit
Code 39	]A0	Full ASCII disabled; No parity check
	]A1	One check digit; MOD43; Transmit check digit
	]A3	One check digit; MOD43; Do not transmit check digit
	]A4	Full ASCII enabled; No parity check
	]A5	Full ASCII enabled; Transmit check digit
	]A7	Full ASCII enabled; Do not transmit check digit
Codabar	]F0	Standard Codabar
	]F2	Transmit check digit after parity check
	]F4	Do not transmit check digit after parity check
Code 93	]G0	Standard Code 93
Code 11	]H0	One check digit, MOD11; Transmit check digit

	]H1	Two check digit, MOD10/MOD11; Transmit check digit
	]H3	Do not transmit check digit after parity check
	]H9	No parity check
GS1-DataBar (RSS)	]e0	Standard GS1-DataBar
Plessey	]P0	Standard Plessey
MSI-Plessey	]M0	One check digit, MOD10; Transmit check digit
	]M1	One check digit, MOD10; Do not transmit check digit
	]M8	Two check digits
	]M9	No parity check
Matrix 2 of 5	]X0	Specified by the manufacturer
	]X1	No parity check
	]X2	One check digit, MOD10; Transmit check digit
	]X3	One check digit, MOD11; Do not transmit check digit
ISBN	]X4	Standard ISBN
ISSN	]X5	Standard ISSN
PDF417	]L0	Comply with 1994 PDF417 specifications
Data Matrix	]d0	ECC000-ECC140
	]d1	ECC200
	]d2	ECC200, FNC1 is the 1 st or 5 th character after the start character
	]d3	ECC200, FNC1 is the 2 nd or 6 th character after the start character
	]d4	ECC200, ECI included
	]d5	ECC200, FNC1 is the 1 st or 5 th character after the start character, ECI included
	]d6	ECC200, FNC1 is the 2 nd or 6 th character after the start character, ECI included
QR Code	]Q0	QR1
	]Q1	2005 version, ECI excluded
	]Q2	2005 version, ECI included
	]Q3	QR Code 2005, ECI excluded, FNC1 is the 1 st character after the start character
	]Q4	QR Code 2005, ECI included, FNC1 is the 1 st character after the start character
	]Q5	QR Code 2005, ECI excluded, FNC1 is the 2 nd character after the start character
	]Q6	QR Code 2005, ECI included, FNC1 is the 2 nd character after the start character

Reference: ISO/IEC 15424:2008 Information technology - Automatic identification and data capture techniques - Data Carrier

Identifiers (including Symbology Identifiers)

Code ID

Symbology	Code ID
All Symbologies	99
Codabar	61
Code 11	68
Code 128	6A
EAN-13	64
EAN-8	44
GS1 DataBar	79
GS1 DataBar Limited	7B
GS1 DataBar Expanded	7D
GS1 128	49
China Post(Hong Kong 2 of 5)	51
China Post	52
Interleaved 2 of 5	65
Matrix 2 of 5	6D
MSI	67
Telepen	74
UPC-A	63
UPC-E	45
Aztec Code	7A
Hanxin Code	48
Data Matrix	77
Maxi Code	78
PDF417	72
MicroPDF417	52
QR	73
MicroQR	73

Terminal ID

Terminal-Model	Terminal ID
All Terminal	099
USB-HID KB	124
USB-Serial	130
Serial-RS232 TTL	000

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 2A		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

Key Modifiers

Key Modifiers	
No Key Modifier	00
Shift Left	01
Shift Right	02
Alt Left	04
Alt Right	08
Control Left	10
Control Right	20

 Key Modifiers can be added to together when needed. Example: Control Left + Shift Left = 11.



Factory Defaults Table

Parameter	Factory Default	Remark
System Settings		
Power On Beep	On	
Good Read Beep	On	
Good Read Beep Frequency	2730Hz	
Good Read Beep Duration	Normal	
Good Read Beep Volume	High	
Default Scan Mode	Presentation Mode - Normal	
Decode Session Timeout	30000ms	0-30000ms
Good Read Delay	On	
Reread Delay	Enabled, 350ms	
Image Flipping	Do Not Flip	
Image Resize	Original Image	
Scanning Preference	Normal Mode	
Enable/Disable Decode	Enabled	
Good Read LED	On	
Illumination	On	
Transmission Speed	Medium	
Keyboard Turbo Mode	Disabled	
Intercharacter Delay	0ms	
Interface		
RS-232 Interface		
RS232 Baud Rate	115200	
RS-232 Parity Check	None	
RS-232 Data Bits	8	
RS232 Stop Bits	1	
RS-232 Hardware Auto Flow Control	Disabled	
USB Interface		
USB Country Keyboard	US keyboard	USB HID Keyboard
Inter-Keystroke Delay	0	USB HID Keyboard
Convert Case	No Vase Conversion	USB HID Keyboard
Symbologies		
Code 128		

Code 128	Enabled	
EAN-8		
EAN-8	Enabled	
Check Character	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	No Required	
Add-On Code Separator	On	
EAN-13		
EAN-13	Enabled	
Check Character	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	No Required	
Add-On Code Separator	On	
ISBN Translate	Off	
UPC-E		
UPC-E	Enabled	
Check Character	Transmit	
UPC-E Expand	Off	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	No Required	
Add-On Code Separator	On	
Number System	Enabled	
UPC-A		
UPC-A	Enabled	
Check Character	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	No Required	
Add-On Code Separator	On	
Number System	Enabled	
Interleaved 2 of 5		
Interleaved 2 of 5	Disabled	

Check Digit	No Check Char	
Matrix 2 of 5		
Matrix 2 of 5	Disabled	
Industrial 2 of 5		
Industrial 2 of 5	Disabled	
Code 39		
Code 39	Enabled	
Check Character	Transmit	
Start/Stop Character	Do Not Transmit	
Code 39 Append	Disabled	
Code 39 Full ASCII	Disabled	
Codabar		
Codabar	Disabled	
Check Digit	No Check Char	
Start/Stop Character	Do Not Transmit	
Code 93		
Code 93	Enabled	
Code 93 Append	Disabled	
GS1-128		
GS1-128	Disabled	
MSI Plessey		
MSI Plessey	Disabled	
MSI Plessey Check Digit	No Check Char, MOD10	
Code 11		
Code 11	Disabled	
Check Digit	Two Check Digits	
Code 32		
Code 32	Disabled	
CodaBlock F Code		
CodaBlock F Code	Disabled	
GS1 DataBar		
GS1 DataBar	Enabled	
GS1 DataBar Limited		
GS1 DataBar Limited	Enabled	
GS1 DataBar Expanded		

GS1 DataBar Expanded	Enabled	
PDF417		
PDF417	Enabled	
QR Code		
QR Code	Enabled	
QR Code Append	Enabled	
QR Code - URLs	Enabled	Disable Error Beeper
Data Matrix		
Data Matrix	Disabled	
Maxi Code		
Maxi Code	Disabled	
Aztec Code		
Aztec Code	Disabled	
Hanxin		
Hanxin	Disabled	
ECI	Disabled	
China Post		
China Post	Disabled	
Telepen		
Telepen	Disabled	
Data Formatter		
Prefix&Suffix		
Prefix&Suffix	Disabled	
Set Custom Prefix	Disabled	00-FF
Custom Prefix	No Set	
AIM ID Prefix	Disabled	
Set Custom Suffix	Disabled	00-FF
Custom Suffix	0D	
Data Formatting		
Data Formatting	No Set	