NLS-EM23

Barcode reading engine

User Manual

Disclaimer

Please read all contents of this manual carefully before using the product described in this manual to ensure the safe and effective use of the product. After reading, please keep this manual properly for next use.

Time query.

Please do not disassemble the terminal or tear off the seal on the terminal by yourself, otherwise Fujian Newland Automatic Identification Technology Co., Ltd. will not be responsible for warranty or replacement of the terminal.

The pictures in this manual are for reference only. If some pictures are inconsistent with the actual products, please refer to the actual products.

The company reserves the right to modify this document at any time without prior notice.

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Version History

version number	Version Description	release date
V1.0.0	initial version	2020.0 7 .27

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Preface

Introduction

This manual mainly introduces the usage of NLS-EM23 to users.

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Manual Legend

Auxiliary tools to facilitate users to use documents

Attention prompts, reminding users to pay close attention to the content here

Tips to help users better understand the document content

Examples to help users get familiar with the operation

Chapter 1 About **EM23**

Introduction

EM23 is an ultra-small embedded barcode reading engine that uses CMOS imaging technology and the world-leading Newland intelligent image recognition system. EM23 can easily read barcodes on paper, magnetic cards and other media with powerful reading performance. It can be easily embedded in various OEM products (including handheld, portable

Type and fixed barcode collectors) etc.

About this manual

This manual mainly provides various function setting instructions for the EM23 product. By scanning the setting function barcodes in this manual, you can change the function parameters of the EM23 such as communication Interface parameters, reading mode, prompt method, data processing and output, etc.

The EM23 product has been provided with parameter configurations suitable for most common application functions when it leaves the factory. In most cases, users can put it into use without making any adjustments. The default functions and parameters of EM23 are listed in the appendix of the manual for reference. The options marked with (**) in the setup code indicate the default functions or parameters.

Connect **EVK** to **PC**

The auxiliary tool EVK can be used to support the rapid application development of EM23 products. The EM23 EVK (EVK3030) can be connected to the PC using USB. After installing the driver, it can directly communicate with the EM23 through the virtual serial port and receive reading data. EVK also provides an RS232 interface for connecting to the PC.

Chapter 2 Supporting Tools

EasySet

EasySet is a configuration software for equipment barcode, communication and other parameters developed independently by Newland Automatic Identification Company and runs under Windows operating system. It can set or query equipment configuration through EasySet graphical interface, and can also interact with equipment directly through instructions.

Startup Settings

Chapter 3 System Settings

Introduction

There are three ways to configure the scanner:

Setting code

The scanner reads a series of special bar codes to set options and functions. In the following sections, we will introduce the options and functions that can be set and provide corresponding

Set the code.

This method of setting and reading is relatively direct, but it is easy to make mistakes because each setting code needs to be read manually.

Setting Commands

The host can send a setup command string to set the scanner. In the following chapters, in addition to introducing the setup code, we will also introduce the setup command string.

Scanner settings can be automated using setup commands. Users can develop a software package to load all relevant setup data into the scanner.

EasySet Settings

EasySet is a graphical user interface program running under Windows system, independently developed by Newland Automatic Identification Company, for barcode reading and processing. With EasySet, you can view

the decoded barcode information and the image captured by the scanner, and you can also easily set the scanner.

This setting method is very similar to setting commands. EasySet is designed specifically for New World Automatic Identification Company's products.

Tip: Except for some temporary settings that will disappear after the device is restarted or powered off, other function setting information will be stored in the scanner and will not be lost due to shutdown.

Exit Settings

#SETUPE1

Startup Settings

Setting the ID

This is a sign that the setup code function is disabled.

The logo consists of four parts:

1. Set the barcode portion of the code.

2. The setting command string corresponding to the setting code.

3. The name of the setting option or function, such as the exit setting function.

4. ** indicates that the setting is the default setting.

Use the setup code

Scan the "Start Setup" barcode to activate the setup barcode function. You can set the scanning engine by reading the setup barcode.

To exit the setup barcode function, just read the "Exit Setup" barcode or a barcode outside the setup barcode.

@SETUPE0

**ÿExit settingsÿ

@SETUPE1

ÿStartup Settingsÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Setting code information

The setup code information can be sent to the host. The factory default setting is "Do not send setup code information", in which case the setup code information will not be sent to the host.

The barcode with "setting code information" will be sent to the host by the reading engine.

@SETUPT0

**ÿDo not sendÿ

@SETUPT1

ÿsendÿ

External lighting

@EILSCN0

**ÿclosureÿ

@EILSCN1

[Open]

@EILSCN2

ÿAlways onÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Indicator Lights

@AMLENA1

**ÿOpenÿ

@AMLENA0

ÿclosureÿ

@AMLENA2

ÿAlways onÿ

Prompt sound

Power on tone

@PWBENA1

**ÿOpenÿ

@PWBENA0

ÿclosureÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Decoding success sound setting

Read "Off" to disable the decoding success sound, and read "On" to restore the decoding success sound prompt.

@GRBENA1

**ÿOpenÿ

@GRBENA0

ÿclosureÿ

#SETUPE0

Exit Settings

Startup Settings

Decoding success sound duration setting

You can choose from fast settings of 40ms, 80ms, and 120ms.

[Short (40ms)]

**ÿMedium (80ms)ÿ

ÿLong (120ms)ÿ

[Custom setting of duration of decoding success sound

(Range 20-300ms)]

Example

Set the decoding success tone duration to 200ms. You can set it by reading the following barcodes in sequence:

1. Read "Startup Settings"

2. Read "Custom setting of decoding success sound duration (range 20-300ms)"

3. Data code "2", "0", "0" (see Appendix - Data Code)

4. Read "Save" (see Appendix - Save or Cancel)

5. Read "Exit Settings"

Exit Settings

#SETUPE1

Startup Settings

Decoding success sound frequency setting

@GRBFRQ800

[Minimum (800Hz)]

@GRBFRQ1600

Low (1600Hz)

@GRBFRQ2730

**ÿMedium (2730Hz)ÿ

@GRBFRQ4200

High (4200Hz)

@GRBFRQ

[Custom setting of decoding success sound frequency

(Range: 20-20000Hz)]

Example

Set the decoding success tone frequency to 2000Hz. You can set it by reading the following barcodes in sequence:

1. Read "Startup Settings"

2. Read "Customized settings for decoding success sound frequency"

3. Data code "2", "0", "0", "0" (see Appendix - Data Code)

4. Read "Save" (see Appendix - Save or Cancel)

5. Read "Exit Settings"

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Decoding success sound volume setting

@GRBVLL20

**ÿbigÿ

@GRBVLL8

ÿmiddleÿ

@GRBVLL5

ÿSmallÿ

Reading Mode

ÿ Level trigger mode: Press and hold the trigger key to start code reading; code reading ends when code reading is successful or the trigger key is released.

ÿ Induction mode: Start the machine and enter the barcode reading state until the barcode is successfully read or the barcode reading timeout setting is reached. When a new barcode is presented, it will be reset.

Enter the barcode reading state. In this mode, the reread delay can be used to prevent the same barcode from being read multiple times. The sensitivity can change the light sensitivity of the sensing mode.

sensitivity.

ÿ Continuous code reading mode: The scanner is in code reading mode after it is turned on. Pressing and releasing the button will switch the scanner between code reading mode and stop reading mode.

In this mode, the reread delay can be used to prevent the same barcode from being read multiple times. When the scanning setting barcode is switched to this mode, the barcode reading will stop for 3 seconds, and then

Enter the continuous code reading state.

ÿ Pulse mode: When the button is pressed, the scanner starts to read the code until the code is read successfully or the set time of one code reading timeout is reached.

The code reading timeout starts from the time the button is released.

ÿ Batch code reading mode: When the button is pressed, the scanner starts reading the code and stops reading the code until the button is released. When the code is successfully read while the button is pressed, a prompt sound is emitted and a barcode is output.

The scanner will continue to read the barcode information as long as the button is not released. The same barcode can only be read and output once while the button is pressed.

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

@SCNMOD0

**ÿLevel trigger modeÿ

@SCNMOD2

ÿSensing modeÿ

@SCNMOD3

ÿContinuous reading modeÿ

@SCNMOD4

ÿPulse modeÿ

@SCNMOD7

ÿBatch reading modeÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

One code reading timeout

ÿ One-time code reading timeout: The amount of time the scanner is in the code reading state. The setting time range is 0 to 3600000 milliseconds. When it is set to 0, the scanner will Always in the code reading state. Default: 3000 milliseconds.

@ORTSET

[One-time code reading timeout]

Example

To set the timeout period for a barcode reading to 1500 milliseconds, you can read the following barcodes in sequence:

1. Read "Startup Settings"
2. Read "One-time code reading timeout"
3. Data code "1", "5", "0", "0" (see Appendix - Data Code)
4. Click “Save” (see Appendix - Save or Cancel)
5. Read "Exit Settings"

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Image stabilization timeout (sensing mode)

In the induction mode, when the scanner stops reading the code, it will enter a process of re-adapting to the changes in the reading environment (image). It will enter the induction state only after the image is stable for a timeout.

Wait for the barcode to appear. By modifying the image stabilization timeout, you can adjust the time to adapt to the environment. The setting range is 1 to 3000 milliseconds, and the default is 500 milliseconds.

@SENIST

Image stabilization timeout (sensing mode)

Delay Settings

Reread Delay

ÿ On: If the scanner reads a barcode and reads the same barcode for the second time within the reread delay time, the second read barcode will be ignored and will not be Output.

ÿ Off: Reread delay is invalid. The scanner can read the same bar code continuously at any time.

Default: reread delay off.

@RRDENA1

[Open]

@RRDENA0

**ÿclosureÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Reread delay time

It is used to prevent the same barcode from being read twice in a row. The reread delay setting is the minimum time interval that allows consecutive reading of barcodes of the same type and data.

Only used in automatic code reading mode and continuous code reading mode, the setting time range is 0 to 3600 milliseconds, the default is 50 milliseconds.

If the reread delay is set to 3000 milliseconds, the reread delay of the setting code will be limited to 3000 milliseconds.

ÿReread delay timeÿ

Example

To set the reread delay time to 1000 milliseconds, you can read the following barcodes in sequence:

1. Read "Startup Settings"
2. Read “Reread Delay Time”
3. Data code "1", "0", "0", "0" (see Appendix - Data Code)
4. Read "Save" (see Appendix - Save or Cancel)
5. Read "Exit Settings"

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Reread timeout reset

When the reread timeout reset is turned on, if the time interval between reading the same barcode twice is less than the "reread delay time", the reread interval time will be reset and re-timed.

Rereading will be successful only if the time interval between reading the same barcode twice is greater than or equal to the "reread delay time".

@RRDREN1

[Open]

@RRDREN0

**ÿclosureÿ

Delay in reading code successfully

If the code reading success delay is turned on, the scanner will not read any barcode successfully within a period of time after the code reading is successful (code reading success delay time). Default: Off.

@GRDENA1

[Open]

@GRDENA0

**ÿclosureÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Delay time for successful code reading

The length of time to pause reading after successfully reading a code. The setting time range is 1 to 3600000 milliseconds, and the default is 500 milliseconds.

@GRDDUR

[Delay time for successful code reading]

Example

Set the successful barcode reading delay time to 1000 milliseconds. You can set it by reading the following barcodes in sequence:

1. Read "Startup Settings"
2. Read the “Code Reading Success Delay Time”
3. Data code "1", "0", "0", "0" (see Appendix - Data Code)
4. Read "Save" (see Appendix - Save or Cancel)
5. Read "Exit Settings"

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Decoding timeout

The timeout period for each image decoding operation of the scanner. The setting range is from 1 to 3000 milliseconds, and the default is 500 milliseconds.

@DETSET

[Decoding timeout]

Example

To set the decoding timeout to 1000 milliseconds, you can read the following barcodes in sequence:

1. Read "Startup Settings"
2. Read "Decoding timeout"
3. Data code "1", "0", "0", "0" (see Appendix - Data Code)
4. Read "Save" (see Appendix - Save or Cancel)
5. Read "Exit Settings"

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Sound reminder

By sending the beep command, you can control the scanner to emit a beep sound. The frequency and duration of the beep sound need to be configured as parameters of the beep command. The command format is BEEPON xxxFyyyTnnV, where: F represents the frequency of the beep sound, ranging from 1 to 20000Hz, xxxF represents the frequency of the beep sound is xxx Hz (for example, 2700F represents the frequency of the beep sound is 2700Hz); T represents the duration of the beep sound, ranging from 1 to 10000ms, yyyT represents the duration of the beep sound is yyy ms (for example, 100T represents the duration of the beep sound is 100ms); V represents the volume, ranging from 1 to 20.

The sound with a frequency of 2000Hz, a duration of 50ms and a volume of 20V is:

Send ~<SOH>0000#BEEPON2000F50T20V;<ETX>

Response <STX><SOH>0000#BEEPON2000F50T20V<ACK>;<ETX>.

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Light up the indicator light

Let the scanner indicator light on for a while. When executing this command, the scanner will not scan or read codes.

The unit is milliseconds, and the value range is 10 - 10000.

Send: LEDONA$ $ indicates Data, when Data is '*' or '&', the response is: LEDONA<ACK>; when Data is '^', the response is: LEDONA10-10000 <ACK>;

Light up the indicator light for 1 second:

Send ~<SOH>0000#LEDONA1000;<ETX>

Response <STX> <SOH>0000#LEDONA1000 <ACK>;<ETX>

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Brackets around **GS1** Application Identifiers (GS1 **AIs)**

When GS1 Application Identifier is turned on, '(' is added to the left side of the GS1 Application Identifier and ')' is added to the right side.

@GS1AIP0

**ÿprohibitÿ

@GS1AIP1

ÿEnableÿ

Example

When the GS1 Application Identifier is turned on, the barcode data is output as (01)00614141999996(10)10ABCEDF123456.

When the GS1 Application Identifier is turned off, the barcode data is output as 0100614141999961010ABCEDF123456.

#SETUPE0

Exit Settings

Startup Settings

Sensitivity

Sensitivity specifies the scanner's response to changes in the scanned image in Sensing mode. This setting is only valid for Sensing mode in Reading mode.

The range is 1 to 20. The default is Custom (2).

ÿLowÿ

**ÿmiddleÿ

ÿhighÿ

ÿEnhancementÿ

ÿcustomizeÿ

Set the induction sensitivity to 10, and read the following barcodes in order to set it:

1. Read "Startup Settings"

2. Read "Custom"

3. Data code "1", "0" (see Appendix - Data Code)

4. Click “Save” (see Appendix - Save or Cancel)

5. Read "Exit Settings"

Exit Settings

#SETUPE1

Startup Settings

Serial trigger command

When the reading mode is set to level trigger mode, the serial communication command "Start reading" can be used to trigger the code reading. The scanner reads successfully or reaches a reading time.

The code reading ends after the code times out or the "stop code reading" command is received.

ý Disable: Do not use serial trigger instructions

ý Enable: Use serial trigger instructions in level trigger reading mode

@SCNTCE0

**ýprohibitý

@SCNTCE1

ýEnableý

Modify the start code reading instruction

Start the code reading command to simulate a key press. The command supports 1 to 10 characters, and the character value range is 1 to 0xFF. The first character cannot be '? ' (i.e. 0x3F). The default command is: <SOH> **T <EOT>**

@SCNTCT

[Modify the start code reading instruction]

Modify the stop code reading instruction

The stop code reading command can simulate the release of a key. The command supports 1 to 10 characters, and the character value range is 1 to 0xFF. The first character cannot be '?' (ie 0x3F).

The default instruction is: <SOH> **P <EOT>**

@SCNTCP

[Modify the stop code reading instruction]

#SETUPE0

Exit Settings

Startup Settings

Reading Preferences

**ÿordinaryÿ

ÿScreen reading modeÿ

ÿBarcode payment modeÿ

Prohibit/Allow code reading

By sending the command of prohibiting code reading and allowing code reading, you can control whether the scanner needs to stop reading the code. The default is to allow reading.

ÿ Disable code reading: Force the scanner to be in the state of stopping code reading. The scanner will not return to the state of allowing code reading until it is restarted or receives the command to allow code reading. Disable code reading

The instruction content is: ~<SOH>0000#SCNENA0;<ETX>

ÿ Allow code reading: The scanner is controlled by the configured code reading mode to read the code. The content of the allow code reading instruction is: ~<SOH>0000#SCNENA1;<ETX>

Exit Settings

#SETUPE1

Startup Settings

Decoding center area

ÿ Full area decoding: Select the entire area (whole picture) of the captured image for decoding, and only output the first barcode read. ÿ Center area

decoding: The center of the barcode must be in the set area to be successfully read. When there are multiple barcodes in the set area at the same time, only the first barcode is output.

The first barcode read is displayed (in this case, it is recommended to reduce the size of the center area).

@CADENA0

**ÿFull area decodingÿ

@CADENA1

ÿCentral area decodingÿ

Set the center area

The size of the area is set in the ratio of the image width and height. You need to set the top, bottom, left, and right ranges of the center area. The setting range is 0 to 100.

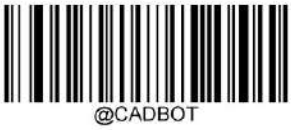
The top must be larger than the right, and the left must be larger than the left. Default: Top is 40%, Bottom is 60%, Left is 40%, Right is 60%.

#SETUPE0

Exit Settings

Startup Settings

ÿTop of center areaÿ



ÿBottom of the center areaÿ

[Left side of the center area]

[Right side of the center area]

Exit Settings

#SETUPE1

Example

Set to read only Bar Code 1 in the above picture, the top of the center area is 10, the bottom is 45, the left is 15, and the right is 30.

Scan the following barcodes in order to set:

1. Read "Startup Settings"

2. Read the “top of the center area”

3. Data code “0” (see Appendix - Data Code)

4. Read "Save" (see Appendix - Save or Cancel)

5. Read the "bottom of the center area"

6. Data code “4”, “5” (see Appendix - Data Code)

7. Read "Save" (see Appendix - Save or Cancel)

8. Read the “top of the center area”

9. Data code "1", "0" (see Appendix - Data Code)

#SETUPE0

Startup Settings

10. Read "Save" (see Appendix - Save or Cancel)

11. Read "left side of the center area"

12. Data code “0” (see Appendix - Data code)

13. Read "Save" (see Appendix - Save or Cancel)

14. Read "right side of the center area"

15. Data code "3" “0” (See Appendix - Data Code)

16. Read "Save" (see Appendix - Save or Cancel)

17. Read "left side of the center area"

18. Data code "1", “5” (See Appendix - Data Code)

19. Read "Save" (see Appendix - Save or Cancel)

20. Read "Exit Settings"

Exit Settings

Image Flip

The image supports horizontal flip and vertical mirror output. Images taken by the scanner can be obtained through EasySet.

**ÿNormal imageÿ

ÿhorizontal flipÿ

ÿVertical FlipÿÿVertical Flipÿ

ÿHorizontal and vertical flipÿ

#SETUPE1

Startup Settings

Sending code reading failure information

ÿ Enable: When the code reading fails, the code reading failure message will be sent after the key is released or the code reading timeout. ÿ Disable: When the code reading fails, the code reading failure message will not be sent.

@NGRENA0

**ÿprohibitÿ

@NGRENA1

ÿEnableÿ

Modify the code reading failure information (NGR information)

The NGR message supports 1 to 7 characters. The value range of the characters is 0 to 0xff. The default is NG.

@NGRSET

[Modify the code reading failure information (NGR information)]

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Equipment operation mode

Automatic sleep

When the automatic sleep setting is turned on, the scanner enters sleep mode when the idle time reaches the sleep timeout condition, and can be awakened by pressing a button.

@ATSENA0

**ÿprohibitÿ

@ATSENA1

ÿEnableÿ

Set the sleep timeout condition

The sleep timeout condition is used to determine the idle time before the scanner enters the sleep state. The setting range is 1 – 36000 seconds. The default is 3 seconds.

@ATSDUR

[Set sleep timeout conditions]

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

default setting

Factory Default Settings

All scanners have a factory default setting. Reading the "Load Factory Defaults" barcode will restore all properties of the scanner to the factory state.

You are most likely to use this barcode in the following situations:

ÿ The scanner is set up incorrectly, such as being unable to read barcodes.

ÿ You have forgotten what settings you made for the scanner and do not want to be affected by the previous settings.

@FACDEF

**ÿLoad factory default settingsÿ

User Defaults

In addition to the factory default settings, you can save the settings you frequently use as user default settings.

User default settings also include all property settings of the scanner, and user default settings will be saved and will not be lost unless the current settings are saved as user defaults again.

Reading "Save User Defaults" will save the current settings as user defaults and overwrite the previously set user defaults. Reading "Load User Defaults" will save the current settings as user defaults and overwrite the previously set user defaults.

"Default Settings" will switch the scanner to the user default settings.

@CUSSAV

[Save user default settings]

@CUSDEF

ÿLoad user default settingsÿ

TIPS

Scanning the "Load Factory Defaults" barcode will not delete the user default settings saved in the scanner.

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

product information inquiry

Query system information

You can obtain relevant information about the product by reading the "Query System Information" setup code. After reading this setup code, the scanner will immediately transmit the product information to the host.

@QRYSYS

[Query system information]

System information content:

name	describe
Product Name	product name
Firmware Version Firmware version number	
Decoder Version Decoder version number	
Hardware Version	
Serial Number Product serial number	
OEM Serial Number Product OEM serial number (ESN)	
Manufacturing Date Product manufacturing date	

Query product name

You can obtain the product name information by reading "Query Product Name". After reading this setting code, the scanner will immediately transmit the product name to the host.

@QRYPDN

ÿQuery product nameÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Check the firmware version number

You can obtain the device firmware version number by reading "Query Firmware Version Number". After reading this setup code, the scanner will immediately transmit the firmware version number to the host.

@QRYFWV

[Query the firmware version number]

Query the decoder version number

You can obtain the decoding library version number of the product by reading "Query Decoder Version Number". After reading this setting code, the scanner will immediately transmit the decoding library version number to the host.

@QRYDCV

[Query decoder version number]

Query data format editing version number

You can obtain the version number of the data format editing function of the product by reading "Query Data Format Editing Version Number". After reading this setting code, the scanner will immediately send the data format editing function.

The version number of the format editing function is given to the host.

@QRYDFM

[Query data format editing version number]

#SETUPE0

Exit Settings

Query hardware information

You can obtain the hardware version information of the product by reading "Query Hardware Information". After reading this setup code, the scanner will immediately transmit the hardware information to the host.

@QRYHWV

[Query hardware information]

Check product serial number

You can obtain the serial number information of the product by reading "Query Product Serial Number". After reading this setting code, the scanner will immediately transmit the product serial number to the host.

@QRYPSN

[Query product serial number]

Check product production date

You can obtain the production date of the product by reading "Query product production date". After reading this setting code, the scanner will immediately transmit the product production date to the host.

@QRYDAT

[Query product production date]

#SETUPE1

Startup Settings

Check product **OEM** serial number

You can obtain the product OEM serial number information by reading "Query product OEM serial number". After reading this setup code, the scanner will immediately transmit the product OEM serial number.

To the host.

@QRYESN

ÿQuery product OEM serial numberÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Chapter 4 **TTL-232** Communication Settings

Introduction

You can use TTL-232 communication, also known as serial communication. When the scanner and the host are connected using a serial line, both parties need to set the same communication parameters to ensure communication.

For the communication to proceed normally, the parameters that need to be set include the communication baud rate (i.e. transmission rate), check character setting, data bit setting, and stop bit setting.

@INTERF0

ÿTTL-232ÿ

#SETUPE0

Exit Settings

Baud rate

The baud rate is the number of bits per second that are transmitted in serial data communication. The baud rate used by the scanner and the data receiving host must be consistent to ensure accurate data transmission. The scanner supports the following baud rates, in bit/s. Default: 9600bps

ÿ115200ÿ

ÿ57600ÿ

ÿ38400ÿ

ÿ19200ÿ

ÿ14400ÿ

**ÿ9600ÿ

ÿ4800ÿ

Startup Settings

ÿ2400ÿ

ÿ1200ÿ

Exit Settings

#SETUPE1

Startup Settings

Parity character

The scanner can select different parity check character types during serial port transmission, but they must be consistent with the parity check character type of the host.

ÿ Select odd parity. If the number of "1" in the transmitted data is odd, the parity character is 0.

ÿ Select even parity. If the number of "1" in the transmitted data is even, the check character is 0.

ÿ Select No Check and do not send parity check characters.

@232PAR0

**ÿNo verificationÿ

@232PAR1

[Even parity]

@232PAR2

ÿOdd parityÿ

#SETUPE0

Exit Settings

Data bit transmission

You can choose to transmit 7 or 8 bit data. Please make sure that the data bit of the scanner is consistent with that of the data receiving host.

ÿ7 data bitsÿ

**ÿ8 data bitsÿ

Stop bits

The stop bit is located at the end of each byte transmitted, and is used to mark the completion of the transmission of this byte and to start receiving the next byte of data.

The default setting is 1 stop bit. If you need to stop for a longer time, you can set 2 stop bits.

**ÿOne stop bitÿ

ÿTwo stop bitsÿ

Startup Settings

Chapter 5 **USB** Communication Settings

Introduction

When you use USB to connect the scanner and the host, there are four connection methods to choose from.

To set the default mode:

ÿ USB keyboard: This method virtualizes the scanner input into a USB keyboard input. There is no need to set commands through the USB interface, and the data in the barcode data can be
The data can be directly input by keyboard keys without the need for a driver, and the host side can also obtain data very conveniently.

ÿ USB CDC serial port: An interface that complies with the CDC specification defined by the USB organization. The host side virtualizes it into a serial port. The host side operates the serial port in the same way as the physical serial port.
To be consistent, the driver needs to be installed on the host.

ÿ HID POS (POS HID Bar Code Scanner): This method is based on the HID interface, does not require a custom driver, and is more powerful than the analog keyboard interface and traditional
The TTL-232 serial port has a fast communication speed.

ÿ IBM SurePOS: USB interface that complies with the IBM (now Toshiba Global Commerce Solutions) 4698 scanner interface specification.

When the scanner and host are connected using both USB and TTL-232, the scanner will select the USB connection mode by default because the USB connection mode has a higher priority.

Exit Settings

#SETUPE1

Startup Settings

USB Keyboard

When the USB data cable is connected, the scanner can be set to HID Keyboard input mode. In this mode, the scanner will become a virtual keyboard, and the data receiving host will accept the input of this virtual keyboard just like the real keyboard input. The sending process after the scanner decodes the data is to type the characters in the virtual keyboard that correspond to the data. Each key press should be

@INTERF3

ÿUSB keyboardÿ

If the host input box can accept keyboard input, the scanner can use this communication method without any other auxiliary programs and directly Enter the decoded data into the input box of the host.

#SETUPE0

Exit Settings

Startup Settings

National keyboard layout

The keyboard key layout and symbols corresponding to different languages are different. Therefore, the scanner can be virtualized into different countries' keyboard formats as needed. The default is US Standard keyboard.

**ÿAmerican Englishÿ

ÿBelgiumÿ

ÿBrazilÿ

ÿCanada(French)ÿ

ÿCzechoslovakiaÿ

ÿDenmarkÿ

ÿFinland (Swedish)ÿ

Exit Settings

#SETUPE1

@KBWCTY7

ÿFranceÿ

@KBWCTY8

ÿGermany/AustriaÿÿGermany/Austriaÿ

@KBWCTY9

ÿGreeceÿ

@KBWCTY10

ÿHungaryÿ

@KBWCTY11

Israel (Hebrew)

@KBWCTY12

ÿItalyÿ

@KBWCTY13

Latin America

@KBWCTY14

ÿNetherlands (Dutch)ÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

@KBWCTY15

ÿNorwayÿ

@KBWCTY16

ÿPolandÿ

@KBWCTY17

ÿPortugalÿ

@KBWCTY18

ÿRomaniaÿ

@KBWCTY19

ÿRussiaÿ

@KBWCTY21

ÿSlovakiaÿ

@KBWCTY22

ÿSpainÿ

@KBWCTY23

ÿSwedenÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

@KBWCTY24

ÿSwitzerland (German)ÿ

@KBWCTY25

ÿTürkiye Fÿ

@KBWCTY26

ÿTurkish Qÿ

@KBWCTY27

ÿU.Kÿ

@KBWCTY28

ÿJapanÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Unknown character prompt tone

Due to differences in keyboard layouts, some characters contained in the barcode data may not be available on the selected keyboard. Therefore, the scanner cannot transmit unknown characters.

to enable or disable the beep sound when unknown characters are detected.

@KBWBUC0

**ÿclosureÿ

@KBWBUC1

[Open]

Example

Assume that the current scanner virtual keyboard format corresponds to French (number 7), and use this scanner to read the barcode with the content "AÐF".

Because one of the characters in the barcode data, "Ð" (0xD0), is not among all the available keys on the French keyboard, the scanner will skip this unknown character and continue to process the next character during transmission.

From the actual use scenario, if the unknown character prompt tone is set to "off", there will be no sound prompt when the scanner transmits, and the data transmitted to the data receiving host is "AF";

If the unknown character prompt tone is set to "On", the scanner will emit an error prompt tone when processing this character, and the data transmitted to the data receiving host will still be "AF".

If the "Keyboard Simulation Input Characters" function is turned on, this function will be invalid.

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Keyboard emulation input characters

When keyboard emulation is turned on, characters are sent via the numeric keypad, ignoring the national keyboard layout settings. This mode also requires setting up **Code Page** selection and **Unicode** output. Code Page determines the target language, and the Unicode output setting controls whether the encoding input to the host is Unicode or Code Page.

@KBWALT0

**ÿclosureÿ

@KBWALT1

[Open]

ASCII characters between 0x00 and 0x1F are output according to the setting of the "Control Character Output" function.

This method of sending can ensure that any character can be transmitted smoothly, but because too many keystrokes need to be simulated for each character to be transmitted, The speed is slower.

Example

Assume that the current scanner Code Page is Code Page 1252 (Latin, Western European), and the scanner reads a barcode with the content "AÐF" (the decimal values in Code Page 1252 are 65/208/70 respectively).

If the keyboard emulation input character setting is "On" and the Unicode output setting is "Off", the scanner simulates the keyboard operation as follows:

Enter "A" - Press the ALT key, press the numeric keypad keys 0, 6, 5 in sequence, and release the ALT key

Type "Ð" -- Hold down the ALT key, and then press the numeric keypad keys 2, 0, 8 in sequence, then release the ALT key

Enter "F" - Press the ALT key, press the numeric keypad keys 0, 7, 0 in sequence, and release the ALT key

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Code Page

Code Pages define the mapping of character codes to characters. If the data you receive does not display the correct characters, it may be because the barcode you are scanning was created using a different code page than the host program expects. If this is the case, scan the following setup barcode to select the code page that the barcode was created in (if it is a QR code). Code and other barcodes, you also need to set the corresponding character encoding method in the barcode parameter setting section). After setting, the barcode data characters should be displayed correctly. The "Code Page Selection" function is only effective after the keyboard emulation input character function is turned on. Default: Code Page 1252 (Latin, Western Europe). In addition, please note: Code Page932, Code Page936 and Code Page950 are three factory optional, which need to be supported by different software versions.

@KBWCPG0

**ÿCode Page 1252 (Latin, Western Europe)ÿ

@KBWCPG1

Code Page 1251 (Cyrillic)

@KBWCPG2

[Code Page 1250 (Central Europe)]

@KBWCPG3

Code Page 1253 (Greek)

@KBWCPG4

ÿCode Page 1254 (Turkish)ÿ

@KBWCPG5

Code Page 1255 (Hebrew)

#SETUPE0

Exit Settings

ÿCode Page 1256 (Arabic)ÿ

[Code Page 1257 (Baltic Sea)]

Code Page 1258 (Vietnamese)

ÿCode Page 936 (Simplified Chinese, GB2312, GBK)ÿ

ÿCode Page 950 (Traditional Chinese, Big5)ÿ

ÿCode Page 874 (Thai)ÿ

[Code Page 932 (Japanese, Shift-JIS)]

#SETUPE1

Startup Settings

Unicode Output

Different application software also has requirements for the character encoding received. For example, MS Office Word uses Unicode encoding, so Unicode output needs to be set to "on"; while MS Office Excel or Notepad uses Code Page encoding, so Unicodes output needs to be set to "off". The "Unicode output" function is only effective after the keyboard simulation input character function is turned on. Default: Off.

@KBWCPU0

**ÿclosureÿ

@KBWCPU1

[Open]

Leading "0"

Turn on the "Leading '0'" feature to send character sequences sent via the numeric keypad as ISO characters with a leading 0. For example, ASCII "A" is sent as "ALT MAKE" 0065 "ALT BREAK" format transmission. This function is only valid when "Keyboard emulation input character" is enabled.

@KBWALZ0

ÿclosureÿ

@KBWALZ1

**ÿOpenÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Control character output

ASCII characters between 0x00 and 0x1F can be converted into a control function key. The operation of inputting a control function key in the virtual keyboard is as follows.

The corresponding relationship between ASCII value and control function key is shown in the table on the next page. Default: Off.

@KBWFKM0

**ÿclosureÿ

@KBWFKM1

Control + ASCII mode

@KBWFKM2

ÿAlt + Keypad modeÿ

Example

When the other HID Keyboard related settings of the scanner are set to the default values, this setting is set to the control character output "Control + ASCII mode", and the read data is "A <HT>F (HT is an invisible character and is not displayed on the terminal software)" (the hexadecimal values are 0x41/0x09/0x46), the scanner virtual keyboard operation is as follows:

Type "A" -- Press the A key

Input "Ctrl I" -- Since the data of 0x09 corresponds to the control function key "I", the virtual keyboard will hold down Ctrl and then press the I key.

Then release the Ctrl key and the I key at the same time

Type "F" -- Press the F key

Since "Ctrl + I" corresponds to the function of converting characters to italics in some word processing software, you may see normal characters after completing the above operation.

"A" and an italicized "F".

If this setting is set to "Alt + Keypad Mode", the virtual keyboard operation for the "<HT>" character scanner is as follows:

Type "Alt 0 0 9" -- the virtual keyboard will hold down Alt, then press "0", "0" and "9" on the numeric keypad in sequence, and finally release Alt

#SETUPE0

Exit Settings

Startup Settings

Control character correspondence table

ASCII Function	**ASCII** Value (HEX) Control character output Turn off control character output **Control + ASCII** mode		
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	Print Screen	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	1B	F6	Ctrl+[
FS	1C	F7	Ctrl+\
GS	1D	F8	Ctrl+]
RS	1E	F9	Ctrl+6
US	1F	F10	Ctrl+-

Exit Settings

Control character correspondence table (continued)

In the above table, the 0x1B~0x1F in "Control Character Output Control + ASCII Mode" corresponds to the US keyboard layout. If it is a keyboard layout of another country, please refer to the following

surface:

nation	Code					
United	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+ÿ	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+-	

Key Delay

This parameter specifies the delay between simulated key presses. When the host requires slower data transfer, scan the appropriate bar code below to increase the delay. Default: No delay.

**ÿNo delayÿ

ÿLong delay (40ms)ÿ

[Short delay (20ms)]

#SETUPE1

Caps Lock Settings

When on, reverses the upper and lower case characters contained in the bar code data. This inversion occurs regardless of the state of the Caps Lock key on the host keyboard. Default: Off.

@KBWCAP0

**ÿClose (non-Japanese keyboard)ÿ

@KBWCAP1

[On (non-Japanese keyboard)]

@KBWCAP2

ÿClose(Japanese keyboard)ÿ

@KBWCAP3

[Open (Japanese keyboard)]

If the "Keyboard Simulation Input Characters" or "Upper and Lower Case Conversion" function is turned on, this function will be invalid.

Example

After turning on this function, when the scanner reads a barcode with data "AbC", the host will get "aBc".

#SETUPE0

#SETUPE1

Startup Settings

Case conversion

Scan the appropriate barcode below to convert all barcode data to the desired case. Default: No conversion.

If set to "Convert all to uppercase", all letters in the barcode data will be converted to uppercase regardless of whether they are uppercase or lowercase.

If set to "Convert all to lowercase", all letters in the barcode data will be converted to lowercase regardless of whether they are uppercase or lowercase.

@KBWCAS0

**ýNot convertedÿ

@KBWCAS1

[Convert all characters to uppercase]

@KBWCAS2

[Convert all characters to lowercase]

If the "Simulate Input Characters" function is turned on, this function will be invalid.

Example

Set "Convert all to lowercase characters". When reading a barcode with the content data "AbC", the host will get the keyboard input of "abc".

#SETUPE0

Exit Settings

#SETUPE1

Emulate numeric keypad

Numeric characters using the numeric keypad

If this function is not enabled, all outputs will be output according to the corresponding key values on the main keyboard.

After turning on this function, if the barcode data read by the scanner contains the numbers "0~9", the virtual keyboard will output the corresponding key values of the numeric keypad.

The numeric keypad is shown in the figure above. It is usually located on the far right of the keyboard. The Num Lock button on the upper left corner controls whether the key value is a number or a function key. The Num Lock status is not controlled, but consistent with the Num Lock status of the actual host keyboard. Therefore, if the actual host keyboard turns off Num Lock (Num Lock light is off), the scanner virtual numeric keypad outputs function keys instead of numbers.

@KBWNUM0

**ÿclosureÿ

@KBWNUM1

[Open]

#SETUPE0

#SETUPE1

Startup Settings

Please make sure to check the Num Lock status of the host before using this function.

If the "Simulate Input Characters" function is enabled, this function will be invalid.

After turning on the "Simulate Numeric Keypad", the scanner reads the barcode with the content "A4.5".

If the host "Num Lock" is on, the host program will receive the string "A4.5".

If the host "Num Lock" is off, the host program will receive the string ".A":

First, get the "A" key. This character is not in the numeric key function area, so it is sent normally.

Secondly, get the function key corresponding to the number "4" - the instruction to move the cursor left;

Finally, we get the "." key, which is sent normally.

Since the number "5" has no corresponding function key, no key input is generated.

Characters '+', '-', '*', '/' using the numeric keypad

@KBWNCH0

**ÿclosureÿ

@KBWNCH1

[Open]

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Fast Mode

By turning on Fast Mode, the scanner can send characters to the host more quickly. If the host is discarding characters, do not use Fast Mode or increase the polling speed setting.

@KBWFAS0

**ÿclosureÿ

@KBWFAS1

[Open]

#SETUPE0

#SETUPE1

Startup Settings

Polling speed

The keyboard polling speed can be set to 1~10 milliseconds by the following setup code. The smaller the setting value, the faster the scanner can send characters to the host.

To discard characters, increase the polling rate setting.

@KBWPOR0

**ÿ1msÿ

@KBWPOR1

ÿ2msÿ

@KBWPOR2

ÿ3msÿ

@KBWPOR3

ÿ4msÿ

@KBWPOR4

ÿ5msÿ

@KBWPOR5

ÿ6msÿ

@KBWPOR6

ÿ7msÿ

#SETUPE0

Exit Settings

ÿ8msÿ

ÿ9msÿ

ÿ10msÿ

#SETUPE1

Startup Settings

USB CDC serial port

When you use USB connection and want the host to receive data via serial port, you should use USB virtual serial port.

The scanner is equivalent to connecting to the host through the serial port.

@INTERF8

**ÿUSB CDC Serial Portÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

HID POS (POS HID Bar Code Scanner)

Introduction

The HID POS interface is recommended for new applications. It can send 56 characters in a single USB message and is faster than analog.

The speed of the virtual keyboard interface is fast.

feature:

ÿ Based on HID interface, no customized driver is required.

ÿ The communication speed is much faster than the analog keyboard interface and the traditional TTL-232 interface.

@INTERF5

ÿHID POSÿ

Methods for software programming to access devices

Use CreateFile to open the device as a HID type device, and then use ReadFile to pass the scanned data to the application. Use WriteFile to send data to the device. For complete USB and HID interface information, please refer to: www.USB.org.

Get scan data

After successfully reading the barcode, the device will send the following Input message:

	Bit							
Byte	7	6	5	4	3	2	1	0
0	Message ID = 0x02							
1	Barcode data length							
2-57	Barcode data (1-56)							
58-61	reserve							
62	New World barcode type identification symbol or useless: 0x00							
63	-	-	-	-	-	-	- Decoding data continues	

#SETUPE0

Exit Settings

Startup Settings

Send data to the device

This Output message is used to send data to the device. All communication commands can be sent to the device in this way.

	Bit							
Byte	7	6	5	4	3	2	1	0
0	Report ID = 0x04							
1	Length of the Data(“Output Data” field)							
2-63	Output Data (1-62)							

IBM SurePOS (Table-Top)

ÿIBM SurePOS (Table-Top)ÿ

IBM SurePOS (Hand-Held)

ÿIBM SurePOS (Hand-Held)ÿ

Exit Settings

VID and **PID** Table

USB uses two numbers to identify devices and find the right one. The first number is the VID (Vendor ID), which is assigned by the USB Implementers Forum.

The Vendor ID (VID) of Newland Auto-ID is 1EAB (hexadecimal). The second number is the PID (device ID).

Newland's automatic identification products have a range of PIDs, and each PID number contains a base number of the product type and the interface type.

Device Name	Interface Type	PID (hexadecimal)	PID (decimal)
EM23	USB keyboard	2C03	11267
	USB CDC Serial Port	2C06	11270
	HID POS	2C10	11280
	IBM SurePOS (Table-Top)	2C20	11296
	IBM SurePOS (Hand-Held)	2C21	11297

Communication cable adaptation

ÿ Off: The scanner communicates with the host according to the configuration of the communication interface.

ÿ On: The scanner can automatically match the connected cable (supports only USB and RS232) Switch communication mode: If the USB cable is connected, switch to USB Communication mode: If a serial cable is connected, switch the communication mode to TTL-232 serial port.

Note: To enable or disable communication cable adaptation, you need to restart the device to take effect.

ÿclosureÿ

**ÿOpenÿ

Exit Settings

#SETUPE1

Startup Settings

Chapter 6 Barcode Parameter Settings

Introduction

Each type of barcode has its own unique properties. The settings in this chapter can be used to adjust the scanner to adapt to these property changes.

The fewer barcode types you enable "Allow Reading", the faster the scanner will read. You can disable the scanner from reading barcode types that you will not use to improve the scanner's performance.

Working performance.

General settings

Allow all barcodes

Read "Allow to read all bar codes", the scanner will read all readable bar codes.

@ALLENA1

[Enable all barcodes]

Disable all barcodes

Read "Prohibit reading all barcodes", the scanner can only read the setting code, and all barcodes except the setting code will not be read.

@ALLENA0

[Prohibit all barcodes]

#SETUPE0

Exit Settings

Allow all 1D codes

@ALL1DC1

[Enable all one-dimensional barcodes]

All 1D codes are prohibited

@ALL1DC0

[All one-dimensional barcodes are prohibited]

Allow all 2D barcodes

@ALL2DC1

[Enable all QR codes]

All QR codes are prohibited

@ALL2DC0

[All QR codes are prohibited]

#SETUPE1

Startup Settings

One-dimensional barcode double code

One-dimensional barcode double code: two one-dimensional barcodes arranged one above the other. The directions of the two codes should be consistent, the difference should be as small as possible, and the distance should be as close as possible.

ÿ Read only a single 1D barcode: The device reads only one 1D barcode at a time at any time;

@A1DDOU0

[Only read a single 1D barcode]

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Reverse barcode reading

Normal video / Standard video barcode refers to a barcode with a light background and a dark foreground. Inverse video barcode is also called inverse color barcode.

Refers to a barcode with a dark background and a light foreground.

Positive phase barcode

Inverted Barcode

During processing, only positive barcodes are usually allowed to be read. By reading the following setting code, the reading engine can turn on or off the reading and processing function of reverse barcodes.

When "Allow reading of reverse phase barcodes" is selected, both normal phase barcodes and reverse phase barcodes can be read.

When "Prohibit reading of reverse phase barcodes" is selected, only normal phase barcodes can be read.

Allowing the reading of inverted barcodes will slightly reduce the reading speed of the reading engine.

@ALLINV1

Allows reading of reverse barcodes

@ALLINV0

**Reverse barcode reading is prohibited

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Code 128

Restore factory defaults

@128DEF

**ÿCode 128 factory default settingÿ

Enable/disable reading

@128ENA1

**ÿEnableÿ

@128ENA0

ÿprohibitÿ

If the scanner cannot recognize the Code 128 barcode, try scanning the Enable setup barcode and try again.

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Set the reading length

The scanner can be configured to read only Code 128 barcodes that are within (and including) the minimum and maximum lengths.

@128MIN

[Minimum length (default: 1)]

@128MAX

[Maximum length (default: 127)]

The maximum length limit of any one-dimensional barcode shall not exceed 127. If the maximum length is less than the minimum length, only the two lengths of barcodes can be read.

If the maximum length is equal to the minimum length, only this length is supported.

Limit the scanner to only read Code128 barcodes with a minimum of 8 bytes and a maximum of 12 bytes:

1. Read "Startup Settings"
2. Read the "minimum length" code
3. Read the data code "8" (see Appendix - Data Code)
4. Read the "Save" code (see Appendix - Save or Cancel)
5. Read the "Maximum Length" code
6. Read the data code "1"
7. Read the data code "2"
8. Read the "Save" code
9. Read "Exit Settings"

#SETUPE0

#SETUPE1

Startup Settings

Interleaved 2 of 5

Restore factory defaults

@I25DEF

**ÿInterleaved 2 of 5 factory default settingsÿ

Enable/disable reading

@I25ENA1

**ÿEnableÿ

@I25ENA0

ÿprohibitÿ

If the scanner cannot recognize the Interleaved 2 of 5 barcode, try to read the "Enable" setup barcode and try again.

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Set the reading length

The scanner can be configured to read only Interleaved 2 of 5 barcodes whose length is between (and including) the minimum and maximum lengths.

@I25MIN

Minimum length (default value: 1)

@I25MAX

Maximum length (default: 127)

The maximum length limit of any one-dimensional barcode shall not exceed 127. If the maximum length is less than the minimum length, only the two lengths of barcodes can be read.

If the maximum length is equal to the minimum length, only this length is supported.

Example

Limit the scanner to read only Interleaved 2 of 5 barcodes with a minimum of 8 bytes and a maximum of 12 bytes:

1. Read "Startup Settings"
2. Read "Minimum Length"
3. Read the data code "8" (see Appendix - Data Code)
4. Read the "Save" code (see Appendix - Save or Cancel)
5. Read the "Maximum Length" code
6. Read the data code "1"
7. Read the data code "2"
8. Read the "Save" code
9. Read "Exit Settings"

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

check

Interleaved 2 of 5 barcode data does not have to include a check character. If there is a check character, it must be the last byte of the data.

The value calculated from all the data outside the symbol is used to verify whether the data is correct.

ÿ If set to “Disable”, the scanner will transmit all barcode data normally.

ÿ If set to "Enable, do not transmit check character", the scanner will verify the last digit of the barcode. If the verification passes, all data except the last check character will be transmitted.

If the verification fails, the barcode content will not be sent.

ÿ If set to "Enable, send check character", the scanner will check the last digit of the barcode. If the check passes, the check character will be used as the last digit of the normal data.

If the verification fails, the barcode content will not be sent.

The number of digits in the Interleaved 2 of 5 barcode must be an even number. The check character is included in the code. If the code is an odd number, a zero is added before the first digit.

The code is automatically generated.

@I25CHK0

**ÿprohibitÿ

@I25CHK1

[Enable, do not send check character]

@I25CHK2

[Enable, send check character]

When the check character is not sent, if the data length minus the 1-byte check character is less than the minimum reading length, the reading will fail.

For example, in the current scanner settings, the minimum read length of Interleaved 2 of 5 is 4 bytes, and the check character is not transmitted.

Taking Interleaved 2 of 5 with a total length of 4 bytes will fail!

#SETUPE0

Exit Settings

Febraban

@I25FBB0
**ÿFebraban prohibitedÿ

@I25FBB1
[Enable Febraban without information expansion]

@I25FBB2
[Enable Febraban and expand information]

Febraban barcode output delay

ÿ Output delay of each character of **Febraban** barcode

@FEBSEN0
**ÿprohibitÿ

@FEBSEN1
ÿEnableÿ

#SETUPE1

Startup Settings

ÿ **Febraban** barcode output delay time setting for each character

@FEBSDT0

ÿ0msÿ

@FEBSDT5

ÿ5msÿ

@FEBSDT10

ÿ10msÿ

@FEBSDT15

ÿ15msÿ

@FEBSDT20

ÿ20msÿ

@FEBSDT25

ÿ25msÿ

@FEBSDT30

ÿ30msÿ

@FEBSDT35

ÿ35msÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

@FEBSDT40

ÿ40msÿ

@FEBSDT45

ÿ45msÿ

@FEBSDT50

ÿ50msÿ

@FEBSDT55

ÿ55msÿ

@FEBSDT60

ÿ60msÿ

@FEBSDT65

ÿ65msÿ

@FEBSDT70

**ÿ70msÿ

@FEBSDT75

ÿ75msÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

ÿ After character expansion, the **Febraban** barcode output is delayed every **12** characters

@FEBMEN0

**ÿprohibitÿ

@FEBMEN1

ÿEnableÿ

#SETUPE0

Exit Settings

#SETUPE1

ÿ Setting the output delay time for every **12** characters of **Febraban** barcode after character expansion

@FEBMDT0

ÿ0msÿ

@FEBMDT1

ÿ300msÿ

@FEBMDT2

ÿ400msÿ

@FEBMDT3

**ÿ500msÿ

@FEBMDT4

ÿ600msÿ

@FEBMDT5

ÿ700msÿ

@FEBMDT6

ÿ800msÿ

@FEBMDT7

ÿ900msÿ

#SETUPE0

#SETUPE1

Startup Settings

ITF-14

Restore factory defaults

@I14DEF

**ÿITF-14 factory default settingÿ

Enable/disable reading

@I14ENA0

**ÿprohibitÿ

@I14ENA1

[Enable, do not send checksum]

@I14ENA2

[Enable, send checksum]

For example, if ITF-14 is allowed to be read but Interleaved 2 of 5 is prohibited, according to the ITF-14 priority principle, a length of 14 characters will appear.

Interleaved 2 of 5 codes with a check character as the last byte can be read, but other types of Interleaved 2 of 5 codes cannot be read.

The code cannot be read.

#SETUPE0

Exit Settings

#SETUPE1

ITF-6

Restore factory defaults

@IT6DEF

**ÿITF-6 factory default settingsÿ

Enable/disable reading

@IT6ENA0

**ÿprohibitÿ

@IT6ENA1

[Enable, do not send checksum]

@IT6ENA2

[Enable, send checksum]

For example, if ITF-6 is allowed to be read but Interleaved 2 of 5 is prohibited, according to the ITF-6 priority principle, a 6-byte length and Interleaved 2 of 5 codes whose last byte is a check character can be read, but other types of Interleaved 2 of 5 codes cannot be read.

The situation of legal literacy.

#SETUPE0

#SETUPE1

Startup Settings

Matrix 2 of 5

Restore factory defaults

@M25DEF

**ÿMatrix 2 of 5 factory default settingsÿ

Enable/disable reading

@M25ENA1

**ÿEnableÿ

@M25ENA0

ÿprohibitÿ

If the scanner cannot recognize the Matrix 2 of 5 barcode, try reading the “Enable” setup barcode and try again.

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Set the reading length

The scanner can be configured to read only Matrix 2 of 5 barcodes whose length is between (and including) the minimum and maximum lengths.

@M25MIN

Minimum length (default: 4)

@M25MAX

Maximum length (default: 127)

The maximum length limit of any one-dimensional barcode shall not exceed 127. If the maximum length is less than the minimum length, only the two lengths of barcodes can be read.

If the maximum length is equal to the minimum length, only this length is supported.

Example

Limit the scanner to read only Matrix 2 of 5 barcodes with a minimum of 8 bytes and a maximum of 12 bytes:

1. Read "Startup Settings"
2. Read "Minimum Length"
3. Read the data code "8" (see Appendix - Data Code)
4. Read the "Save" code (see Appendix - Save or Cancel)
5. Read the "Maximum Length" code
6. Read the data code "1"
7. Read the data code "2"
8. Read the "Save" code
9. Read "Exit Settings"

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

check

Matrix 2 of 5 barcode data does not have to include a check character. If there is a check character, it must be the last byte of the data.

The value calculated from all data is used to verify whether the data is correct.

ÿ If set to “Disable”, the scanner will transmit all barcode data normally.

ÿ If set to "Enable, do not transmit check character", the scanner will verify the last digit of the barcode. If the verification passes, all data except the last check character will be transmitted.

If the verification fails, the barcode content will not be sent.

ÿ If set to "Enable, send check character", the scanner will check the last digit of the barcode. If the check passes, the check character will be used as the last digit of the normal data.

If the verification fails, the barcode content will not be sent.

@M25CHK0

**ÿprohibitÿ

@M25CHK1

[Enable, do not send check character]

@M25CHK2

[Enable, send check character]

When the check character is not sent, if the data length minus the 1-byte check character is less than the minimum reading length, the reading will fail.

For example, in the current scanner settings, the minimum read length of Matrix 2 of 5 is 4 bytes, and the check character is not transmitted.

Matrix 2 of 5, which is 4 bytes long, will fail!

#SETUPE0

Exit Settings

#SETUPE1

Code 39

Restore factory defaults

@C39DEF

**ÿCode 39 factory default settingÿ

Enable/disable reading

@C39ENA1

**ÿEnableÿ

@C39ENA0

ÿprohibitÿ

If the scanner cannot recognize the Code 39 barcode, try scanning the Enable setup barcode and try again.

#SETUPE0

#SETUPE1

Startup Settings

Set the reading length

The scanner can be configured to read only Code 39 bar codes that are within (and including) the minimum and maximum lengths.

@C39MIN

Minimum length (default value: 1)

@C39MAX

Maximum length (default: 127)

The maximum length limit of any one-dimensional barcode shall not exceed 127. If the maximum length is less than the minimum length, only the two lengths of barcodes can be read.

If the maximum length is equal to the minimum length, only this length is supported.

Limit the scanner to only read Code 39 barcodes with a minimum of 8 bytes and a maximum of 12 bytes:

1. Read "Startup Settings"
2. Read "Minimum Length"
3. Read the data code "8" (see Appendix - Data Code)
4. Read the "Save" code (see Appendix - Save or Cancel)
5. Read the "Maximum Length" code
6. Read the data code "1"
7. Read the data code "2"
8. Read the "Save" code
9. Read "Exit Settings"

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

check

Code 39 barcode data does not have to include a check character. If there is a check character, it must be the last byte of the data.

The value calculated from the data is used to verify whether the data is correct.

ÿ If set to “Disable”, the scanner will transmit all barcode data normally.

ÿ If set to "Enable, do not transmit check character", the scanner will verify the last digit of the barcode. If the verification passes, all data except the last check character will be transmitted.

If the normal data outside the character is not verified, the barcode content will not be sent.

ÿ If set to "Enable, send check character", the scanner will check the last digit of the barcode. If the check passes, the check character will be treated as normal data.

The last 1 digit is transmitted together, and the barcode content will not be sent if the verification fails.

@C39CHK0

**ÿprohibitÿ

@C39CHK1

[Enable, do not send check character]

@C39CHK2

[Enable, send check character]

When set to "Enable, do not send check character", if the data length minus 1 byte of check character is less than the minimum reading length limit,

The code reading will fail.

For example: In the current scanner settings, the minimum read length of Code 39 is 4 bytes, and the check character is not transmitted. In this case, the total length to be read is 4 bytes.

Code 39 will fail!

#SETUPE0

Exit Settings

Startup Settings

Start and end characters

You can set whether to transmit the start and end characters together with the barcode data after the barcode is read successfully.

**ÿNot Transmittedÿ

ÿTeleportÿ

Full ASCII

[Enable Code 39 Full ASCII to enable the function of reading full ASCII characters]

[Code 39 Full ASCII prohibited]

**[Enable Code 39 Full ASCII]

Exit Settings

#SETUPE1

Code32 Pharmaceutical (PARAF)

Code 32 Pharmaceutical is a form of the Code 39 barcode used in Italian pharmacies. This barcode is also known as PARAF.

The output format of Code 32 is: * + A + 8 digits + 1 check digit + *.

@C39E320

**ÿprohibitÿ

@C39E321

ÿEnableÿ

Code 32 Pharmaceutical can only be read when Code 39 is enabled and without verification.

Code32 prefix

@C39S320

**ÿprohibitÿ

@C39S321

ÿEnableÿ

#SETUPE0

#SETUPE1

Startup Settings

Code32 start and end characters

@C39T320

**ÿNot Transmittedÿ

@C39T321

ÿTeleportÿ

Code32 check character

@C39C320

**ÿNot Transmittedÿ

@C39C321

ÿTeleportÿ

#SETUPE0

Exit Settings

#SETUPE1

Codabar

Restore factory defaults

@CBADEF

**ÿCodabar factory default settingsÿ

Enable/disable reading

@CBAENA1

**ÿEnableÿ

@CBAENA0

ÿprohibitÿ

If the scanner cannot recognize the Codabar barcode, please try to read the "Enable" setup barcode and try again.

#SETUPE0

#SETUPE1

Startup Settings

Set the reading length

The scanner can be configured to read only Codabar barcodes that are within (and including) a minimum and maximum length.

@CBAMIN

Minimum length (default: 2)

@CBAMAX

Maximum length (default: 127)

The maximum length limit of any one-dimensional barcode shall not exceed 127. If the maximum length is less than the minimum length, only the two lengths of barcodes can be read.

If the maximum length is equal to the minimum length, only this length is supported.

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

check

Codabar barcode data does not compulsorily include a check character. If there is a check character, it must be the last byte of the data.

The value calculated from the data is used to verify whether the data is correct.

ÿ If set to “Disable”, the scanner will transmit all barcode data normally.

ÿ If set to "Enable, do not transmit check character", the scanner will verify the last digit of the barcode. If the verification passes, all data except the last check character will be transmitted.

If the normal data outside the symbol fails to be verified, the barcode content will not be sent.

ÿ If set to "Enable, send check character", the scanner will check the last digit of the barcode. If the check passes, the check character will be treated as normal data.

The last 1 digit is transmitted together, and the barcode content will not be sent if the verification fails.

@CBACHK0

**ÿprohibitÿ

@CBACHK1

[Enable, do not send check character]

@CBACHK2

[Enable, send check character]

When set to "Enable, do not send check character", if the data length minus 1 byte of check character is less than the minimum reading length limit,

For example, in the current scanner settings, the minimum Codabar code length is 4 bytes, and the check character is not transmitted.

Reading a Codabar with a total length of 4 bytes will fail!

#SETUPE0

#SETUPE1

Startup Settings

Start and end characters

Codabar barcode data has one byte of data before and after as the start and end characters. The start and end characters are one of the four characters "A", "B", "C", and "D".

You can set whether to transmit the start and end characters together with the barcode data after the barcode is read successfully.

@CBATSC0

**ÿNot Transmittedÿ

@CBATSC1

ÿTeleportÿ

Start and end character formats

@CBASCF0

**ÿABCD/ABCDÿ

@CBASCF1

ÿABCD/TN*Eÿ

@CBASCF2

ÿabcd/abcdÿ

@CBASCF3

ÿabcd/tn*eÿ

#SETUPE0

Exit Settings

Code 93

Restore factory defaults

**ÿCode 93 factory default settingÿ

Enable/disable reading

**ÿEnableÿ

ÿprohibitÿ

If the scanner cannot recognize the Code 93 barcode, try scanning the Enable setup barcode and try again.

#SETUPE1

Startup Settings

Set the reading length

The scanner can be configured to read only Code 93 bar codes that are within (and including) the minimum and maximum lengths.

@C93MIN

Minimum length (default value: 1)

@C93MAX

Maximum length (default: 127)

The maximum length limit of any one-dimensional barcode shall not exceed 127. If the maximum length is less than the minimum length, only the two lengths of barcodes can be read.

If the maximum length is equal to the minimum length, only this length is supported.

Example

Limit the scanner to only read Code 93 barcodes with a minimum of 8 bytes and a maximum of 12 bytes:

1. Read "Startup Settings"
2. Read "Minimum Length"
3. Read the data code "8" (see Appendix - Data Code)
4. Read the "Save" code (see Appendix - Save or Cancel)
5. Read "Maximum Length"
6. Read the data code "1"
7. Read the data code "2"
8. Read the "Save" code
9. Read "Exit Settings"

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

check

Code 93 barcode data does not have to include a check character. If there is a check character, it must be the last two characters of the data.

The value calculated from the data is used to verify whether the data is correct.

ÿ If set to “Disable”, the scanner will transmit all barcode data normally.

ÿ If set to "Enable, do not transmit check character", the scanner will verify the last 2 digits of the barcode. If the verification passes, all data except the last 2 check characters will be transmitted.

If the normal data outside the symbol fails to be verified, the barcode content will not be sent.

ÿ If set to "Enable, send check character", the scanner will check the last 2 digits of the barcode. If the check passes, the check character will be treated as normal data.

The last 2 digits are transmitted together, and if the verification fails, the barcode content will not be sent.

@C93CHK0

ÿprohibitÿ

@C93CHK1

**[Enable, do not send check character]

@C93CHK2

[Enable, send check character]

When set to "Enable, do not send check character", if the data length minus the 2-byte check character is less than the minimum reading length limit,

The code reading will fail.

For example, in the current scanner settings, the minimum read length of Code 93 is 4 bytes, and the check character is not transmitted. In this case, the total length to be read is 4 bytes.

Code 93 will fail!

#SETUPE0

#SETUPE1

Startup Settings

GS1-128 (UCC/EAN-128)

Restore factory defaults

@GS1DEF

**ÿGS1-128 factory default settingsÿ

Enable/disable reading

@GS1ENA1

**ÿEnableÿ

@GS1ENA0

ÿprohibitÿ

If the scanner cannot recognize the GS1-128 barcode, try reading the "Enable" setup barcode and try again.

#SETUPE0

Exit Settings

Set the reading length

The scanner can be configured to read only GS1-128 barcodes that are within (and including) the minimum and maximum lengths.

Minimum length (default value: 1)

Maximum length (default: 127)

The maximum length limit of any one-dimensional barcode shall not exceed 127. If the maximum length is less than the minimum length, only the two lengths of barcodes can be read.

If the maximum length is equal to the minimum length, only this length is supported.

Limit the scanner to read only GS1-128 barcodes with a minimum of 8 bytes and a maximum of 12 bytes:

1. Read "Startup Settings"
2. Read "Minimum Length"
3. Read the data code "8" (see Appendix - Data Code)
4. Read the "Save" code (see Appendix - Save or Cancel)
5. Read the "Maximum Length" code
6. Read the data code "1"
7. Read the data code "2"
8. Read the "Save" code
9. Read "Exit Settings"

#SETUPE1

Startup Settings

GS1 Databar (RSS)

Restore factory defaults

@RSSDEF

**ÿGS1 Databar factory default settingsÿ

Enable/disable reading

@RSSENA1

ÿEnableÿ

@RSSENA0

**ÿprohibitÿ

If the scanner cannot recognize the GS1 Databar barcode, try reading the "Enable" setup barcode and try again.

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

AI (01) character sending settings

@RSSTAI1

**ÿTeleportÿ

@RSSTAI0

ÿDo not transmitÿ

#SETUPE0

#SETUPE1

Startup Settings

Code 11

Restore factory defaults

@C11DEF

**ÿCode 11 factory default settingÿ

Enable/disable reading

@C11ENA1

ÿEnableÿ

@C11ENA0

**ÿprohibitÿ

If the scanner cannot recognize the Code 11 barcode, try scanning the "Enable" setup barcode and try again.

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Set the reading length

The scanner can be configured to read only Code 11 barcodes that are within (and including) the minimum and maximum lengths.

@C11MIN

Minimum length (default value: 1)

@C11MAX

Maximum length (default: 127)

The maximum length limit of any one-dimensional barcode shall not exceed 127. If the maximum length is less than the minimum length, only the two lengths of barcodes can be read.

If the maximum length is equal to the minimum length, only this length is supported.

Limit the scanner to read Code 11 barcodes with a minimum of 8 bytes and a maximum of 12 bytes:

1. Read "Startup Settings"
2. Read "Minimum Length"
3. Read the data code "8" (see Appendix - Data Code)
4. Read the "Save" code (see Appendix - Save or Cancel)
5. Read the "Maximum Length" code
6. Read the data code "1"
7. Read the data code "2"
8. Read the "Save" code
9. Read "Exit Settings"

#SETUPE0

Startup Settings

check

Code 11 barcode data does not have to include a check character. If there is a check character, it can be the last 1 or 2 characters of the data.

The calculated value is used to verify whether the data is correct.

Therefore, if it is set to "Disable", the scanner will transmit all barcode data normally.

ÿprohibitÿ

**ÿOne-bit check, MOD11ÿ

ÿTwo-digit verification, MOD11/MOD11ÿ

ÿTwo-digit verification, MOD11/MOD9ÿ

ÿMOD11 single check (Len<=10),

MOD11/MOD11 double check (Len>10)ÿ

ÿMOD11 single check (Len<=10),

MOD11/MOD9 double check (Len>10)ÿ

Exit Settings

#SETUPE1

Startup Settings

Transmit check character

@C11TCK0

ÿDo not transmitÿ

@C11TCK1

**ÿTeleportÿ

When the check character transmission is set to "Do not transmit", if the data length after deducting the check character is less than the minimum code reading length, the code reading will fail.

For example, in the current scanner settings, the minimum length of Code 11 is 4 bytes, and no check character is transmitted. In this case, the length to be read is 4 bytes (length Code11 (which includes a check character) will fail!

#SETUPE0

#SETUPE1

Startup Settings

ISBN

Restore factory defaults

@ISBDEF

**ÿISBN factory default settingÿ

Enable/disable reading

@ISBENA1

ÿEnableÿ

@ISBENA0

**ÿprohibitÿ

If the scanner cannot recognize the ISBN barcode, try reading the "Enable" setup barcode and try again.

ISBN Format

@ISBT101

**ÿISBN-10ÿ

@ISBT100

ÿISBN-13ÿ

#SETUPE0

Exit Settings

#SETUPE1

ISSN

Restore factory defaults

@ISSDEF

**ÿISSN factory default settingÿ

Enable/disable reading

@ISSENA1

ÿEnableÿ

@ISSENA0

**ÿprohibitÿ

If the scanner cannot recognize the ISSN barcode, please try to read the "Enable" setup barcode and try again.

#SETUPE0

#SETUPE1

Startup Settings

Industrial 25

Restore factory defaults

@L25DEF

**ÿIndustrial 25 factory default settingÿ

Enable/disable reading

@L25ENA1

ÿEnableÿ

@L25ENA0

**ÿprohibitÿ

If the scanner cannot recognize the Industrial 25 barcode, try reading the Enable setup barcode and try again.

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Set the reading length

The scanner can be configured to read only Industrial 25 bar codes that are within (and including) the minimum and maximum lengths.

@L25MIN

Minimum length (default value: 1)

@L25MAX

Maximum length (default: 127)

The maximum length limit of any one-dimensional barcode shall not exceed 127. If the maximum length is less than the minimum length, only the two lengths of barcodes can be read.

If the maximum length is equal to the minimum length, only this length is supported.

Limit the scanner to read only Industrial 25 barcodes with a minimum of 8 bytes and a maximum of 12 bytes:

1. Read "Startup Settings"
2. Read "Minimum Length"
3. Read the data code "8" (see Appendix - Data Code)
4. Read the "Save" code (see Appendix - Save or Cancel)
5. Read the "Maximum Length" code
6. Read the data code "1"
7. Read the data code "2"
8. Read the "Save" code
9. Read "Exit Settings"

#SETUPE0

#SETUPE1

Startup Settings

check

Industrial 25 barcode data does not have to include a check character. If a check character is included, it must be the last byte of the data.

The value calculated from all data is used to verify whether the data is correct.

ÿ If set to “Disable”, the scanner will transmit all barcode data normally.

ÿ If set to "Enable, do not transmit check character", the scanner will verify the last digit of the barcode. If the verification passes, all data except the last check character will be transmitted.

If the normal data outside the symbol fails to be verified, the barcode content will not be sent.

ÿ If set to "Enable, send check character", the scanner will check the last digit of the barcode. If the check passes, the check character will be treated as normal data.

The last 1 digit is transmitted together, and the barcode content will not be sent if the verification fails.

@L25CHK0

**ÿprohibitÿ

@L25CHK1

[Enable, do not send check character]

@L25CHK2

[Enable, send check character]

When the check character is not sent, if the data length minus the 1-byte check character is less than the minimum reading length, the reading will fail.

For example, in the current scanner settings, the minimum read length of Industrial 25 is 4 bytes, and the check character is not transmitted.

Industrial 25, which is 4 bytes long, will fail!

#SETUPE0

Exit Settings

#SETUPE1

Standard 25

Restore factory defaults

@S25DEF

**ÿStandard 25 factory default settingÿ

Enable/disable reading

@S25ENA1

**ÿEnableÿ

@S25ENA0

ÿprohibitÿ

If the scanner cannot recognize the Standard 25 barcode, try reading the Enable setup barcode and try again.

#SETUPE0

#SETUPE1

Startup Settings

Set the reading length

The scanner can be configured to read only Standard 25 bar codes that are within (and including) the minimum and maximum lengths.

@S25MIN

Minimum length (default value: 1)

@S25MAX

Maximum length (default: 127)

The maximum length limit of any one-dimensional barcode shall not exceed 127. If the maximum length is less than the minimum length, only the two lengths of barcodes can be read.

If the maximum length is equal to the minimum length, only this length is supported.

Limit the scanner to read only Standard 25 barcodes with a minimum of 8 bytes and a maximum of 12 bytes:

1. Read "Startup Settings"
2. Read "Minimum Length"
3. Read the data code "8" (see Appendix - Data Code)
4. Read the "Save" code (see Appendix - Save or Cancel)
5. Read "Maximum Length"
6. Read the data code "1"
7. Read the data code "2"
8. Read the "Save" code
9. Read "Exit Settings"

#SETUPE0

Exit Settings

#SETUPE1

check

Standard 25 barcode data does not have to include a check character. If there is a check character, it must be the last character in the data.

The value calculated from all data is used to verify whether the data is correct.

ÿ If set to “Disable”, the scanner will transmit all barcode data normally.

ÿ If set to "Enable, do not transmit check character", the scanner will verify the last digit of the barcode. If the verification passes, all data except the last check character will be transmitted.

If the normal data outside the symbol fails to be verified, the barcode content will not be sent.

ÿ If set to "Enable, send check character", the scanner will check the last digit of the barcode. If the check passes, the check character will be treated as normal data.

The last 1 digit is transmitted together, and the barcode content will not be sent if the verification fails.

@S25CHK0

**ÿprohibitÿ

@S25CHK1

[Enable, do not send check character]

@S25CHK2

[Enable, send check character]

When set to "Enable, do not send check character", if the data length minus 1 byte of check character is less than the minimum reading length limit,

The code reading will fail.

For example, in the current scanner settings, the minimum read length of Standard 25 is 4 bytes, and no check character is transmitted. In this case, the total length to be read is 4

Standard 25 bytes will fail!

#SETUPE0

#SETUPE1

Startup Settings

Plessey

Restore factory defaults

@PLYDEF

**ÿPlessey factory default settingsÿ

Enable/disable reading

@PLYENA1

**ÿEnableÿ

@PLYENA0

ÿprohibitÿ

If the scanner cannot recognize the Plessey barcode, try reading the "Enable" setup barcode and try again.

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Set the reading length

The scanner can be configured to read only Plessey barcodes that are within (and including) a minimum and maximum length.

@PLYMIN

Minimum length (default value: 1)

@PLYMAX

Maximum length (default: 127)

The maximum length limit of any one-dimensional barcode shall not exceed 127. If the maximum length is less than the minimum length, only the two lengths of barcodes can be read.

If the maximum length is equal to the minimum length, only this length is supported.

Limit the scanner to read only Plessey barcodes with a minimum of 8 bytes and a maximum of 12 bytes:

1. Read "Startup Settings"
2. Read "Minimum Length"
3. Read the data code "8" (see Appendix - Data Code)
4. Read the "Save" code (see Appendix - Save or Cancel)
5. Read "Maximum Length"
6. Read the data code "1"
7. Read the data code "2"
8. Read the "Save" code
9. Read "Exit Settings"

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

check

Plessey barcode data does not compulsorily include a check character. If there is a check character, it must be the last two characters of the data. The check character is the value calculated from all data except the check character to verify whether the data is correct.

ÿ If set to “Disable”, the scanner will transmit all barcode data normally.

ÿ If set to "Enable, do not transmit check character", the scanner will verify the last 2 digits of the barcode. If the verification passes, all data except the last 2 check characters will be transmitted.

If the normal data outside the symbol fails to be verified, the barcode content will not be sent.

ÿ If set to "Enable, send check character", the scanner will check the last 2 digits of the barcode. If the check passes, the check character will be treated as normal data.

The last 2 digits are transmitted together, and if the verification fails, the barcode content will not be sent.

@PLYCHK0

ÿprohibitÿ

@PLYCHK1

**[Enable, do not send check character]

@PLYCHK2

[Enable, send check character]

When set to "Enable, do not send check character", if the data length minus the 2-byte check character is less than the minimum reading length limit, the read The code will fail.

For example: In the current scanner settings, the minimum Plessey code length is 4 bytes, and the check character is not transmitted. At this time, reading a Plessey with a total length of 4 bytes will fail!

#SETUPE0

Exit Settings

#SETUPE1

MSI Plessey

Restore factory defaults

@MSIDEF

**ÿMSI-Plessey factory default settingsÿ

Enable/disable reading

@MSIENA1

**ÿEnableÿ

@MSIENA0

ÿprohibitÿ

If the scanner cannot recognize the MSI-Plessey barcode, try reading the "Enable" setup barcode and try again.

#SETUPE0

#SETUPE1

Startup Settings

Set the reading length

The scanner can be configured to read only MSI-Plessey barcodes with a length between (and including) a minimum and maximum length.

@MSIMIN

Minimum length (default value: 1)

@MSIMAX

Maximum length (default: 127)

The maximum length limit of any one-dimensional barcode shall not exceed 127. If the maximum length is less than the minimum length, only the two lengths of barcodes can be read.

If the maximum length is equal to the minimum length, only this length is supported.

Limit the scanner to read only MSI-Plessey barcodes with a minimum of 8 bytes and a maximum of 12 bytes:

1. Read "Startup Settings"
2. Read "Minimum Length"
3. Read the data code "8" (see Appendix - Data Code)
4. Read the "Save" code (see Appendix - Save or Cancel)
5. Read the "Maximum Length" code
6. Read the data code "1"
7. Read the data code "2"
8. Read the "Save" code
9. Read "Exit Settings"

#SETUPE0

Exit Settings

#SETUPE1

check

MSI-Plessey barcode data does not contain a check character. If there is a check character, it is the last 1 or 2 characters of the data. The check character is the value calculated from all data except the check character to verify whether the data is correct. If it is set to "Disable", the scanner will transmit all barcode data normally.

@MSICHK0

ÿprohibitÿ

@MSICHK1

**ÿOne-bit check, MOD10ÿ

@MSICHK2

ÿTwo-digit verification, MOD10/MOD10ÿ

@MSICHK3

ÿTwo-digit verification, MOD10/MOD11ÿ

#SETUPE0

#SETUPE1

Startup Settings

Transmit check character

@MSITCK1

ÿTeleportÿ

@MSITCK0

**ÿNot Transmittedÿ

When set to "Enable, do not send check character", if the data length minus the 2-byte check character is less than the minimum reading length limit, the read

The code will fail.

For example: In the current scanner settings, the minimum reading length of MSI-Plessey is 4 bytes, and the check character is not transmitted. At this time, reading the MSI-Plessey

with a total length of 4 bytes will fail!

#SETUPE0

Exit Settings

#SETUPE1

AIM 128

Restore factory defaults

@AIMDEF

**ÿAIM 128 factory default settingsÿ

Enable/disable reading

@AIMENA1

**ÿEnableÿ

@AIMENA0

ÿprohibitÿ

If the scanner cannot recognize the AIM 128 bar code, try reading the "Enable" setup barcode and try again.

#SETUPE0

#SETUPE1

Startup Settings

Set the reading length

The scanner can be configured to read only AIM 128 bar codes that are within (and including) the minimum and maximum lengths.

@AIMMIN

Minimum length (default value: 1)

@AIMMAX

Maximum length (default: 127)

The maximum length limit of any one-dimensional barcode shall not exceed 127. If the maximum length is less than the minimum length, only the two lengths of barcodes can be read.

If the maximum length is equal to the minimum length, only this length is supported.

Example

Limit the scanner to read only AIM 128 barcodes with a minimum of 8 bytes and a maximum of 12 bytes:

1. Read "Startup Settings"
2. Read "Minimum Length"
3. Read the data code "8" (see Appendix - Data Code)
4. Read "Save" (see Appendix - Save or Cancel)
5. Read "Maximum Length"
6. Read the data code "1"
7. Read the data code "2"
8. Read the "Save" code
9. Read "Exit Settings"

#SETUPE0

Exit Settings

#SETUPE1

QR Code

Restore factory defaults

@QRCDEF

**ÿQR factory default settingÿ

Enable/disable reading

@QRCENA1

**ÿEnableÿ

@QRCENA0

ÿprohibitÿ

If the scanner cannot recognize the QR Code barcode, please try to read the "Enable" setup barcode and try again.

#SETUPE0

#SETUPE1

Startup Settings

Set the reading length

The scanner can be configured to only read QR Code barcodes that are within (and including) a minimum and maximum length.

@QRCMIN

Minimum length (default value: 1)

@QRCMAX

Maximum length (default: 6144)

TIPS

The maximum length limit of any 2D barcode shall not exceed 65535 bytes, and the maximum length limit shall not be less than the minimum length limit.

If you want to read only a QR Code with a fixed length, you can set the minimum length limit to the same value as the maximum length limit.

The values are equal.

Example

Limit the scanner to read QR Code barcodes with a minimum of 8 bytes and a maximum of 12 bytes:

1. Read "Startup Settings"
2. Read "Minimum Length"
3. Read the data code "8" (see Appendix - Data Code)
4. Read "Save" (see Appendix - Save or Cancel)
5. Read "Maximum Length"
6. Read the data code "1"
7. Read the data code "2"
8. Read the "Save" code
9. Read "Exit Settings"

#SETUPE0

Exit Settings

QR double code

QR double code: two QR barcodes arranged vertically or horizontally. The directions of the two codes should be consistent, the difference should be as small as possible, and the distance should be as close as possible.

There are three setting modes for dual code setting:

ÿ Read only a single QR code: The device reads only one QR barcode at a time at any time.

ÿ Read only double QR codes: The device must detect the double QR code at any time and send the decoding information only after both codes are decoded successfully. The sending order is from top to bottom or From left to right.

ÿ Can read single and double QR codes: When reading the code, first detect whether the QR double code exists. If it exists and is decoded successfully, it will be sent as a double code, otherwise it will be treated as a single code.

**ÿOnly read a single QR codeÿ

ÿRead only double QR codeÿ

ÿCan read single and double QR codesÿ

#SETUPE1

Startup Settings

Character encoding

@QRCENC0

**ÿdefaultÿ

@QRCENC1

ÿUTF-8ÿ

ECI output

@QRCECI0

ÿprohibitÿ

@QRCECI1

**ÿEnableÿ

#SETUPE0

Exit Settings

#SETUPE1

Micro QR Code

Restore factory defaults

@MQRDEF

**ÿMicro QR factory default settingsÿ

Enable/disable reading

@MQRENA1

**ÿEnableÿ

@MQRENA0

ÿprohibitÿ

If the scanner cannot recognize the Micro QR Code barcode, please try to read the "Enable" setup barcode and try again.

#SETUPE0

#SETUPE1

Startup Settings

Set the reading length

The scanner can be configured to read only Micro QR Code barcodes that are within (and including) the minimum and maximum lengths.

@MQRMIN

Minimum length (default value: 1)

@MQRMAX

Maximum length (default: 6144)

The maximum length limit of any 2D barcode shall not exceed 65535 bytes, and the maximum length limit shall not be less than the minimum length limit.

If you want to read only a Micro QR Code barcode of a fixed length, you can set the minimum length limit to the same value as the maximum length.

The degree limit values are equal.

Limit the scanner to read Micro QR Code barcodes with a minimum of 8 bytes and a maximum of 12 bytes:

1. Read "Startup Settings"
2. Read "Minimum Length"
3. Read the data code "8" (see Appendix - Data Code)
4. Read "Save" (see Appendix - Save or Cancel)
5. Read "Maximum Length"
6. Read the data code "1"
7. Read the data code "2"
8. Read the "Save" code
9. Read "Exit Settings"

#SETUPE0

Exit Settings

Startup Settings

Chapter 7 Data Format Editing

Introduction

You can use the data format editing function to change the output data of the scanner. For example, you can use the data format editing function to insert a specific position in the barcode data.

character.

Normally, when you scan a barcode, it is automatically output. However, when you create a data format, you must use the "Send" command (Send command) to enable the data format editing function.

Can output data.

A total of four data formats can be set, namely data format 0, data format 1, data format 2, and data format 3. The four data formats can be set according to actual needs.

The data format includes the application scope of the data format (such as barcode type, barcode length) and data editing commands.

When the barcode being read does not match the data format being used, the scanner emits an error tone (if the "Data Format Mismatch Error Tone" option is turned on).

When editing the data format, the maximum total length of all data format configurations is 2048 bytes.

The data format editing function is disabled by default and needs to be enabled before use. There are two ways to add data formats: one is to configure through the EasySet software, and the other is to read the setting code.

After changing the data format settings, the user can read the "factory default data format" setting code to clear all formats and restore the default settings.

**ÿFactory default data formatÿ

Exit Settings

Startup Settings

Enable/disable data format editing

Use the following settings to turn on or off the data format editing function.

ÿ Close data format editing

Close the data format editing function.

ÿ Open data format editing, require matching, and retain prefix and suffix

Enable the data format editing function. The barcodes that match the data format rules are output according to the data format requirements. Whether to add prefixes and suffixes depends on the prefix and suffix settings.

Barcodes that do not match the format rules are not output, and the scanner emits an error tone (if the "Data format mismatch error tone" function is enabled).

ÿ Open data format editing, require matching, and discard prefix and suffix

Enable the data format editing function. The barcodes that match the data format rules are output according to the data format requirements without adding prefixes and suffixes (ignoring the prefix and suffix settings);

Barcodes that do not match the format rules are not output, and the scanner emits an error tone (if the "Data format mismatch error tone" function is enabled).

ÿ Open data format editing, do not require matching, keep the prefix and suffix

Enable the data format editing function. The barcodes that match the data format rules are output according to the data format requirements. Whether to add prefixes and suffixes depends on the prefix and suffix settings.

The barcodes that do not match the format rules are output as original information. Whether to add prefixes and suffixes depends on the settings of prefixes and suffixes.

ÿ Open data format editing, do not require matching, discard prefix and suffix

Enable the data format editing function. The barcodes that match the data format rules are output according to the data format requirements without adding prefixes and suffixes (ignoring the prefix and suffix settings);

The barcodes that do not match the format rules are output as original information. Whether to add prefixes and suffixes depends on the settings of prefixes and suffixes.

Exit Settings

#SETUPE1

@DFMENA0

**ÿClose data format editingÿ

@DFMENA1

[Open data format editing, require matching, retain prefix and suffix]

@DFMENA2

[Open data format editing, require matching, discard prefix and suffix]

@DFMENA3

[Open data format editing, no matching required, retain prefix and suffix]

@DFMENA4

[Open data format editing, do not require matching, discard prefix and suffix]

#SETUPE0

#SETUPE1

Startup Settings

Add data format

Step 1: Read "Startup Settings";

Step 2: Read "Add data format";

ÿAdd data formatÿ

Step 3: Select the data format

Read the data code "0" or "1" or "2" or "3", which represent the selection of data format 0 to 3 respectively.

Step 4: Read the data codes "6" "9" "9" "9" in sequence

Step 5: Select the barcode number

The data format is only effective for the specified type of barcode. Refer to the Appendix - Barcode Serial Number Comparison Table. The barcode serial number consists of 3 data bits. If the data format is set to be valid for all barcode types, set the barcode serial number to 999. For example, if only CODE128 is processed, the data code "002" will be read.

Step 6: Set the barcode data length

The data format only works for barcodes with a specified length. The data length consists of 4 data bits. For example, if the barcode data length is set to 32, the data code "0032" will be read.

If the data format is set to be valid for barcodes of all data lengths, set the barcode length to **9999.**

Step 7: Set the data format editing command

Scan the data code to set the required data editing command. For example, if the data editing command is F141, read the data code "F141". For detailed commands, please refer to the data format editing command.

Step 8: Read the “Save” setting code.

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Example

Add data format 0. This data format is only applicable to Code 128 with a data length of 10 bytes. Send the barcode data and add the character "A" at the end. The setting steps are as follows:

1. Read "Startup Settings"

2. Read "Adding Data Formats"

3. Add data format 0 and read data code "0"

4. Read the data code “6” “9” “9” “9”

5. Code 128 barcode serial number 002, read the data code "0" "0" "2"

6. The barcode length is 10 bytes, read the data code "0" "0" "1" "0"

7. After sending all the data, send "A". The corresponding data format compilation command is F141, and the read data code is "F" "1" "4" "1"

8. Read "Save"

9. Read "Exit Settings"

Clear data format

There are two ways to clear the data format configuration. One is to read the "Clear All Data Formats" setting code to clear all data formats. The other is to read the "Clear One" setting code first. Then read the "Save" setting code to clear the 4 groups of data format configuration.

For example, to clear "Data Format 2", first read the "Clear a Group of Data Formats" setting barcode, then read the data barcode "2", and finally read "Save".

@DFMCAL

ÿClear all data formatsÿ

@DFMCLR

ÿClear a set of data formatsÿ

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Select data format

After opening the data format editing function, you can select which data format to use. Use the following four setting codes to select different data formats. Default:

According to format 0.

@DFMUSE0

**ÿData format 0ÿ

@DFMUSE1

ÿData format 1ÿ

@DFMUSE2

ÿData format 2ÿ

@DFMUSE3

ÿData format 3ÿ

#SETUPE0

Exit Settings

#SETUPE1

Single-use data format

The single-use data format is only effective for one barcode read after setting, and the data format used afterwards will be restored to the original data format.

Set the barcode to select a single-use data format. For example, if you have set the scanner to select data format 3, but want to use data format 1 when reading a certain barcode,

In this case, you need to scan the "Single Use Data Format 1" setup code before reading that barcode.

@DFMSIN0

[Single use data format 0]

@DFMSIN1

[Single use data format 1]

@DFMSIN2

[Single use data format 2]

@DFMSIN3

[Single use data format 3]

Data format mismatch error tone

If the data format mismatch prompt tone is turned on, the scanner will emit an error prompt tone when reading a barcode that does not meet the data format requirements.

@DFMTON0

**ÿclosureÿ

@DFMTON1

[Open]

#SETUPE0

Startup Settings

Query data format

ÿ Query the current data format

Get the configuration contents of the currently configured data format 0 to data format 3.

ÿ Query the factory default data format

Get the factory-configured configuration contents of data format 0 to data format 3.

The format of all data format configuration content queried is as follows:

Data Format 0:xxxx;

Data Format 1:xxxx;

Data Format 2:xxxx;

Data Format 3:xxxx;

[Query the current data format]

[Query the factory default data format]

Exit Settings

#SETUPE1

Startup Settings

Data format editing commands

Using the Data Format Editor is like moving a virtual cursor through the input data string. The following commands can be used to move the cursor to different locations, as well as to select, replace,

For the hexadecimal values involved in the commands, refer to the ASCII Code Table in the appendix.

Initial cursor position: points to the first byte of the original barcode information that has not been edited.

As shown in the barcode above, the initial cursor position is on the left side of "1".

send command

F1 sends all characters

Command format = F1xx (xx: hexadecimal value of the character to be inserted)

Output all characters to the right of the cursor, followed by the characters xx.

F2 sends several characters

Command format = F2nnxx (nn: 00-99, the length of the characters to be sent; xx: the hexadecimal value of the character to be inserted)

Outputs n characters to the right of the cursor, and then outputs characters xx.

F2 Example: Send several characters

Send the first 10 characters of the above barcode content, and then send a carriage return. Command string: F2100D

F2: "Send several characters" command

10: The length of characters sent (output starts from the current cursor position)

0D: Hexadecimal value for carriage return

Output: 1234567890<CR>

#SETUPE0

#SETUPE1

Startup Settings

F3 sends all characters before a certain character

Command format = F3ssxx (ss: the hexadecimal value of a character; xx: the hexadecimal value of the character to be inserted)

Output all characters from the right side of the current cursor to the left side of the character ss (excluding the character ss), and then output the character xx. The cursor moves right to the left side of the character ss.

F3 Example: Send all characters before a certain character and add a character at the end

Send all characters before (not including) "D" in the above barcode content, and then send a carriage return.

Command string: F3440D

F3: "Send all characters before a certain character" command

44: Hexadecimal value of D

0D: Hexadecimal value for carriage return

Output: 1234567890ABC<CR>

#SETUPE0

Exit Settings

#SETUPE1

B9 sends all characters before a string

Command format = B9nnnns...s (nnnn: length of string s...s; s...s: string to be matched)

Outputs all characters from the right of the current cursor to the left of the string s...s (excluding the string s...s). The cursor moves right to the left of the string s...s.

B9 Example: Send all characters before a defined string

Send all characters before "AB" (excluding AB) in the above barcode content.

Command string: B900024142

B9: "Send all characters before a string" command

0002: length of the string (2 characters)

41: Hexadecimal value of A

42: Hexadecimal value of B

Output: 1234567890

E9 sends all characters before the last few characters

Command format = E9nn (nn: 00-99, the length of the last character is not output)

Output all characters from the right side of the current cursor to the last nn characters before (to the left). The cursor moves to the right side of the last character sent (that is, to the left of the last nn characters).

F4 sends a character multiple times

Command format = F4xxnn (xx: hexadecimal value of the character to be inserted; nn: 00-99, the number of times the character is output)

Output character xx nn times, and keep the cursor position unchanged.

#SETUPE0

#SETUPE1

Startup Settings

E9 and **F4** example: Send all characters before the last few characters, and then send two **Tabs**

Send all characters before the last 9 characters of the above barcode content, and then send two tabs.

Command string: E909F40902

E9: "Send all characters before the last few characters" command

08: The length of the last character not output

F4: "Insert a character multiple times" command

09: Hexadecimal value of Horizontal tab

02: Number of times Tab is sent

Output: 1234567890A<tab><tab>

B3 Insertion Code Name

Inserts the symbology name into the output information without moving the cursor.

B4 insert barcode length

Insert the barcode length into the output information without moving the cursor. The barcode length is output as a number without leading zeros.

#SETUPE0

Exit Settings

B3 and **B4** Example: Inserting the symbology name and length

Send the code name, length and barcode data of the above barcode, use space as separator, and finally send a carriage return.

Command string: B3F42001B4F42001F10D

B3: "Insert Symbology Name" command

F4: "Insert a character multiple times" command

20: hexadecimal value of space

01: Number of times to send spaces

B4: "Insert barcode length" command

F4: "Insert a character multiple times" command

20: hexadecimal value of space

01: Number of times to send spaces

F1: "Send All Characters" command

0D: Hexadecimal value for carriage return

Output result: Code **128 20 1234567890ABCDEFGHIJ<CR>**

#SETUPE1

Startup Settings

Move Commands

F5 Move the cursor a number of characters to the right

Command format = F5nn (nn: 00-99, the number of characters the cursor moves to the right)

Move cursor right by nn characters.

F5 Example: Move the cursor right and send barcode data

1234567890ABCDEFGHIJ

In the above barcode, move the cursor 3 characters to the right, send all the barcode data to the right of the cursor, and finally send a carriage return.

Command string: F503F10D

F5: "Move the cursor a number of characters to the right" command

03: The number of characters the cursor moves to the right

F1: "Send All Characters" command

0D: Hexadecimal value for carriage return

Output: 4567890ABCDEFGHIJ<CR>

F6 Move the cursor to the left by a certain number of characters

Command format = F6nn (nn: 00-99, the number of characters the cursor moves to the left)

Move cursor left by nn characters.

F7 moves the cursor to the starting position

Command format = F7

Move the cursor to the left of the first character of the input information.

#SETUPE0

Exit Settings

#SETUPE1

EA moves the cursor to the end position

Command format = EA

Move the cursor to the left of the last character of the input message.

Search Commands

F8 Search character right

Command format = F8xx (xx: the hexadecimal value of the character to be searched)

Searches for the character xx in the input information from the current cursor position to the right, and moves the cursor to the left of the character.

F8 Example: Send a character and the data after it in the barcode information

Search for the letter "D" in the above barcode information, send the letter "D" and the following data, and finally send a carriage return.

Command string: F844F10D

F8: "Search Right Characters" command

44: Hexadecimal value of "D"

F1: "Send All Characters" command

0D: Hexadecimal value for carriage return

Output: DEFGHIJ<CR>

F9 Search character to the left

Command format = F9xx (xx: the hexadecimal value of the character to be searched)

Searches for the character xx from the current cursor position to the left in the input information, and moves the cursor to the left of the character.

#SETUPE0

#SETUPE1

Startup Settings

B0 Search for a string to the right

Command format = B0nnnnS (nnnn: 0000-9999, the length of the string to be searched; S: the hexadecimal value of all characters in the string)

Search the string S from the current cursor position to the right in the input information, and move the cursor to the left of the string. For example, B0000454657374 means searching rightward for the first occurrence of

The string "Test" appears.

B0 Example: Send a string and the data after it in the barcode information

Search for "FGH" in the above barcode information, send "FGH" and the following data, and finally send a carriage return.

Command string: B00003464748F10D

B0: "Search forward for a string" command

0003: length of the string (3 characters)

46: Hexadecimal value of "F"

47: Hexadecimal value of "G"

48: Hexadecimal value of "H"

F1: "Send All Characters" command

0D: Hexadecimal value for carriage return

Output: FGHIJ<CR>

B1 Search for a string to the left

Command format = B1nnnnS (nnnn: 0000-9999, the length of the string to be searched; S: the hexadecimal value of all characters in the string)

Search the string S from the current cursor position to the left in the input information, and move the cursor to the left of the string. For example, B1000454657374 means searching the first

The string "Test" appears.

#SETUPE0

#SETUPE1

E6 Search right for unmatched characters

Command format = E6xx (xx: the hexadecimal value of the unmatched character to be found)

Searches the input information from the current cursor position to the right for the first occurrence of a character that does not match xx, and moves the cursor to the left of that character.

E6 Example: Remove leading zeros from barcode information

The above barcode information contains leading zeros, and requires the barcode data after the leading zeros to be sent. Search to the right for the first non-zero character, send the character and the following data, and finally send a Enter.

Command string: E630F10D

E6: "Search right for unmatched characters" command

30: The hexadecimal value of "0"

F1: "Send All Characters" command

0D: Hexadecimal value for carriage return

Output: 123abc<CR>

E7 Search left for unmatched characters

Command format = E7xx (xx: the hexadecimal value of the unmatched character to be found)

Searches the input information from the current cursor position to the left for the first occurrence of a character that does not match xx, and moves the cursor to the left of that character.

#SETUPE0

#SETUPE1

Startup Settings

Other commands

FB blocks output characters

Command format = FBnnxxyy..zz (nn: the number of characters to be blocked from output; xxyy..zz: the hexadecimal value of the characters to be blocked from output)

Blocks the output of characters (up to 15 different characters) starting from the right of the current cursor, with cursor movement determined by other commands.

FB example: Delete spaces and other characters in barcode information

The above barcode information contains spaces, underscores and "*". You are required to delete these three characters and then send the remaining data.

Command string: FB03205F2AF10D

FB: "Block output characters" command

03: Block 3 types of characters

20: hexadecimal value of space

5F: Hexadecimal value of "_"

2A: Hexadecimal value of "*"

F1: "Send All Characters" command

0D: Hexadecimal value for carriage return

Output: 12345678<CR>

E4 Replace character

Command format = E4nnxx1xx2yy1yy2…zz1zz2 (nn: number of replaced characters + number of replacement characters; xx1: hexadecimal value of replaced character, xx2: hexadecimal value of replacement character, and so on)

Replaces the output characters (up to 15 characters) starting from the right of the current cursor without moving the cursor.

#SETUPE0

Exit Settings

#SETUPE1

E4 Example: Replace zeros in barcode information with carriage returns

When the barcode contains characters that are not needed by the host application, the E4 command can be used to replace the unnecessary characters with other characters. This example requires that the zeros in the barcode be replaced with

Press Enter.

Command string: E402300DF10D

E4: "Replace Character" command

02: Number of replaced characters + number of replacement characters (0 is replaced by CR, a total of 2 characters)

30: The hexadecimal value of "0"

0D: Hexadecimal value of carriage return (replace 0 with carriage return)

F1: "Send All Characters" command

0D: Hexadecimal value for carriage return

Output: 123

456

78

AB<CR>

BA replaces string multiple times

Command format = BAnnNEM23SS1NN2SS2 (nn: number of replacements, nn=00 means replacing all SS1; NEM23: length of the string to be replaced; SS1:

The hexadecimal value of the replacement string; NN2: the length of the new string; SS2: the hexadecimal value of the new string)

Starting from the right side of the current cursor, the cursor will not be moved during the replacement process. The original information is only traversed once, and no repeated search and replacement is performed; if the string does not appear enough times, no error is reported.

NEM23>0, NN2>=0.

#SETUPE0

#SETUPE1

Startup Settings

BA example: Replace **23** in the barcode information with **XYZ**

1234Abc23R0123U

Command string: BA020232330358595AF100

BA: "Replace String Multiple Times" command

02: Number of replacements

02: Length of string "23"

3233: The hexadecimal value of the string "23"

03: Length of the string "XYZ" (if set to 00, no string will be added after it)

58595A: Hexadecimal value of the string "XYZ"

F1: "Send All Characters" command

00: Hexadecimal value of the null character

Output: 1XYZ4AbcXYZR0123U

EF inter-character delay, used for **USB** keyboard communication mode

Command format = EFnnnn (nnnn means the delay time is nnnn times of 5ms, expressed in decimal)

Insert a delay between characters. The delay length is a multiple of 5ms, up to 49995ms. A maximum of 255 delays can be inserted.

EF Example: Insert a delay after the **5th** and 7th **characters** of a barcode

1234567890ABCDEFGHIJ

Command string: F20500EF0200F20200EF0200F100

F2: "Send several characters" command

#SETUPE0

Exit Settings

05: The length of characters sent (output starts from the current cursor position)

00: Hexadecimal of NUL

EF: Delay command

0200: The delay length is 200 times of 5ms, i.e. 1s

F2: "Send several characters" command

02: The length of characters sent (output starts from the right side of the current cursor)

00: Hexadecimal of NUL

EF: Delay command

0200: The delay length is 200 times of 5ms, i.e. 1s

Output result: 12345{1s delay}67{1s delay}890ABCDEFGHIJ

B5 insert button, for **USB** keyboard communication mode

Command format: B5nnssxx (nn: total number of keys inserted (excluding control keys); ss: control key number, in hexadecimal; xx: key number, in hexadecimal).

Base number)

For key numbers, refer to the 104-key and 105-key keyboard layouts in Appendix - Keyboard Key Numbers. For control key numbers, see the table below:

Control keys	
No control keys	00
Left Shift	01
Right Shift	02
Left Alt	04
Right Alt	08
Left Control	10
Right Control	20

#SETUPE1

Startup Settings

B5 Example: US English **104** keyboard layout mode, insert **aBc** at the beginning of the barcode

Command string characters: B503001F01320030F100

B5: "Insert Key" command

03: Number of keys inserted

00: No control key

1F: "a" button number

01: Left Shift control key number

32: "b" key sequence number

00: No control key

30: "c" key sequence number

F1: Send all characters

00: Hexadecimal number of Nul

Output: aBc12345678

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

Chapter 8 Prefix and Suffix Settings

Introduction

After the scanner decodes successfully, it obtains a string of data, which can be numbers, English, symbols, etc. For a QR code, it can also be Chinese characters. This string of data is the data information contained in the barcode. In actual applications, we may need more than just the data information of the barcode, or the data information contained in the barcode may not meet your needs. For example, you may want to know what type of barcode the data is from, or what day the barcode was scanned, or

After scanning a barcode, the text recorded in the barcode may be automatically wrapped and returned, which may not be included in the data information of the barcode.

Adding these contents during coding will inevitably increase the length of the barcode and make it less flexible, which is not recommended.

Or add some content later, and these added contents can be changed in real time according to needs, and can be added or blocked. This is the front of barcode data information

Suffix, the method of adding prefix and suffix can meet the needs without modifying the content of the barcode information.

Steps of barcode processing:

1. Data format editing

2. Add prefix and suffix

3. Data Packaging

4. Add a terminator suffix

#SETUPE0

Exit Settings

#SETUPE1

Startup Settings

General settings

All prefixes and suffixes

If it is set to "Disable", the decoded information will only contain the barcode data information without prefix or suffix.

If set to "Enable", "Code ID Prefix", "Custom Prefix", "AIM ID Prefix", "Custom Suffix" and "Terminator Suffix" will be added before and after the decoded information.

@APSENA0

**ÿAll prefixes and suffixes are prohibitedÿ

@APSENA1

[Enable all prefixes and suffixes]

Prefix Order

@PRESEQ0

**ÿCode ID + custom prefix + AIM ID prefixÿ

@PRESEQ1

[Custom prefix + Code ID + AIM ID]

#SETUPE0

Exit Settings

Startup Settings

Custom prefix

Custom prefix adds a user-defined string before decoding information. For example, it is allowed to add a custom prefix and set the prefix to the string "AB", and the read data is "123"

After the barcode is read, the scanner adds the string "AB" before the string "123", and the host receives "AB123".

**ÿprohibitÿ

ÿEnableÿ

Modify custom prefix

First read "Modify custom prefix", then read the hexadecimal value of each byte in the prefix string to be set in order, and finally read "Save settings" to complete

Custom prefix settings. Note: The total length of the custom prefix string must not exceed 10 characters, and the character value range is 0x00~0xFF.

Modify custom prefix

Example

Set the custom prefix to "CODE" (the hexadecimal value is 0x43/0x4F/0x44/0x45):

1. Read "Startup Settings"

2. Read the "Modify Custom Prefix" code

3. Read the following data code: “4” “3” “4” “F” “4” “4” “4” “4” “5”

4. Read the "Save" code

5. Read "Exit Settings"

After the settings are completed, as long as the custom prefix is set to "Enable", the scanner will add the custom prefix before the data when reading any barcode.

Define the prefix string "CODE".

Exit Settings

#SETUPE1

Startup Settings

AIM ID Prefix

AIM is the abbreviation of Automatic Identification Manufacturers. AIM ID defines identification codes for various standard barcodes. The specific definitions are shown in the table below. The scanner can add this identification code before the barcode data after decoding, which is the AIM prefix. The prefix format is: "]" + AIM prefix + number "0", such as the AIM ID prefix of Code 128 is "]C0".

@AIDENA0

**ÿprohibitÿ

@AIDENA1

ÿEnableÿ

AIM IDs cannot be customized by users.

#SETUPE0

Exit Settings

#SETUPE1

Code ID Prefix

In addition to the AIM prefix, which can be used to identify different barcode types, users can also use the Code ID prefix to identify the barcode type.

The Code ID prefix corresponding to the type can be customized. The Code ID of all barcodes is 1 or 2 characters and must be letters. Numbers cannot be set.

Visible characters, or punctuation marks, etc.

@CIDENA0

**ÿprohibitÿ

@CIDENA1

ÿEnableÿ

Default **Code ID**

@CIDDEF

ÿRestore default Code ID settingsÿ

#SETUPE0

#SETUPE1

Startup Settings

Modify **Code ID**

Please refer to the following examples for how to modify the Code ID and restore the Code ID to factory settings.

Modify the QR CodeID to "s" (hexadecimal value is 0x73):

1. Read "Startup Settings"
2. Read "QR"
3. Read the data code "7", "3" (see Appendix - Data Code)
4. Read "Save" (see Appendix - Save or Cancel)
5. Read "Exit Settings"

Restore the Code ID of all barcodes including QR to the default value:

1. Read "Startup Settings"
2. Read "Restore default Code ID settings"
3. Read "Exit Settings"

#SETUPE0

Exit Settings

#SETUPE1

Modify the 1D barcode **Code ID**

@CID002

ÿCode 128ÿ

@CID003

ÿGS1-128 (UCC/EAN-128)ÿ

@CID008

ÿInterleaved 2 of 5ÿ

@CID009

ÿITF-14ÿ

@CID010

ÿITF-6ÿ

@CID011

ÿMatrix 2 of 5ÿ

@CID013

ÿCode 39ÿ

#SETUPE0

#SETUPE1

Startup Settings

@CID015

ÿCodabarÿ

@CID017

ÿCode 93ÿ

@CID020

ÿAIM 128ÿ

@CID023

ÿISSNÿ

@CID024

ÿISBNÿ

@CID025

ÿIndustrial 25ÿ

@CID026

ÿStandard 25ÿ

@CID027

ÿPlesseyÿ

#SETUPE0

Exit Settings

ÿCode 11ÿ

ÿMSI Plessyÿ

ÿGS1 Databar (RSS)ÿ

Modify the QR **code ID**

ÿQRÿ

ÿMicro QRÿ

#SETUPE1

Startup Settings

Custom suffix

A custom suffix is a user-defined string added after the decoded information.

For example, if you allow adding a custom suffix and set the suffix to the string "AB", after reading a barcode with the data "123", the scanner will add the string "AB" after the string "123".

The host receives "123AB".

@CSUENA0

**ÿprohibitÿ

@CSUENA1

ÿEnableÿ

Modify custom suffix

First read "Modify custom suffix", then read the hexadecimal value of each byte in the suffix string to be set in order, and finally read "Save settings" to complete the customization.

Note: The total length of the custom suffix string must not exceed 10 characters.

@CSUSET

[Modify custom suffix]

Example

Set the custom suffix to "CODE" (the hexadecimal value is 0x43/0x4F/0x44/0x45):

1. Read "Startup Settings"

2. Read the "Modify Custom Suffix" setup code

3. Read the following data code: “4” “3” “4” “F” “4” “4” “4” “4” “5”

4. Read the "Save" setup barcode

5. Read "Exit Settings"

After the settings are completed, as long as the custom suffix is set to "Enable", the scanner will add the custom suffix after the data when reading any barcode.

Define the suffix string "CODE".

#SETUPE0

Exit Settings

#SETUPE1

Data Packaging

For some applications that have high requirements for data integrity and reliability, the data can be packaged and output to ensure the integrity of the data by checking and verifying the content format.

Ensure complete and reliable data transmission.

Data transmission using a packetized format requires the host's software to parse the packetized format.

@PACKAG0

**ÿData packaging prohibitedÿ

@PACKAG1

[Enable data packaging, format 1]

@PACKAG2

[Enable data packaging, format 2]

#SETUPE0

Packaging format

Format 1: [STX + ATTR + LEN] + [AL_TYPE + DATA] + [LRC]

ÿ STX: 0x02

ÿ ATTR: 0x00

ÿ LEN: DATA data length, represented by two bytes, with the high byte first, and the value range is 0~65535.

ÿ AL_TYPE: 0x36

ÿ DATA: data information content.

ÿ LRC: Check character.

LRC: Check character. The algorithm of LRC check character is: 0xFF^LEN^AL_TYPE^DATA (^ indicates arithmetic XOR operation). All data are XORed in byte units. That is, 0xFF is XORed with the first byte of LEN to obtain a byte of data, which is then XORed with the second byte of LEN. The XOR operation is repeated once. When all the data are XORed, the last byte of data obtained is the check character.

Format 2: [STX + ATTR + LEN] + [AL_TYPE] + [Symbology_ID + DATA] + [LRC]

ÿ STX: 0x02

ÿ ATTR: 0x00

ÿ LEN: Symbology ID + DATA data length, represented by two bytes, with the high byte first, and the value range is 0~65535.

ÿ AL_TYPE: 0x3B

ÿ Symbology_ID: barcode serial number, 1 byte (refer to the appendix "Barcode Serial Number Comparison Table" for the barcode serial number)

ÿ DATA: data information content.

ÿ LRC: Check character.

LRC: Check character. The algorithm of LRC check character is: 0xFF^LEN^AL_TYPE^Symbology_ID^DATA (^ represents arithmetic XOR operation). All data are XORed in byte units. That is, 0xFF is XORed with the first byte of LEN to obtain a byte of data, which is then XORed with the second byte of LEN.

Repeat the XOR operation until all the data are XORed, and the last byte of data obtained is the check character.

End suffix

The terminator suffix is used to mark the end of a complete data message. The terminator suffix exists independently and will not participate in any other form of data formatting.

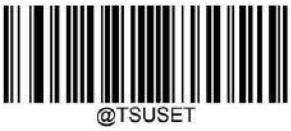
It is the last content of a data transmission, and there will be no additional data after it.

ÿprohibitÿ

**ÿEnableÿ

Modify the end suffix

First read "Modify Terminator Suffix", then read the hexadecimal value of each byte in the suffix string to be set in order, and finally read "Save Settings" to complete the setting of the terminator suffix. Note: The total length of the terminator suffix string must not exceed 2 characters.



[Modify the end suffix]

**[Change the end character suffix to <CR> (0x0D)]

[Change the end character suffix to <CR> <LF> (0x0D, 0x0A)]

Data Code

After reading the data code, be sure to read "Save" to save the data code settings.

0~9

ÿ0ÿ

ÿ1ÿ

ÿ2ÿ

ÿ3ÿ

ÿ4ÿ

ÿ5ÿ

ÿ6ÿ

ÿ7ÿ

ÿ8ÿ

ÿ9ÿ

A~F

ÿAÿ

ÿBÿ

ÿCÿ

ÿDÿ

ÿEÿ

ÿFÿ

Save or Cancel

After reading the data code, you need to read the save code to save the read data. If you make a mistake when reading the data code, in addition to resetting, you can also cancel the reading.

Wrong data.

For example, if you read a setting code and read the data "1", "2", and "3" in sequence, if you read "Cancel the last read data", the last read number "3" will be canceled.

"Cancel the previous string of data" will cancel the read data "123", if you read "Cancel current setting" will cancel the setting code together, but the device is still in the startup setting state.

Set status.

ÿsaveÿ

ÿCancel current settingsÿ

ÿCancel the previous read one bit of dataÿ

[Cancel the string of data read previously]

Default Settings Table

parameter name	default setting	Remark
System Settings		
Setting code function	closure	
Send setup code information	Do not send	
Exterior lights	Off On	
Lighting	On	
indicator lights		
Decoding successful LED light	Open	
Decoding success LED light duration	Short (20 ms)	
Power on tone	Open	
Decoding success sound	Open	
Decoding success sound duration	Medium (80 ms)	
Decoding success sound frequency	Medium (2730HZ)	
Decoding success sound volume setting	big	
Reading mode:	Level trigger mode	
One-time code reading	3000 ms 500 ms	0-3600000
timeout, Image stabilization timeout (induction mode)		milliseconds1-3000 milliseconds
Reread Delay	closure	
Reread delay time	50 ms	0-3600 ms
Reread timeout reset	closure	
Decoding timeout	500 ms	1-3000 ms
Brackets around GS1 Application Identifiers (GS1 AIs)	closure	
Sensitivity	Custom (6)	
Serial trigger command	Disable	
reading	normal	
preference prohibit/allow	code reading,	
code reading decoding	allow full area	
center area image flip	decoding, normal image	
Sending code reading failure information	prohibit	
Modify the unread code successfully	NG	
Automatic sleep	prohibit	
Sleep timeout condition	3s	
Communication Interface	USB CDC Serial Port	
TTL-232 Communication Settings		

Baud rate	9600	
Parity	No verification	
Data bit transmission	8-bit	
Stop bits	1 person	
USB Communication Settings		
National keyboard layout	American	USB keyboard
Unknown character prompt	English	USB keyboard
tone Keyboard emulation Input character	Close Close	USB keyboard
Code Page	Code Page 1252 (Latin, Western European)	USB keyboard
Unicode Output	closure	USB keyboard
Leading "0"	Open	USB keyboard
Control character output	closure	USB keyboard
Key Delay	No delay	USB keyboard
Caps Lock Settings	Off (non-Japanese keyboards)	USB keyboard
Case conversion	Do not convert	USB keyboard
Numeric characters use numeric keypad off Characters '+', '-', '*', '/' use numeric keypad off Fast		USB keyboard
mode off Polling rate 4 milliseconds		USB keyboard
		USB keyboard
		USB keyboard
Communication cable adaptation	Open	
Barcode parameter settings		
Code 128		
Enable/disable reading	Enable	
The maximum length	48	
Minimum Length	1	
Interleaved 2 of 5		
Enable/disable reading of	Enable	
maximum length	80	
and minimum length	6	The minimum value should not be less than 1
check	prohibit	
ITF-14		
Enable/disable reading	prohibit	
ITF-6		
Enable/disable reading	prohibit	
Matrix 2 of 5		
Enable/disable reading	Enable	

The maximum length	80	
Minimum Length	4	The minimum value should not be less than 1
check	prohibit	
Code 39		
Enable/disable reading of	Enable	
maximum length	48	
and minimum	1	
length,	prohibit	
check start and end characters	Do not transmit	
Full ASCII	Enable Code 39 Full ASCII	
Code 32 Pharmaceutical (PARAF)	prohibit	
Code32 prefix	prohibit	
Code32 start and end characters	Do not transmit	
Code32 check character	Do not transmit	
Codabar		
Enable/disable reading of	Enable	
maximum length	60	
and minimum length	2	
check	prohibit	
Start and end characters	Do not transmit	
Start and end character formats	ABCD/ABCD	ABCD/ABCD format, uppercase letters
Code 93		
Enable/disable reading	Enable	
The maximum length	48	
Minimum Length	1	The minimum value should not be less than 1
check	Enable, do not send check character	
UCC/EAN-128		
Enable/disable maximum	Enable	
length of reading	48	
Minimum Length	1	
GS1 Databar		
Enable/disable reading	prohibit	
AI (01) character sending settings	Teleport	
Code 11		
Enable/disable maximum	prohibit	
length of reading	48	

Minimum Length	4	The minimum value should not be less than 1
check	One bit check, MOD11	
Transmit check character	Teleport	
ISBN		
Enable/disable reading	prohibit	
ISBN format	ISBN -10	
ISSN		
Enable/disable reading	prohibit	
Industrial 25		
Enable/disable reading	prohibit	
The maximum length	48	
Minimum Length	6	The minimum value should not be less than 1
check	prohibit	
Standard 25		
Enable/disable reading	prohibit	
Maximum length	48	
Minimum length	6	The minimum value should not be less than 1
check	prohibit	
Plessey		
Enable/disable reading	prohibit	
The maximum length	48	
Minimum Length	4	The minimum value should not be less than 1
check	prohibit	
MSI-Plessey		
Enable/disable reading	prohibit	
Maximum length	48	
Minimum length	4	The minimum value should not be less than 1
Check	One bit check, MOD10	
transmission check character	Do not transmit	
AIM 128		
Enable/disable reading	prohibit	
The maximum length	48	
Minimum Length	1	
QR Code		
Enable/disable maximum	Enable	
length of reading	6144	

Minimum Length	1	
QR Dual Code	Read only a single QR code	
QR Inversion	Only recognizes positive phase barcodes	
Character encoding	default	
ECI Output	Enable	
Micro QR Code		
Enable/disable reading of	prohibit	
maximum length	6144	
and minimum length	1	
Data format editing		
Enable/disable data format	prohibit	
Select data format	Data Format 0	
Data format mismatch error tone	closure	
Prefix and suffix settings		
All prefixes and suffixes	prohibit	
Prefix order	Code ID + custom prefix + AIM ID prefix	
custom prefix	prohibit	
AIM ID Prefix	prohibit	
Code ID Prefix	prohibit	
Custom suffix	prohibit	
Data Packaging	Disable data packaging	
End suffix	Enable, end character suffix: Enter	

AIM ID List

Barcode Type	AIM ID	Possible AIM ID Qualifier (m)
Code128	]C0	
GS1-128 (UCC/EAN-128)	]C1	
Interleaved 2 of 5	]Im	0, 1, 3
ITF-14	]Im	1,3
ITF-6	]Im	1,3
Matrix 2 of 5	]Xm	0-3
Code 39	]Am	0, 1, 3, 4, 5, 7
Codabar	]Fm	0, 2, 4
Code 93	]G0	
AIM 128	]C2	
ISBT 128	]C4	
ISSN	]X5	
ISBN	]X4	
Industrial 25	]S0	
Standard 25	]Rm	0, 8, 9
Plessey	]P0	
Code 11	]Hm	0, 1, 3, 9
MSI Plessey	]Mm	0, 1, 7, 8, 9
GS1 Databar (RSS)	]e0	
QR Code	]Q	0-6
Micro QR	]Q1	

Reference: ISO/IEC 15424:2008 Information technology – Automatic identification and data capture techniques – Data carrier identifiers (including symbolic identifiers)

Code ID List

Barcode Type	Code ID
Code 128	j
GS1-128 (UCC/EAN-128)	j
Interleaved 2 of 5	e
ITF-14	e
ITF-6	e
Matrix 2 of 5	v
Code 39	b
Codabar	a
Code 93	i
AIM 128	X
ISBT 128	X
ISSN	g
ISBN	B
Industrial 25	I
Standard 25	f
Plessey	n
Code 11	H
MSI Plessey	m
GS1 Databar (RSS)	R
QR Code	s
Micro QR	X

Barcode serial number comparison table

Barcode Type	Serial number
Code 128	002
GS1-128 (UCC/EAN-128)	003
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
ISBT 128	021
ISSN	023
ISBN	024
Industrial25	025
Standard25	026
Plessey	027
Code11	028
MSI-Plessey	029
GS1 Databar (RSS)	031
QR Code	033
Micro QR	043

ASCII code table

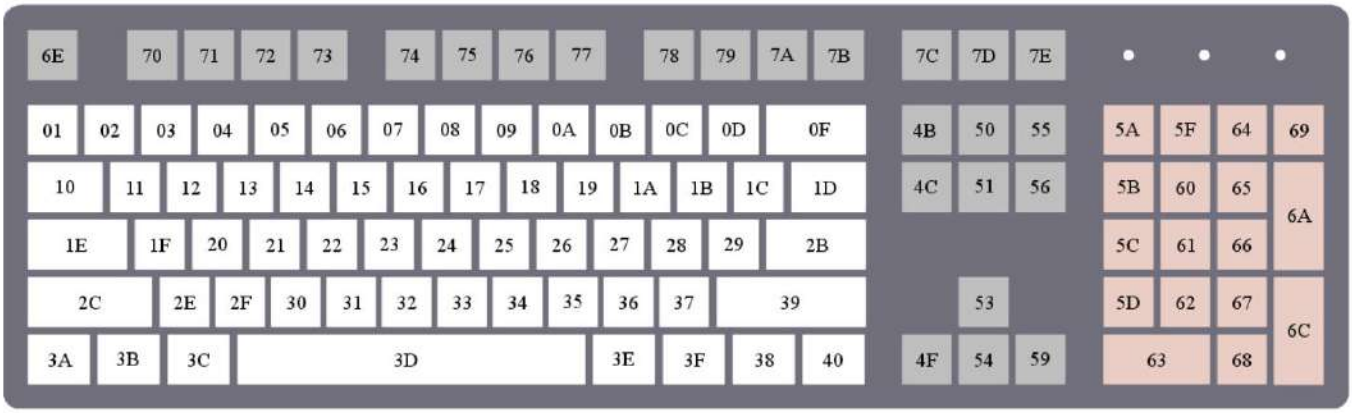
hexadecimal	Decimal	character
00	0	NUL (Null char.)
01	1	SOH (Start of Header)
02	2	STX (Start of Text)
03	3	ETX (End of Text)
04	4	EOTÿEnd of Transmission)
05	5	ENQ (Enquiry)
06	6	ACK (Acknowledgment)
07	7	BEL (Bell)
08	8	BS ÿBackspaceÿ
09	9	HT ÿHorizontal Tabÿ
0a	10	LF ÿLine Feedÿ
0b	11	VT ÿVertical Tabÿ
0c	12	FF ÿForm Feedÿ
0d	13	CR (Carriage Return)
0e	14	SO (Shift Out)
0f	15	SI ÿShift Inÿ
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	twenty one	NAK (Negative Acknowledgment)
16	twenty two	SYN (Synchronous Idle)
17	twenty three	ETB (End of Trans. Block)
18	twenty four	CAN (Cancel)
19	25	EM (End of Medium)
1a	26	SUB (Substitute)
1b	27	ESC (Escape)
1c	28	FS ÿFile Separatorÿ
1d	29	GS (Group Separator)
1e	30	RS ÿRequest to Sendÿ
1f	31	US (Unit Separator)
20	32	SP (Space)

twenty one	33	! ÿExclamation Markÿ
twenty two	34	" ÿDouble Quoteÿ
twenty three	35	# ÿNumber Signÿ
twenty four	36	$ ÿDollar Signÿ
25	37	% ÿPercent ÿ
26	38	& (Ampersand)
27	39	` ÿSingle Quoteÿ
28	40	(Right/Closing Parenthesis)
29	41	( ) (Right/Closing Parenthesis)
2a	42	* (Asterisk)
2b	43	+ ÿPlusÿ
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	= ÿEqual Signÿ
3e	62	> (Greater Than)
3f	63	? ÿQuestion Markÿ
40	64	@ (AT Symbol)
41	65	A
42	66	B
43	67	C
44	68	D

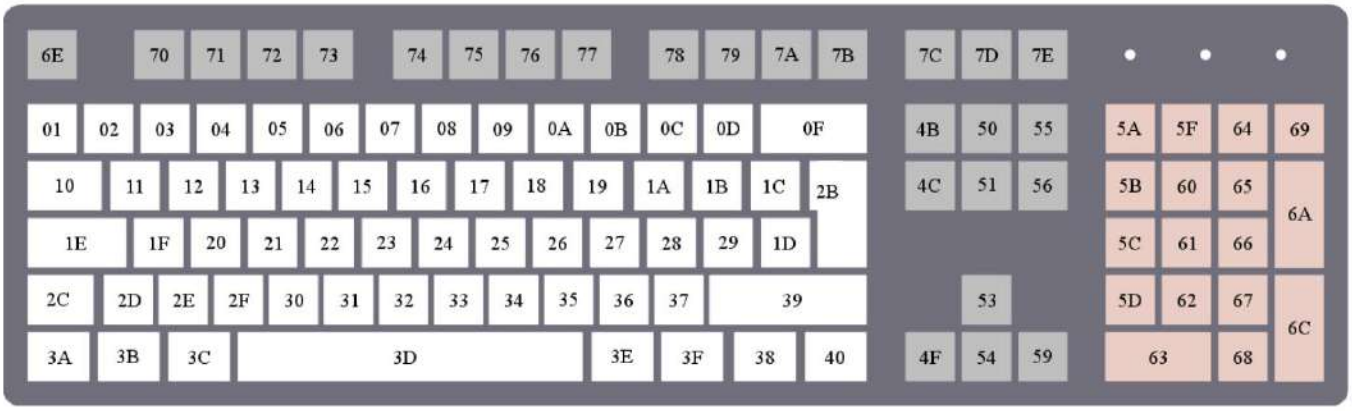
45	69	E
46	70	F
47	71	G
48	72	H
49	73	I
4a	74	J
4b	75	K
4c	76	L
4d	77	M
4e	78	N
4f	79	O
50	80	P
51	81	Q
52	82	R
53	83	S
54	84	T
55	85	U
56	86	V
57	87	W
58	88	X
59	89	Y
5a	90	Z
5b	91	[ÿLeft / Opening Bracketÿ
5c	92	\ ÿBack Slashÿ
5d	93	] (Right/Closing Bracket)
5e	94	^ (Caret / Circumflex)
5f	95	_ (Underscore)
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	{ ÿLeft/ Opening Braceÿ
7c	124	| ÿVertical Barÿ
7d	125	} ÿRight/Closing Braceÿ
7e	126	~ (Tilde)
7f	127	DEL (Delete)

Keyboard key numbers



104-key US keyboard



105-key European keyboard