Newland

NLS-EM20-EX

Barcode reading engine

User manual

Disclaimer

Please read all the contents of the manual carefully before using the product described in this manual to ensure the safe and effective use of the product. Please complete this manual after reading

Save it for future use.

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

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Version record

version number	Version description	Release date
V1.0.1	initial version.	2018-09-25
V1.0.2	Update " Modify one-dimensional barcode Code ID" .	2018.10.30
V 1.0.3	1 , Chapter 3 Modify the default setting of "Reading Mode" to "Level Trigger Mode". 2 , Chapter 3 Modify the default settings of "Reread Delay" and "Reread Timeout Reset" to "Off". 3 , Chapter 3 Modify the default setting of "Reading Preference" to "Normal". 4 , Chapter VI Amendment EAN-13 , EAN-8 , UPC-E , UPC-A , Code 39 , PDF417 , Data Matrix versus AZTEC The default setting of enable/disable reading is "Enable".	2019.01.17
V 1.0.4	Chapter Four" RS-232 Communication setting" changed to " TTL-232 Communication settings". Chapter 3 updated the description of "Continuous barcode reading mode". In Chapter 3, add a subsection "Beep Sound". Chapter 3 adds the subsections "Delay of barcode reading success" and "Delay time of barcode reading success". The third chapter adds the subsection "Sound volume setting for successful decoding".	2019.06.03

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Preface

Introduction

This manual mainly introduces users NNLS-EM20-EX How to use.

Chapter Outline

"Chapter One About NNLS-EM20-EX 》

"Chapter Two Supporting Tools"	Introduction of supporting tools EasySet Function of
"Chapter 3 System Settings"	Introduce the main setting methods of the scanner and the setting of system parameters
"Chapter Four RS-232 Communication Settings	description RS-232 Communication parameter setting
"chapter Five USB Communication Settings	description USB Communication parameter setting
"Chapter VI Barcode Parameter Settings"	List EM20 Support all code systems to be read and provide relevant parameter setting codes
"Chapter Seven Data Format Editing"	Introduce how to use the data format editing function to customize the format to output barcode information
"Chapter 8 Prefix and Suffix Settings"	Introduce how to use the prefix and suffix to meet the needs of users to edit barcode information
"Chapter 9 Batch Processing Settings"	Introduce how to make multiple setting operations into a batch setting code
"appendix"	Provide common setting codes and factory default parameter table, etc.

Manual legend

Auxiliary tools to facilitate users to use documents

Pay attention to the prompt, prompt the user to pay attention to the content here

Tips to help users better understand the content of the document

Examples to help users familiarize themselves with the operation

Chapter One About NLS-EM20-EX

NNLS-EM20-EX Two-dimensional image-based embedded application barcode reading engine, using the world's leading chip-based New World Intelligent image recognition technology, creating image style The new era of 2D barcode reading engine.

Newland's two-dimensional decoding chip will be advanced The image recognition algorithm is perfectly integrated with advanced chip design and manufacturing technology, which greatly simplifies the production of 2D The difficulty of product design has set an excellent benchmark for high performance, high reliability, and low power consumption of 2D imaging products.

NNLS-EM20-EX Can read all kinds of mainstream one-dimensional bar codes and standard two-dimensional bar codes (PDF417 , QRCodeM1/M2/Micro with Data Matrix Various versions). Also supports reading GS1-DataBar TM (RSS) Barcode, including Limited , Stacked , Expanded And other versions.

NNLS-EM20-EX Can easily read paper, plastic cards, LCD Various printing media and bar codes on display media are powerful. Its fully integrated design requires only a very small installation space and is extremely lightweight, making it very easy to be embedded in various product applications.

Chapter 2 Supporting Tools

EasySet

EasySet Is a Windows It runs under the operating system and is a configuration software for equipment bar codes, communication and other parameters independently developed by Newland Automatic Identification Company. It can pass EasySet Graphical interface settings or query device configuration, you can also directly interact with the device through instructions.

Startup settings

Chapter 3 System Settings

Introduction

There are three ways to set up the scanner:

Set code

The scanner sets options and functions by reading a series of special barcodes. In the following chapters, we will introduce in detail the options and functions available for setting and provide corresponding Set the code.

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

Set command

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

The scanner can be set up automatically using the setting command. The user can develop a set of software to load all relevant setting data into the scanner.

EasySet Set up

EasySet Is a Windows The image user interface program under the system is independently developed by Newland Automatic Identification Company for bar code reading and processing. use EasySet You can view the decoded barcode information and the image taken by the scanner, and you can also set the scanner easily.

This setting method is very similar to the setting command. EasySet It is specially designed for the products of Newland Automatic Identification Company.

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

#SETUPE1

Startup settings

Set logo

This is a sign to disable the setting code function.

The logo consists of four parts:

1. Set the barcode part of the code.
2. The setting command string corresponding to the setting code.
3. The name of the set option or function, such as exiting the setting function.
4. * * Indicates that this item is set as the default setting.

Use setting code

Read " Startup settings " Bar code to activate the setting code function. The scanning engine can be set by reading the setting code.

To exit the setting code function, just read " Exit settings " Bar code or set the bar code outside the code.

@SETUPE0

* * 【Exit setting】

@SETUPE1

【Startup Settings】

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Setting code information

The setting code information can be sent to the host. The factory default setting is " Do not send configuration code information " , The setting code information will not be sent to the host at this time; " Send setting code information " Barcode, the scanning engine will send the setting code information to the host.

@SETUPT0

* * 【Do not send】

@SETUPT1

【send】

flashlight

@ILLSCN1

* * 【Open】

@ILLSCN0

【shut down】

@ILLSCN2

【Chang Liang】

#SETUPE1

Startup settings

led Light settings

Successfully decoded led Light settings

@GRLENA1

**【Open】

@GRLENA0

【shut down】

#SETUPE0

Exit settings


#SETUPE1

Startup settings

Successfully decoded led Lamp duration setting

Optional 20ms , 120ms , 220ms , 320ms Quick setting.


@GRLDUR20

**【short(20ms)】


@GRLDUR120

【in(120ms)】


@GRLDUR220

【long(220ms)】


@GRLDUR320

【Features (320ms)】


@GRLDUR

[Decoding successful led Custom setting of light duration

(range 1-2500ms)】

Set and decode successfully led The lamp duration is 800ms , You can read the following barcodes in order to set:

1. read " Startup settings "
2. Read " Successfully decoded led Custom setting of light duration "
3. Data code "8" , "0" , "0" (See appendix-data code)
4. Read "Save" (see appendix-save or cancel)
5. read " Exit settings "

#SETUPE1

Startup settings

Beep

Power-on prompt

@PWBENA1

**【Open】

@PWBENA0

【shut down】

Decoding successful sound settings

Read " shut down " You can prohibit the successful decoding sound from ringing, reading " Turn on " The sound prompt of successful decoding can be restored.

@GRBENA1

**【Open】

@GRBENA0

【shut down】

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Decoding successful sound volume setting

@GRBVLL20

**【Big】

@GRBVLL8

【in】

@GRBVLL2

【small】


#SETUPE1

Startup settings

Reading mode

- **Level trigger mode:** Press and hold the trigger key to start the code reading; after the code reading is successful or the trigger key is released, the code reading ends.
- **Induction mode:** Power on and enter the barcode reading state until the barcode reading is successful or reaches **One reading timeout** Stop reading the code after the set time. When a new barcode appears, it will Newly enter the reading state. In this mode, **Reread delay** It can be used to prevent the same barcode from being read multiple times. **Sensitivity** Can change the sensing mode of the light Sensitivity.
- **Continuous reading mode:** It has been in the state of code reading after power on. Press and release the button to switch the scanner between the reading state and the stopping state. At this In this mode, the reread delay can be used to prevent the same barcode from being read multiple times. Code reading will stop when switching to this mode 3 Seconds, then Enter the continuous reading state.


@SCNMOD0

* * 【Level trigger mode】


@SCNMOD2

【Induction Mode】


@SCNMOD3

【Continuous reading mode】


#SETUPE0

Exit settings

#SETUPE1

Startup settings

One reading timeout

- **One reading timeout:** The amount of time the scanner is in the reading state. The set time range is 0 To 3600000 Milliseconds, set to 0 At that time, the scanner will always be in reading mode.

  default: 3000 millisecond.

@ORTSET

[One reading timeout]

Example

Set the timeout time of one reading code as 1500 Milliseconds, you can read the following barcodes in order to set:

1 . read " Startup settings "

2 . Read " One reading timeout "

3 . Data code "1" , "5" , "0" , "0" (See appendix-data code)

4 . Read "Save" (see appendix-save or cancel)

5 . read " Exit settings "

#SETUPE1

Startup settings

Image stabilization timeout (sensing mode)

In the sensing mode, when the scanner stops reading the code, it will enter a process of re-adapting to the changes in the reading environment (image), and it will enter the sensing state after the image stabilization times out Wait for the barcode to appear. By modifying the image stabilization timeout, the time to adapt to the environment can be adjusted. The setting range is 1 To 3000 Milliseconds, default is 200 millisecond.

@SENIST

[Image stabilization timeout (sensing mode)]

Delay setting

Reread delay

- **Turn on:** If the scanner reads a bar code and reads the bar code for the second consecutive time within the reread delay time, the bar code read for the second time will be ignored and will not Output.
- **shut down:** The reread delay is invalid. The scanner can continuously read the same barcode at any time.

Default: Reread delay is off.

@RRDENA1

**【Open】

@RRDENA0

**【shut down】

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Reread delay time

It is used to prevent the same bar code from being read twice in succession. The reread delay setting is the minimum time interval that allows continuous reading of bar codes of the same type and data. The delay It is only used in automatic code reading mode and continuous code reading mode. The set time range is 1 To 3600000 Milliseconds, default is 1000 millisecond. If the reread delay time is set greater than 3000 Milliseconds, the reread delay of the setting code will be limited to 3000 millisecond.

@RRDDUR

【Reread delay time】

Example

Set the reread delay time to 1000 Milliseconds, you can read the following barcodes in order to set:

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 "

#SETUPE1

Startup settings

Reread timeout reset

When the reread timeout reset is enabled, if the time interval between two consecutive readings of the same bar code is less than the "reread delay time", the reread interval will be cleared and re-timed.

Only when the time interval between reading the same barcode twice is greater than or equal to "Reread Delay Time" will the reread be successful

@RRDREN1

**【Open】

@RRDREN0

【shut down】

Delay in reading successfully

Turn on the delay of successful barcode reading, then a period of time after successful barcode reading (**Delay time for successful barcode reading**) The internal scanner will not read any barcode successfully. Default: off.

@GRDENA1

【Open】

@GRDENA0

**【shut down】

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Delay time for successful barcode reading

The length of time to pause the code reading after successful reading, the set time range is 1 To 3600000 Milliseconds, default is 500 millisecond.

@GRDDUR

[Delay time for successful barcode reading]

Example

Set the delay time for successful barcode reading as 1000 Milliseconds, you can read the following barcodes in order to set:

1. read " Startup settings "
2. Read " Delay time for successful barcode reading "
3. Data code "1" , "0" , "0" , "0" (See appendix-data code)
4. Read "Save" (see appendix-save or cancel)
5. read " Exit settings "

#SETUPE1

Startup settings

Decoding timeout

The timeout period for each image decoding operation of the scanner. The set time range is from 1 To 3000 Milliseconds, default is 500 millisecond.

@DETSET

[Decoding timeout time]

Set the decoding timeout time to 1000 Milliseconds, you can read the following barcodes in order to set:

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

Beep

Send by **Beep** Instructions can control the scanner to emit a beep sound. The frequency and duration of the beep are used as **Beep** The parameters of the instruction need to be configured. instruction The format is BEEPON xxxFyyyTnnV ,among them: F Indicates the frequency of the prompt tone, the value range is 1 ~ 20000Hz , xxxF Indicates that the frequency of the tone is xxx Hz (E.g 2700F Indicates that the frequency of the sound is 2700Hz); T Indicates the duration of the prompt tone, the value range is 1 ~ 10000ms , yyyT Indicates that the duration of the tone is yyy ms (E.g, 100T Indicates that the duration of the sound is 100ms); V Indicates the volume, the value range is 1~20 .

The frequency is 2000Hz Duration is 50ms Volume is 20V The sound of:

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

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


#SETUPE1

Startup settings

Sensitivity

Sensitivity specifies how the scanner responds to changes in the scanned image in sensing mode. This setting is only valid for the sensing mode of the reading mode. Custom sensitivity range Surrounded by 1 To 20 . The default is medium (11).


@SENLVL14

【low】


@SENLVL11

【in】


@SENLVL8

【high】


@SENLVL5

* * 【Enhancement】


@SENLVL

【customize】

Set the sensitivity to 10 , You can read the following barcodes in order to set:

1 . read " Startup settings "

2 . Read " customize "

3 . Data code "1" , "0" (See appendix-data code)

4 . Read "Save" (see appendix-save or cancel)

5 . read " Exit settings "


#SETUPE0

Exit settings

#SETUPE1

Startup settings

Serial trigger command

When the reading mode is set to level trigger mode, it supports the serial communication command "Start reading" command to trigger the reading, the scanner reading successfully or reaching **Read once Code timeout** Or end the reading after receiving the "stop reading" command.

- Prohibited: Do not use serial trigger commands
- Enable: use serial trigger command in level trigger code reading mode

@SCNTCE0

* * 【Prohibited】

@SCNTCE1

【Enable】

Modify the start reading instruction

Start the code reading command to simulate the key press. Instruction support 1 To 10 Characters, the range of characters is 1 To 0xFF . The first character cannot be'? ' (which is 0x3F) .

The default command is: **< SOH> T <EOT>**

@SCNTCT

【Modify start reading instruction】

Modify the stop reading instruction

The stop reading command can simulate the release of the key. Instruction support 1 To 10 Characters, the range of characters is 1 To 0xFF . The first character cannot be'? ' (which is 0x3F).

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

@SCNTCP

【Modify stop reading instruction】

#SETUPE1

Startup settings

Literacy Preference

@EXPLVL0

【ordinary】

@EXPLVL2

【Screen reading mode】

@EXPLVL5

* * 【Barcode Payment Mode】

Prohibit/Allow Code Reading

Send by **Prohibit reading** with **Allow reading** Instructions can control whether the scanner needs to stop reading codes. The default is **Allow reading** .

- Prohibit reading codes: Force the scanner to stop reading codes all the time. Only when the scanner restarts or receives a code reading permission instruction will it be restored to the code reading permission state. Prohibit rea

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

- Code reading allowed: The scanner is controlled by the configured code reading mode. The content of the allowed code reading command is: ~< SOH>0000#SCNENA1;<ETX>

#SETUPE0

#SETUPE1

Decoding center area

- Whole area decoding: Select all areas of the captured image (the whole picture) for decoding, and only output the first barcode read.
- Center area decoding: The center position 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, just enter

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

@CADENA0

* * [Full area decoding]

@CADENA1

【Central area decoding】

#SETUPE1

Set the center area

The size of the area is set based on the ratio of the image width to the height. Need to set the top, bottom, left, and right ranges of the center area, the setting range is 0 To 100 , The bottom end must be greater than the top end, and the right end must be greater than the left end. Default: top is 40% At the bottom 60% On the left 40% , On the right 60% .

@CADTOP

【Top of Central Area】

@CADBOT

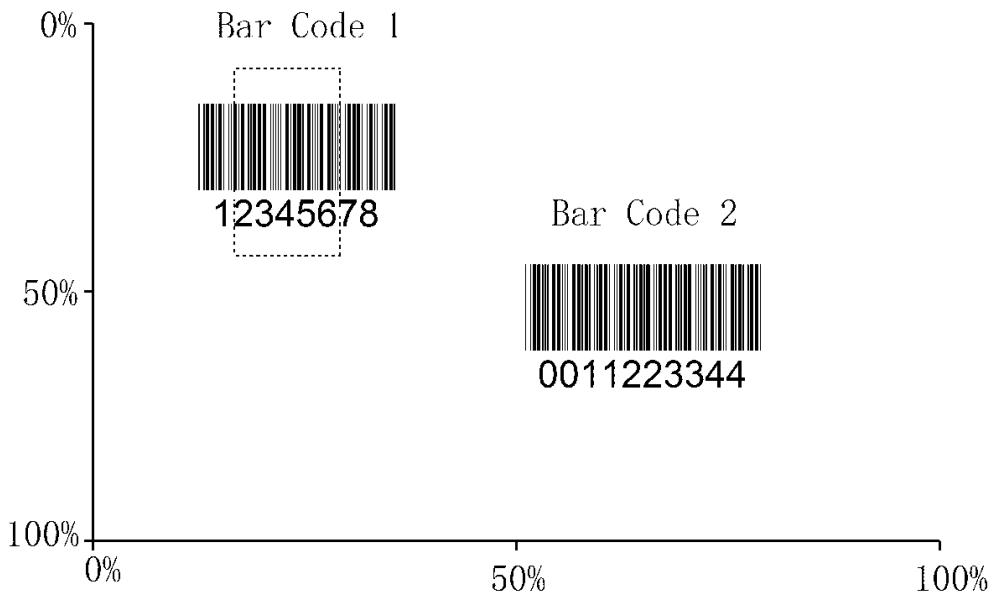
[Bottom of central area]

@CADLEF

[Left of the center area]

@CADRIG

[Right side of the central area]



#SETUPE0

#SETUPE1

Set to read only in the picture above Bar Code 1 , The top of the center area is 10 At the bottom 45 On the left 15 , On the right 30 , You can read the following barcodes in order to set:

1 , Read " Startup settings "

2 , Read " Top of the center area "

3 , Data code "0" (See appendix-data code)

4 , Read "Save" (see appendix-save or cancel)

5 , Read " Bottom of center area "

6 , Data code "4" , "5" (See appendix-data code)

7 , Read "Save" (see appendix-save or cancel)

8 , Read " Top of the center area "

9 , Data code "1" , "0" (See appendix-data code)

10 , Read "Save" (see appendix-save or cancel)

11 , Reading " Left of center area "

12 , Data code "0" (See appendix-data code)

13 , Read "Save" (see appendix-save or cancel)

14 , Reading " Right side of center area "

15 , Data code "3" , "0" (See appendix-data code)

16 , Read "Save" (see appendix-save or cancel)

17 , Reading " Left of center area "

18 , Data code "1" , "5" (See appendix-data code)

19 , Read "Save" (see appendix-save or cancel)

20 ,read " Exit settings "

#SETUPE1

Startup settings

Image flip

The image supports horizontal flip and vertical mirror output functions. by EasySet The images taken by the scanner can be acquired.

@MIRROR0

* * [Normal image]

@MIRROR1

【horizontal flip】

@MIRROR2

【Vertical Flip】

@MIRROR3

【Horizontal and Vertical Flip】

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Send the unsuccessful reading message

- Enable: When the code reading is unsuccessful, the button will be released or the code reading timeout will send the unsuccessful message.
- Prohibited: When the barcode reading is unsuccessful, the message of unsuccessful barcode reading will not be sent.

@NGRENA0

* * 【Prohibited】

@NGRENA1

【Enable】

Modify the unsuccessful reading message (NGR information)

Unsuccessful barcode reading (NGR) Information support 1 To 7 Characters, the range of characters is 0 To 0xff ,default: **NG** .

@NGRSET

【Modify the message of unsuccessful reading (NGR information)】

#SETUPE1

Startup settings

default setting

Factory default settings

All scanners have a factory default setting, read " Load factory default settings " The barcode will restore all attributes of the scanner to the factory state.

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

- Scanner setting error, such as unable to read barcode.
- You forgot what settings you made to the scanner before, and you don't want to be affected by the previous settings.

@FACDEF

* * 【Load factory default settings]

User default settings

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

The user default settings also include all the attribute settings of the scanner, and the user default settings will be saved and will not be lost unless the current settings are re-saved as the user default Set up. Read " Save user default settings " Save the current settings as the user default settings, and overwrite the user default settings previously set. Read " Load user default settings " The scanner will switch to the state of the user's default settings.

@CUSSAV

【Save user default settings】

@CUSDEF

[Load user default settings]

Read " Load factory default settings " For barcodes, the user default settings saved in the scanner will not be deleted.

#SETUPE0

Exit settings

#SETUPE1

product information inquiry

Query system information

You can read " Query system information " Set the code to get information about the product. After reading this setting code, the scanner will immediately send product information to the host.

@QRYSYS

【Query system information】

System information content:

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

Query product name

You can read " Query product name " To get the product name information. After reading this setting code, the scanner will immediately send the product name to the host.

@QRYPDN

【Query product name】

#SETUPE1

Startup settings

Check the firmware version number

You can read " Query the firmware version number " To get the device firmware version number. After reading this configuration code, the scanner will immediately send the firmware version number to the host.

@QRYFWV

【Query firmware version number】

Query decoder version number

You can read " Query decoder version number " To get the product's decoding library version number. After reading this setting code, the scanner will immediately send the decoding library version number to the host.

@QRYDCV

[Query decoder version number]

Query data format edit version number

You can read " Query data format edit version number " To obtain the version number of the product's data format editing function. After reading this setting code, the scanner will immediately send the version number of the data format editing function to the host.

@QRYDFM

[Query data format edit version number]

#SETUPE0

Exit settings

Query hardware information

You can read " Query hardware information " To get the hardware version information of the product. After reading this setting code, the scanner will immediately send hardware information to the host

[Query hardware information]

Query product serial number

You can read " Query product serial number " To get the serial number information of the product. After reading this setting code, the scanner will immediately send the product serial number to the host.

【Query product serial number】

Check product production date

You can read " Check product production date " To get the production date of the product. After reading this setting code, the scanner will immediately send the product production date to the host.

[Query product production date]

#SETUPE1

Startup settings

Query product OEM serial number

You can read " Query product OEM serial number " To get the product OEM Serial number information. After reading this setting code, the scanner will send the product immediately OEM The serial number is given to the host.

@QRYESN

【Inquiry Products OEM serial number】

#SETUPE0

Exit settings

Startup settings

Chapter Four TTL-232 Communication settings

Introduction

can use TTL-232 Communication is also called serial communication. When the scanner and the host are connected by a serial cable, both parties need to set the same communication parameters to ensure the normal communication. The parameters that need to be set include the communication baud rate (that is, the transmission rate), the check character setting, and the data bit setting. Stop bit setting.


#SETUPE1

Baud rate

The baud rate is the number of bits transmitted per second in serial data communication. The baud rate used by the scanner and the data receiving host must be consistent to ensure the accuracy of data transmission. sweep

The scanner supports the baud rates listed below, the unit is bit/s . default: 9600bps


@232BAD8

【 115200 】


@232BAD7

【 57600 】


@232BAD6

【 38400 】


@232BAD5

【 19200 】


@232BAD4

【 14,400 】


@232BAD3

**【 9600 】


@232BAD2

【 4800 】


#SETUPE0

#SETUPE1

@232BAD1

【 2400 】】

@232BAD0

【 1200 】

#SETUPE1

Startup settings

Parity character

The scanner can choose different parity character types when using the serial port to transmit, but they must be consistent with the host's parity character type.

- Select odd parity, if the transmitted data "1" If the number of is odd, the check character is 0 .
- Choose even parity, if the transmitted data "1" If the number of is an even number, the check character is 0 .
- Select no check, no parity check characters are sent.

@232PAR0

**【No Check】

@232PAR1

【Even parity】

@232PAR2

【Odd parity】

#SETUPE0

Exit settings

#SETUPE1

Data bit transmission

Optional transmission 7 , 8 Bit data, please ensure that the data bit of the scanner is consistent with that of the data receiving host.

@232DAT1

【 7 Data bits]

@232DAT0

**【 8 Data bits]

Stop bit

The stop bit is located at the last part of each byte transmitted, and is used to mark the completion of this byte transmission and the next byte of data can be received.

default setting 1 Stop bits. If you need to stop for a long time, you can set 2 Stop bits.

@232STP0

**[One stop bit]

@232STP1

【Two stop bits】

Startup settings

chapter Five USB Communication settings

Introduction

When you use USB When connecting the scanner and the host, there are the following four connection methods to choose from, and can be based on the actual needs of customers

Set the default mode:

- USB Keyboard: This method virtualizes the scanner input into USB Keyboard input, no need to pass USB The interface is used for command settings, and the data in the bar code data can be directly input with the keyboard keys without driving, and the host can also easily obtain the data.
- USB CDC Serial port: meet USB Organization defined CDC Standard interface, the host side is virtualized as a serial port, and the host side's operation of the serial port is consistent with the operation of the physical serial port. Need to install the driver on the host.
- HID POS (POS HID Bar Code Scanner) : This method is based on HID Interface, no custom driver is required, and is better than analog keyboard interface and traditional RS-232 The communication speed of the serial port is fast.

When used at the same time USB and RS-232 Way to connect the scanner and the host, because USB The connection method has a higher priority, so the scanner will choose to use it by default USB Connection method.

Exit settings

#SETUPE1

Startup settings

USB keyboard

USB When the data line 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 accepts the virtual keyboard input like a real keyboard input. After the scanner decodes the data, the sending process is to hit the pair of data in the virtual keyboard.

Each button should be.

@INTERF3

【 USB keyboard】

If the input box of the host can accept keyboard input, the scanner can use this communication mode without any other auxiliary programs, and directly

Enter the decoded data into the input box of the host.

#SETUPE1

Startup settings

National keyboard layout

The keyboard key arrangement and symbols of different national languages are different. Therefore, the scanner can be virtualized into keyboard formats of different countries as needed. The default is the United States Standard keyboard.

@KBWCTY0

* *【American English】

@KBWCTY1

【Belgium】

@KBWCTY2

【Brazil】

@KBWCTY3

【Canada (French)】

@KBWCTY4

【Czechoslovakia】

@KBWCTY5

【Denmark】

@KBWCTY6

【Finland (Swedish)】

#SETUPE0

Exit settings

#SETUPE1

Startup settings

@KBWCTY7

【France】

@KBWCTY8

【Germany/Austria】

@KBWCTY9

【Greece】

@KBWCTY10

【Hungary】

@KBWCTY11

【Israel (Hebrew)】

@KBWCTY12

【Italy】

@KBWCTY13

【Latin America】

@KBWCTY14

【Netherlands (Dutch)】


#SETUPE1

Startup settings


@KBWCTY15

【Norway】


@KBWCTY16

【Poland】


@KBWCTY17

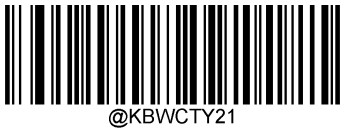
【Portugal】


@KBWCTY18

【Romania】


@KBWCTY19

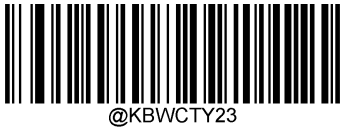
【Russia】


@KBWCTY21

【Slovakia】


@KBWCTY22

【Spain】


@KBWCTY23

【Sweden】


#SETUPE0

Exit settings

#SETUPE1

Startup settings

@KBWCTY24

【Switzerland (German)】

@KBWCTY25

【Turkey F 】

@KBWCTY26

【Turkey Q 】

@KBWCTY27

【United Kingdom】

@KBWCTY28

【Japan】

#SETUPE1

Startup settings

Unknown character 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. Scan down The corresponding barcode on the face to enable or disable the beep sound when an unknown character is detected.

@KBWBUC0

* * 【shut down】

@KBWBUC1

【Open】

Assume that the language corresponding to the current scanner's virtual keyboard system is French (numbered 7), the content read by this scanner is "AÐF" Barcode. by

A character in the barcode data "Ð" (0xD0) Is not in all the available keys of the French keyboard, so the scanner will skip this

The unknown character continues to process the next character.

From the actual use situation, if the unknown character beep is set to " shut down " , The scanner will transmit to the

The data of the data receiving host is "AF" ;

If the unknown character beep is set to " Turn on " , The scanner emits an error tone when processing this character, and transmits it to the data receiving host's

The data is still "AF" .

If opened " Keyboard emulation input characters " Function, this function is invalid.

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Keyboard emulation input characters

When the keyboard emulation input character is turned on, the characters will be sent through the numeric keypad, and the national keyboard layout setting will be ignored. This mode also needs to be set **Code Page selected select** with **Unicode Output** . Code Page Determines the target language, Unicode The encoding method of output setting control input to the host is Unicode still is Code Page .

@KBWALT0

* * 【shut down】

@KBWALT1

【Open】

lie in 0x00~0x1F between ASCII Characters are output according to the mode set by the "Control Character Output" function.

This sending method can ensure that any character can be transmitted smoothly, but because there are too many keys to simulate each character transmitted, so The speed is slower.

Assuming the current scanner Code Page Choose as Code Page 1252 (Latin, Western Europe), the content read by the scanner is "AÐF" (Code Page 1252 The decimal values are 65/208/70) Barcode.

If the keyboard emulation input character is set to " Turn on " , Unicode Output is set to " shut down " , The scanner simulates the keyboard operation as follows:

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

enter "Ð" - ALT Press the keys and press the numeric keypad keys in sequence 2 , 0 , 8 ,release ALT key

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

Startup settings

Code Page

Code page (Code Page) Defines the mapping of character codes to characters. If the received data does not display the correct characters, it may be because the barcode being scanned was created with a different code page than expected by the host program. If this is the case, please scan the setting code below and select the code page for creating the barcode (if it is PDF417 , QRCode , Aztec , Data Matrix Wait for the barcode, you still need to **Barcode parameter setting** Corresponding to chapter settings **Character encoding**). After setting, the barcode data characters should be displayed correctly. "Code Page select " The function only takes effect after the keyboard emulation input function is turned on. default: Code Page 1252 (Latin, Western Europe).

#SETUPE1

Startup settings

@KBWCPG0

* * 【Code Page 1252 (Latin, Western Europe)]

@KBWCPG1

【Code Page 1251 (Cyrillic)]

@KBWCPG2

【Code Page 1250 (Central Europe)]

@KBWCPG3

【Code Page 1253 (Greek)】

@KBWCPG4

【Code Page 1254 (Turkish)]

@KBWCPG5

【Code Page 1255 (Hebrew)]

@KBWCPG6

【Code Page 1256 (Arabic)】

@KBWCPG7

【Code Page 1257 (Baltic Sea)】

@KBWCPG8

【Code Page 1258 (Vietnamese)]

#SETUPE1

Startup settings

Unicode Output

Different application software also has requirements for the received character encoding, such as MS Office of Word Using Unicode Encoding, you need to Unicode Output is set to " Turn on " ;and MSOffice of Excel Or notepad is Code Page Encoding, you need to Unicodes Output is set to " shut down " . "Unicode Output " Work Can only take effect after the keyboard emulation input function is turned on. Default: off.

@KBWCPU0

* * 【shut down】

@KBWCPU1

【Open】

Leading "0"

Turn on "leading" 0 '" function, the character sequence sent through the numeric keyboard is sent as a preamble 0 of ISO character. E.g, ASCII "A" To "ALT MAKE" 0065 "ALT BREAK" The form of transmission. This function is only valid when "keyboard emulation input characters" is enabled.

@KBWALZ0

* * 【shut down】

@KBWALZ1

【Open】

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Control character output

lie in 0x00~0x1F between ASCII Characters can be escaped to become a control function key. The operation of the control function key input in the virtual keyboard is as follows, the specific ASCII The corresponding relationship between values and control function keys is shown in the attached table on the next page. Default: off.

@KBWFKM0

* * 【shut down】

@KBWFKM1

【 Control + ASCII mode】

@KBWFKM2

Alt + Keypad mode

Example

Other in the scanner HID Keyboard The relevant settings are default values, this setting is set to control character output "Control +ASCII mode " When the reading data is "A <HT>F (HT Are invisible characters and are not displayed on the terminal software) " (16 The base values are 0x41/0x09/0x46) Characters, the scanner virtual keyboard operations are as follows:

enter "A" - Press the button A

enter "Ctrl I" - due to 0x09 The data corresponds to the control function key "I" , So the virtual keyboard will hold Ctrl Hold on, then press I Keys, finally release at the same time Ctrl Key and I key

enter "F" - Press the button F

due to "Ctrl I" Corresponding to the function of converting characters to italics in some word processing software, so you may see normal characters after completing the above operations "A" And italic "F" .

If this setting is set to "Alt + Keypad mode " For "<HT>" The operation of the character scanner virtual keyboard is as follows:

enter "Alt 0 0 9" - Virtual keyboard will hold Alt Hold on, and then press the "0" , "0" with "9" , Finally release Alt

Control character correspondence table

ASCII Function	ASCII Value (HEX)	Control character output is 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+-

Control character correspondence table (continued)

In the above table " Control character output Control +ASCII mode " Time 0x1B~0x1F Corresponding to the US keyboard layout, if it is a keyboard layout of other countries, please refer to the following table:

country	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+ ¢	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+-	

#SETUPE1

Key delay

This parameter specifies the delay between simulated keystrokes. When the host needs slower data transmission, scan the corresponding bar code below to increase the delay. Default: no delay.

@KBWDLY0

**【No delay】

@KBWDLY40

【Long delay (40ms)】

@KBWDLY20

【Short delay (20ms)】

#SETUPE0

#SETUPE1

Caps lock setting

When turned on, the uppercase and lowercase characters contained in the barcode data can be reversed. Whatever on the host keyboard Caps Lock This reversal occurs regardless of the state of the key.

Default: Off.

@KBWCAP0

* * 【Close (non-Japanese keyboard)】

@KBWCAP1

【Open (non-Japanese keyboard)】

If opened " Keyboard emulation input characters " or " Case conversion " Function, this function is invalid

After enabling this function, the scanner reads data as "AbC" Barcode, the host will get "ABc" .

#SETUPE1

Startup settings

Case conversion

Scan the corresponding bar code below to convert all bar code data to the desired situation. Default: no conversion.

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

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

@KBWCAS0

* * 【No conversion】

@KBWCAS1

[All converted to uppercase characters]

@KBWCAS2

[All converted to lowercase characters]

If opened " Emulate input characters " Function, this function is invalid.

Set up " Convert all to lowercase characters " , The read content data is "AbC" Barcode, the host will get "Abc" Keyboard input.

#SETUPE0

Exit settings

#SETUPE1

Analog numeric keypad

Numerical characters use numeric keypad

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

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

The numeric keypad, as shown in the figure above, is generally located on the far right side of the keyboard, from the upper left corner Num Lock Control whether its key value is a number or a function key. Virtual keyboard is not controlled independently Num Lock Status, but the actual keyboard Num Lock The status is the same, so if the actual keyboard of the host is closed Num Lock (Num Lock The light is off), after the scanner's virtual numeric keypad, the output is function keys instead of numbers.

@KBWNUM0

* * 【shut down】

@KBWNUM1

【Open】

Before using this function, be sure to confirm the Num Lock status.

If it is turned on " Emulate input characters " Function, this function is invalid.

#SETUPE1

Startup settings

Turn on " Analog numeric keypad " After the scanner reads the content as "A4.5" Barcode.

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 "A" Key, this character is not in the number key function area, so it is sent normally;

Next get the numbers "4" Corresponding function keys-instructions to move the cursor to the left;

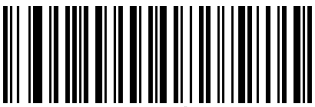
Finally got "." Key, this character is sent normally;

Due to numbers "5" There is no corresponding function key, so no key input is generated.

#SETUPE0


#SETUPE1

Characters'+','-','*','/' use numeric keypad


@KBWNCH0

* * 【shut down】


@KBWNCH1

【Open】

Fast mode

Turn on the fast mode, the scanner can send characters to the host faster. If the host discards characters, do not use fast mode, or increase **Polling speed** Settings.


@KBWFAS0

* * 【shut down】


@KBWFAS1

【Open】

#SETUPE1

Polling speed

The keyboard polling speed can be set to 1~10 millisecond. The smaller the set value, the faster the scanner can send characters to the host. If the host will discard characters, please increase **Polling speed** Settings.

@KBWPOR0

【 1ms 】

@KBWPOR1

【 2ms 】

@KBWPOR2

【 3ms 】

@KBWPOR3

**【 4ms 】

@KBWPOR4

【 5ms 】

@KBWPOR5

【 6ms 】

@KBWPOR6

【 7ms 】

#SETUPE0

#SETUPE1

@KBWPOR7

【 8ms 】

@KBWPOR8

【 9ms 】

@KBWPOR9

【 10ms 】

#SETUPE1

Startup settings

USB CDC Serial port

When you use USB Connection, and at the same time you want the host to receive data through the serial port, you should use USB Virtual serial port mode. From the point of view of the host system interface, the scanner is equivalent to connecting with the host through a serial port.

@INTERF8

* * 【USB CDC Serial Port】

#SETUPE0

Exit settings

#SETUPE1

Startup settings

HID POS (POS HID Bar Code Scanner)

Introduction

HID POS The interface is recommended for new application software. In a separate USB It can send in the message 56 Characters, and is faster than the analog keyboard interface.

feature:

- based on HID Interface, no need to customize driver.
- Communication speed is faster than analog keyboard interface and traditional RS-232 The interfaces are much faster.

@INTERF5

【HID POS】

Software programming method to access equipment

use CreateFile Treat the device as one HID Type device to open and then use ReadFile Pass the scanned data to the application. use WriteFile
Send data to the device. complete USB with HID For 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	Keep							
62	Newland barcode type identification symbol or useless: 0x00							
63	-	-	-	-	-	-	-	Decoding data continues

Send data to the device

This one Output The 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)							

VID with PID table

USB use 2 Number to identify the device and find the correct device. The first number is VID (Vendor ID),by USB Implementers Forum (USB Application vendor forum) assigned. Manufacturers of Newland Automatic Identification Company ID (VID) Yes 1EAB (Hexadecimal). The second number is PID (equipment ID). Each product automatically identified by Newland has a range PID , Each PID The number contains the base number and interface type of a product type.

Device name	Interface Type	PID (Hexadecimal)	PID (Decimal)
EM20	USB keyboard	0003	0003
	USB CDC Serial port	0006	0006
	HID POS	0010	0016

#SETUPE1

Startup settings

Chapter 6 Barcode Parameter Setting

Introduction

Each type of barcode has its own unique attributes, and the scanner can be adjusted to adapt to these attribute changes through the setting codes in this chapter.

Turn on " Allow reading " The fewer barcode types there are, the faster the scanner can read. You can prohibit the scanner from reading unused barcode types to improve the scanner's working performance.

Comprehensive settings

Allow all barcodes

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

@ALLENA1

【Enable all barcodes】

Ban all barcodes

Read " Prohibit reading all barcodes " , The scanner will only be able to read the setting code, all barcodes except the setting code will not be able to read.

@ALLENA0

【Prohibit all barcodes】

#SETUPE0

Exit settings

Allow all one-dimensional codes

@ALL1DC1

[Enable all one-dimensional barcodes]

Prohibit all one-dimensional codes

@ALL1DC0

【Prohibit all one-dimensional barcodes】

Allow all QR codes

@ALL2DC1

[Enable all QR codes]

Ban all QR codes

@ALL2DC0

[Prohibit all QR codes]

Allow all postal codes

@ALLPST1

【Enable all postal codes】

Ban all postal codes

@ALLPST0

【Prohibit all postal codes】

#SETUPE1

Startup settings

Code 128

Restore factory default

@128DEF

**【Code 128 Factory default setting]

Enable/disable reading

@128ENA1

**【Enable】

@128ENA0

【Prohibited】

If the scanner cannot recognize Code 128 Barcode, please try to read " Enable " Set the code and try again.

#SETUPE1

Startup settings

Set reading length

The scanner can be configured to read only those whose length is between (including) the minimum and maximum length Code 128 Barcode.

@128MIN

[Minimum length (default: 1)】

@128MAX

[Maximum length (default: 127)】

The maximum length limit value of any one-dimensional barcode shall not exceed 127 , If the maximum length is less than the minimum length, it will only read the bars of these two lengths code. If the maximum length is equal to the minimum length, only this length is supported.

Limit the scanner to only read the smallest 8 Bytes, max 12 Byte Code128 Barcode:

1. read " Startup settings "
2. read " Minimum length " code
3. Read data code "8" (See appendix-data code)
4. read " save " Code (see appendix-save or cancel)
5. read " The maximum length " code
6. Read data code "1"
7. Read data code "2"
8. read " save " code
9. read " Exit settings "

#SETUPE0

Exit settings

#SETUPE1

Startup settings

EAN-8

Restore factory default

@EA8DEF

**【EAN-8 Factory default setting]

Enable/disable reading

@EA8ENA1

【Enable】

@EA8ENA0

**【Prohibited】

Send check character

EAN-8 The barcode data is fixed as 8 Bytes, where the last 1 One byte is the check character.

@EA8CHK2

**【Send】

@EA8CHK1

【Do not send】

#SETUPE1

Startup settings

2 Bit extension code

2 Bit extension code refers to the addition of the ordinary barcode 2 Digit barcode, the picture below shows the band 2 The barcode with bit extension code, the blue wire frame on the left is the ordinary barcode, and the red wire frame on the right is 2 Bit extension code:

@EA8AD20

* * 【Don't read 2 Bit extension code

@EA8AD21

【Reading 2 Bit extension code

#SETUPE0

Exit settings

#SETUPE1

Startup settings

5 Bit extension code

5 Bit extension code refers to the addition of the ordinary barcode 5 Digit barcode, the picture below shows the band 5 The barcode with bit extension code, the blue wire frame on the left is the ordinary barcode, and the red wire frame on the right is 5 Bit extension code:

@EA8AD50

* * 【Don't read 5 Bit extension code

@EA8AD51

【Reading 5 Bit extension code

Assume Set to " Read 2 Bit extension code " or " Read 5 Bit extension code " Later, the scanner can read new barcodes composed of ordinary barcodes and extension codes; it can also read ordinary barcodes without extension codes. Set as " Not read 2 Bit extension code " or " Not read 5 Bit extension code " Later, the part of the extension code in the new bar code composed of the ordinary bar code and the extension code will not be read, and the part of the ordinary bar code can still be read normally.

Convert to EAN-13

will EAN-8 Convert to EAN-13 Type of barcode, then the barcode information is in accordance with EAN-13 The setting processing.

@EA8EXP0

* * 【No conversion】

@EA8EXP1

【Convert to EAN-13 】

#SETUPE1

Startup settings

EAN-13

Restore factory default

@E13DEF

**【 EAN-13 Factory default setting]

Enable/disable reading

@E13ENA1

【Enable】

@E13ENA0

**【Prohibited】

Send check character

@E13CHK2

**【Send】

@E13CHK1

【Do not send】

#SETUPE0

Exit settings

#SETUPE1

Startup settings

2 Bit extension code

2 Bit extension code refers to the addition of the ordinary barcode 2 Digit barcode, the picture below shows the band 2 The barcode with bit extension code, the blue wire frame on the left is the ordinary barcode, and the red wire frame on the right is 2 Bit extension code:

@E13AD20

* * 【Don't read 2 Bit extension code

@E13AD21

【Reading 2 Bit extension code

#SETUPE1

Startup settings

5 Bit extension code

5 Bit extension code refers to the addition of the ordinary barcode 5 Digit barcode, the picture below shows the band 5 The barcode with bit extension code, the blue wire frame on the left is the ordinary barcode, and the red wire frame on the right is 5 Bit extension code:

@E13AD50

* * 【Don't read 5 Bit extension code

@E13AD51

【Reading 5 Bit extension code

Set as " Read 2 Bit extension code " or " Read 5 Bit extension code " Later, the scanner can read new barcodes composed of ordinary barcodes and extension codes; it can also read ordinary barcodes without extension codes. Set as " Not read 2 Bit extension code " or " Not read 5 Bit extension code " Later, the part of the extension code in the new bar code composed of the ordinary bar code and the extension code will not be read, and the part of the ordinary bar code can still be read normally.

#SETUPE0

Exit settings

#SETUPE1

Startup settings

UPC-E

Restore factory default

@UPEDEF

* * 【 UPC-E Factory default setting]

Enable/disable reading

@UPEENA1

【Enable】

@UPEENA0

* * 【Prohibited】

If the scanner cannot recognize UPC-E Barcode, please try to read " Enable " Set the code and try again.

UPC-E0

@UPEEN01

【Reading UPC-E0 】

@UPEEN00

**【Don't read UPC-E0 】

UPC-E1

@UPEEN11

【Reading UPC-E1 】

@UPEEN10

**【Don't read UPC-E1 】

#SETUPE1

Startup settings

Send check character

UPC-E The barcode data is fixed as 8 Bytes, where the last 1 One byte is the check character.

@UPECHK2

* * 【Send】

@UPECHK1

【Do not send】

2 Bit extension code

2 Bit extension code refers to the addition of the ordinary barcode 2 Digit barcode, the picture below shows the band 2 The barcode with bit extension code, the blue wire frame on the left is the ordinary barcode, and the red wire frame on the right is 2 Bit extension code:

@UPEAD20

* * 【Don't read 2 Bit extension code

@UPEAD21

【Reading 2 Bit extension code

#SETUPE1

Startup settings

5 Bit extension code

5 Bit extension code refers to the addition of the ordinary barcode 5 Digit barcode, the picture below shows the band 5 The barcode with bit extension code, the blue wire frame on the left is the ordinary barcode, and the red wire frame on the right is 5 Bit extension code:

@UPEAD50

* * 【Don't read 5 Bit extension code

@UPEAD51

【Reading 5 Bit extension code

Set as " Read 2 Bit extension code " or " Read 5 Bit extension code " Later, the scanner can read new barcodes composed of ordinary barcodes and extension codes; it can also read ordinary barcodes without extension codes. Set as " Not read 2 Bit extension code " or " Not read 5 Bit extension code " Later, the part of the extension code in the new bar code composed of the ordinary bar code and the extension code will not be read, and the part of the ordinary bar code can still be read normally.

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Transmit leading characters

The leading character is UPC Part of the symbol and includes the country code (for the United States, "0") And system characters ("0").

@UPEPRE1

* * 【Transmission System Character】

@UPEPRE0

[Do not transmit leading characters

(Do not transmit country codes and system characters)]

@UPEPRE2

[Transfer country code + system characters]

Convert to UPC-A

will UPC-E Barcode converted to UPC-A Type barcode, and then barcode information according to UPC-A The setting processing.

@UPEEXP0

* * 【Not converted to UPC-A 】

@UPEEXP1

【Convert to UPC-A 】

#SETUPE1

Startup settings

UPC-A

Restore factory default

@UPADEF

* * 【 UPC-A Factory default setting]

Enable/disable reading

@UPAENA1

【Enable】

@UPAENA0

* * 【Prohibited】

If the scanner cannot recognize UPC-A Barcode, please try to read " Enable " Set the code and try again.

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Send check character

@UPACHK2

**【Send】

@UPACHK1

【Do not send】

2 Bit extension code

2 Bit extension code refers to the addition of the ordinary barcode 2 Digit barcode, the picture below shows the band 2 The barcode with bit extension code, the blue wire frame on the left is the ordinary barcode, and the red wire frame on the right is 2 Bit extension code:

@UPAAD20

**【Don't read 2 Bit extension code

@UPAAD21

【Reading 2 Bit extension code

#SETUPE1

Startup settings

5 Bit extension code

5 Bit extension code refers to the addition of the ordinary barcode 5 Digit barcode, the picture below shows the band 5 The barcode with bit extension code, the blue wire frame on the left is the ordinary barcode, and the red wire frame on the right is 5 Bit extension code:

@UPAAD50

* * 【Don't read 5 Bit extension code

@UPAAD51

【Reading 5 Bit extension code

Set as " Read 2 Bit extension code " or " Read 5 Bit extension code " Later, the scanner can read new barcodes composed of ordinary barcodes and extension codes; it can also read ordinary barcodes without extension codes. Set as " Not read 2 Bit extension code " or " Not read 5 Bit extension code " Later, the part of the extension code in the new bar code composed of the ordinary bar code and the extension code will not be read, and the part of the ordinary bar code can still be read normally.

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Transmit leading characters

The leading character is UPC Part of the symbol and includes the country code (for the United States, "0") And system characters ("0").

@UPAPRE0

[Do not transmit leading characters

(Do not transmit country codes and system characters)]

@UPAPRE1

* * 【Transmission System Character】

@UPAPRE2

[Transfer country code + system characters]

Startup settings

Coupon

UPC-A/EAN-13 With Coupon Extension code

UPC-A with EAN-13 Two symbologies can be attached Coupon Extension code.

Coupon Have 3 Types of composition:

- To 5 The beginning UPC-A + GS1-128
- To 5 The beginning UPC-A + GS1 Databar
- To 99 The beginning EAN-13 + GS1-128

The latter part is called Coupon Extension.

When set to **shut down** When UPC-A , EAN-13 , UCC/EAN-128 , GS1 Databar If enabled, the previous part UPC-A or EAN-13 still Can be read.

When set to **Allow connection** There are two possible situations: 1 , If you read the two parts before and after, just output two; 2 If only one of the two is available, only one will be output.

When set to **Must be connected** When the two parts are read, there will be output.

* * 【shut down】

[Allow connection]

[Must connect]

Exit settings

#SETUPE1

Startup settings

Coupon GS1 DataBar Output

Coupon Type is: to 5 The beginning UPC-A + GS1 Databar Time,

When on GS1 Databar When output function, the device only outputs GS1 Databar Part of the information.

When closed GS1 Databar When outputting function, refer to device information output situation "Coupon connection " Chapter settings.

@CPNGS10

* * 【shut down】

@CPNGS11

【Open】

use UPC-A Coupon Function, make sure UPC-A Set to "transmission system character" or "transmission country code + system character". Please refer to " UPC-A "chapter.

#SETUPE1

Startup settings

Code 39

Restore factory default

@C39DEF

* * 【 Code 39 Factory default setting]

Enable/disable reading

@C39ENA1

【Enable】

@C39ENA0

* * 【Prohibited】

If the scanner cannot recognize Code 39 Barcode, please try to read " Enable " Set the code and try again.

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Set reading length

The scanner can be configured to read only those whose length is between (including) the minimum and maximum length Code 39 Barcode.

@C39MIN

[Minimum length (default value: 1)】

@C39MAX

[Maximum length (default value: 127)】

The maximum length limit value of any one-dimensional barcode shall not exceed 127 , If the maximum length is less than the minimum length, it will only read the bars of these two lengths code. If the maximum length is equal to the minimum length, only this length is supported.

Limit the scanner to only read the smallest 8 Bytes, max 12 Byte Code 39 Barcode:

1. read " Startup settings "
2. read " Minimum length "
3. Read data code "8" (See appendix-data code)
4. read " save " Code (see appendix-save or cancel)
5. read " The maximum length " code
6. Read data code "1"
7. Read data code "2"
8. read " save " code
9. read " Exit settings "

#SETUPE1

Startup settings

check

Code 39 It is not mandatory to include a check character in the barcode data. If there is a check character, it must be the last of the data 1 Bytes. The check character is a value calculated from all data except the check character to check whether the data is correct.

- Set as " Prohibit " Then the scanner will transmit all bar code data normally.
- Set as " Enable, do not transmit check character " , The scanner will 1 Bit data is checked. If the check is passed, the normal data except the last check character will be transmitted. If the check fails, the barcode content will not be sent.
- Set as " Enable, send check character " Then the scanner will 1 Bit data is checked, if the check is passed, the check character will be regarded as the last of normal data 1 The bits are transmitted together, and the barcode content will not be sent if the verification fails.

@C39CHK0

* * 【Prohibited】

@C39CHK1

[Enable, do not transmit check characters]

@C39CHK2

[Enable, send check character]

When set to "enable, do not transmit check character", if the data length is deducted 1 After the check character of the byte is less than the minimum reading length limit, The barcode reading will fail.

For example: in the current scanner settings Code 39 The minimum reading length is 4 Byte, check character is not transmitted, and the total length must be read at this time 4 byte of Code 39 Will fail!

#SETUPE0

Exit settings

Start and stop

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

* * 【Do not send】

【Send】

Full ASCII

Enable Code 39 Full ASCII Can open to read the complete ASCII Character function

【Forbidden Code 39 Full ASCII 】

* * 【Enable Code 39 Full ASCII 】

#SETUPE1

Startup settings

Code32 Pharmaceutical (PARAF)

Code 32 Pharmaceutical Used by Italian pharmacies Code 39 A form of barcode. This barcode is also called PARAF .

Code 32 The output format is: * + A + 8 Digit + 1 Bit check + *.

@C39E320

* * 【Prohibited】

@C39E321

【Enable】

Only enable reading Code39 And can be read without verification Code 32 Pharmaceutical .

Code32 Prefix

@C39S320

* * 【Prohibited】

@C39S321

【Enable】

#SETUPE0

Exit settings


#SETUPE1

Code32 Start and stop


@C39T320

**【Do not send】


@C39T321

【Send】

Code32 Check character


@C39C320

**【Do not send】


@C39C321

【Send】

#SETUPE1

Startup settings

GS1-128 (UCC/EAN-128)

Restore factory default

@GS1DEF

* * 【 GS1-128 Factory default setting]

Enable/disable reading

@GS1ENA1

【Enable】

@GS1ENA0

* * 【Prohibited】

If the scanner cannot recognize GS1-128 Barcode, please try to read " Enable " Set the code and try again.

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Set reading length

The scanner can be configured to read only those whose length is between (including) the minimum and maximum length GS1-128 Barcode.

@GS1MIN

[Minimum length (default value: 1)]

@GS1MAX

[Maximum length (default value: 127)]

The maximum length limit value of any one-dimensional barcode shall not exceed 127 , If the maximum length is less than the minimum length, it will only read the bars of these two lengths code. If the maximum length is equal to the minimum length, only this length is supported.

Limit the scanner to only read the smallest 8 Bytes, max 12 Byte GS1-128 Barcode:

1. read " Startup settings "
2. read " Minimum length "
3. Read 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 data code "1"
7. Read data code "2"
8. read " save " code
9. read " Exit settings "

#SETUPE1

Startup settings

GS1 Composite (EAN·UCC Composite)

Restore factory default

@CPTDEF

**【GS1 Composite Factory default setting]

Enable/disable reading

@CPTENA1

【Enable】

@CPTENA0

**【Prohibited】

UPC/EAN version

@CPTUPC1

【Enable】

@CPTUPC0

**【Prohibited】

If the scanner cannot recognize GS1 Composite Barcode, please try to read " Enable " Set the code and try again.

#SETUPE0

Exit settings

#SETUPE1

Startup settings

ISBN

Restore factory default

@ISBDEF

**【ISBN Factory default setting]

Enable/disable reading

@ISBENA1

【Enable】

@ISBENA0

**【Prohibited】

If the scanner cannot recognize ISBN Barcode, please try to read " Enable " Set the code and try again.

ISBN format


@ISBT101

【 ISBN-10 】


@ISBT100

**【 ISBN-13 】

ISSN

Restore factory default


@ISSDEF

**【 ISSN Factory default setting]

#SETUPE1

Startup settings

Enable/disable reading

@ISSENA1

【Enable】

@ISSENA0

* * 【Prohibited】

If the scanner cannot recognize ISSN Barcode, please try to read " Enable " Set the code and try again.

#SETUPE1

Startup settings

AIM 128

Restore factory default

@AIMDEF

* * 【 AIM 128 Factory default setting]

Enable/disable reading

@AIMENA1

【Enable】

@AIMENA0

* * 【Prohibited】

If the scanner cannot recognize AIM 128 Barcode, please try to read " Enable " Set the code and try again.

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Set reading length

The scanner can be configured to read only those whose length is between (including) the minimum and maximum length AIM 128 Barcode.

@AIMMIN

[Minimum length (default value: 1)】

@AIMMAX

[Maximum length (default value: 127)】

The maximum length limit value of any one-dimensional barcode shall not exceed 127 , If the maximum length is less than the minimum length, it will only read the bars of these two lengths code. If the maximum length is equal to the minimum length, only this length is supported.

Limit the scanner to only read the smallest 8 Bytes, max 12 Byte AIM 128 Barcode:

1. read " Startup settings "
2. read " Minimum length "
3. Read data code "8" (See appendix-data code)
4. read " save " (See appendix-save or cancel)
5. read " The maximum length "
6. Read data code "1"
7. Read data code "2"
8. read " save " code
9. read " Exit settings "

#SETUPE1

Startup settings

ISBT 128

Restore factory default

@IBTDEF

**【ISBT 128 Factory default setting]

Enable/disable reading

@IBTENA1

【Enable】

@IBTENA0

**【Prohibited】

If the scanner cannot recognize ISBT 128 Barcode, please try to read " Enable " Set the code and try again.

#SETUPE0

Exit settings

#SETUPE1

PDF417

Restore factory default

@PDFDEF

**【PDF417 Factory default setting]

Enable/disable reading

@PDFENA1

**【Enable】

@PDFENA0

**【Prohibited】

If the scanner cannot recognize PDF417 Barcode, please try to read " Enable " Set the code and try again.

Startup settings

Set reading length

The scanner can be configured to read only those whose length is between (including) the minimum and maximum length PDF417 Barcode.

[Minimum length (default value: 1) 】

[Maximum length (default value: 2710) 】

The maximum length limit of any two-dimensional barcode shall not exceed 65535 Bytes, and the maximum length limit value must not be less than the minimum length limit value.

If you want to read only a fixed length PDF417 Barcode, you can set the minimum length limit value to the maximum length limit

The values are equal.

Limit the scanner to only read the smallest 8 Bytes, max 12 Byte PDF417 Barcode:

1. read " Startup settings "
2. read " Minimum length "
3. Read 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 data code "1"
7. Read data code "2"
8. read " save " code
9. read " Exit settings "

Exit settings

#SETUPE1

Startup settings

PDF417 Double code

PDF417 Double code: two arranged up and down or left and right PDF417 Barcode. The direction of the two codes must be consistent, the difference should be as small as possible, and the distance should be as close as poss

The dual code setting is divided into the following three setting modes.

- Read only single PDF417 Code: At any time, the device can only read one of the code patterns at most once PDF417 Barcode
- Read only double PDF417 Code: The device must be detected in a code diagram at any time PDF417 Double code, and the decoded information is sent only when both codes are successfully decoded;
- Readable odd and even PDF417 Code: When the device detects in a code diagram PDF417 When the double code and the double code are successfully decoded, the double code decoded information will be sent, otherwise, the picture will be read only single code.

@PDFDOU0

* * [Read only single PDF417 code】

@PDFDOU1

[Only read double PDF417 code】

@PDFDOU2

【Readable odd and even PDF417 code】

#SETUPE1

Startup settings

PDF 417 Inverted

PDF 417 There are positive and reverse barcodes.

Normal phase bar code: bar code with light background and dark bar

Inverted barcode: dark-colored bottom, light-colored barcode

@PDFINV0

* * [Only identify the normal phase barcode]

@PDFINV1

[Only recognize reverse barcode]

@PDFINV2

[Recognize both positive and negative barcodes]

Character encoding

@PDFENC0

* * 【default】

@PDFENC1

【 UTF-8 】

#SETUPE0

Exit settings

Startup settings

ECI Output

【Prohibited】

* * 【Enable】

#SETUPE1

Startup settings

QR Code

Restore factory default

@QRCDEF

* * 【 QR Factory default setting]

Enable/disable reading

@QRCENA1

* * 【Enable】

@QRCENA0

【Prohibited】

If the scanner cannot recognize QR Code Barcode, please try to read " Enable " Set the code and try again.

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Set reading length

The scanner can be configured to read only those whose length is between (including) the minimum and maximum length QR Code Barcode.

@QRCMIN

[Minimum length (default value: 1)】

@QRCMAX

[Maximum length (default value: 7089) 】

The maximum length limit of any two-dimensional barcode shall not exceed 65535 Bytes, and the maximum length limit value must not be less than the minimum length limit value.

If you want to read only a fixed length QR Code Bar code, you can set the minimum length limit value to be equal to the maximum length limit value.

Limit the scanner to only read the smallest 8 Bytes, max 12 Byte QR Code Barcode:

1. read " Startup settings "
2. read " Minimum length "
3. Read data code "8" (See appendix-data code)
4. Read "Save" (see appendix-save or cancel)
5. read " The maximum length "
6. Read data code "1"
7. Read data code "2"
8. read " save " code
9. read " Exit settings "

#SETUPE1

Startup settings

QR Double code

QR Double code: two arranged up and down or left and right QR Barcode. The direction of the two codes should be the same, 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:

- Read only single QR Code: The device only reads one at a time at any time QR Barcode.
- Read only double QR Code: The device must be detected at any time QR Double code, and the decoded information is sent after both codes are successfully decoded. The sending order is from top to bottom or left to right.
- Readable odd and even QR Code: Check first when reading codes QR Whether the double code exists, if it exists and decoded successfully, it will be sent according to the double code, otherwise it will be treated as a

@QRCDOU0

* * [Read only single QR code】

@QRCDOU1

[Only read double QR code】

@QRCDOU2

【Readable odd and even QR code】

#SETUPE0

Exit settings

#SETUPE1

Startup settings

QR Inverted

QR There are positive and reverse barcodes.

Normal phase bar code: bar code with light background and dark bar

Inverted barcode: dark-colored bottom, light-colored barcode

@QRCINV0

* * [Only identify the normal phase barcode]

@QRCINV1

[Only recognize reverse barcode]

@QRCINV2

[Recognize both positive and negative barcodes]

Character encoding

@QRCENC0

* * 【default】

@QRCENC1

【 UTF-8 】

ECI Output

@QRCECI0

【Prohibited】

@QRCECI1

**【Enable】

#SETUPE1

Aztec

Restore factory default

@AZTDEF

* * 【 Aztec Code Factory default setting]

Enable/disable reading

@AZTENA1

【Enable】

@AZTENA0

* * 【Prohibited】

If the scanner cannot recognize Aztec Code Barcode, please try to read " Enable " Set the code and try again.

#SETUPE1

Startup settings

Set reading length

The scanner can be configured to read only those whose length is between (including) the minimum and maximum length Aztec Barcode.

@AZTMIN

[Minimum length (default value: 1)】

@AZTMAX

[Maximum length (default value: 3832)】

The maximum length limit of any two-dimensional barcode shall not exceed 65535 Bytes, and the maximum length limit value must not be less than the minimum length limit value.

If you want to read only a fixed length Aztec Code Bar code, you can set the minimum length limit value to be equal to the maximum length limit value.

Limit the scanner to only read the smallest 8 Bytes, max 12 Byte Aztec Code Barcode:

1. read " Startup settings "
2. read " Minimum length "
3. Read data code "8" (See appendix-data code)
4. Read "Save" (see appendix-save or cancel)
5. read " The maximum length "
6. Read data code "1"
7. Read data code "2"
8. read " save "
9. read " Exit settings "

#SETUPE0

Exit settings

Startup settings

Multi-code same image processing settings

There are three modes for multi-code and image processing.

- Read only single code: do not process multiple codes in the same image, that is, only process a single code Aztec code
- Read only a fixed number of barcodes: only process multiple codes with a fixed number of barcodes in the same image
- Comprehensive reading: mixed processing of multiple codes in the same image, that is, the multiple codes in the same image processing with a fixed number of barcodes are processed first, and only a single image is

* * [Read only single code]

[Read only a fixed number of barcodes]

【Comprehensive Reading】

Number of barcodes in the same image


@AZTMUL1

** 【 1 A


@AZTMUL2

【 2 A


@AZTMUL3

【 3 A


@AZTMUL4

【 4 A


@AZTMUL5

【 5 A


@AZTMUL6

【 6 A


@AZTMUL7

【 7 A


@AZTMUL8

【 8 A


#SETUPE1

Character encoding


@AZTENC0

**【default】


@AZTENC1

【 UTF-8 】

ECI Output


@AZTECI0

【Prohibited】


@AZTECI1

**【Enable】

#SETUPE1

Startup settings

Data Matrix

Restore factory default

@DMCDEF

* * 【 Data Matrix Factory default setting]

Enable/disable reading

@DMCENA1

【Enable】

@DMCENA0

* * 【Prohibited】

If the scanner cannot recognize Data Matrix Barcode, please try to read " Enable " Set the code and try again.

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Set reading length

The scanner can be configured to read only those whose length is between (including) the minimum and maximum length Data Matrix Barcode.

@DMCMIN

[Minimum length (default value: 1)】

@DMCMAX

[Maximum length (default value: 3116) 】

The maximum length limit of any two-dimensional barcode shall not exceed 65535 Bytes, and the maximum length limit cannot be less than the minimum length Degree limit value.

If you want to read only a fixed length Data Matrix Bar code, you can set the minimum length limit value to be equal to the maximum length limit value.

Limit the scanner to only read the smallest 8 Bytes, max 12 Byte Data Matrix Barcode:

1. read " Startup settings "

2. read " Minimum length "

3. Read data code "8" (See appendix-data code)

4. Read "Save" (see appendix-save or cancel)

5. read " The maximum length "

6. Read data code "1"

7. Read data code "2"

8. read " save "

9. read " Exit settings "

#SETUPE1

Startup settings

Data Matrix Double code

Data Matrix Double code: two arranged up and down or left and right Data Matrix Barcode. The direction of the two codes should be the same, the difference should be as small as possible, and the distance should be as close as possible. The dual code setting is divided into the following three setting modes.

Read only single Data Matrix Code: The device only reads one at a time at any time Data Matrix Barcode

- Read only double Data Matrix Code: The device must be detected at any time Data Matrix Double code, and the decoded information is sent after both codes are successfully decoded. The sending order is from top to bottom or left to right.
- Readable odd and even Data Matrix Code: Check first when reading codes Data Matrix Whether the double code exists, if it exists and decoded successfully, it will be sent according to the double code, otherwise it will be treated as a single code.

@DMCDOU0

* * [Read only single Data Matrix code】

@DMCDOU1

[Only read double Data Matrix code】

@DMCDOU2

【Readable odd and even Data Matrix code】

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Rectangular code

Rectangular code, here specifically refers to rectangular Data Matrix Barcode.

Data Matrix There are two formats for barcodes:

- Square code with the same number of length and width modules: 10*10 , 12*12....144*144 .
- Rectangular codes with inconsistent length and width modules: 6*16 , 6*14...14*22 .

@DMCREC1

* * 【Enable】

@DMCREC0

【Prohibited】

Data Matrix Inverted

Data Matrix There are positive and reverse barcodes.

Normal phase bar code: bar code with light background and dark bar

Inverted barcode: dark-colored bottom, light-colored barcode

@DMCINV0

* * [Only identify the normal phase barcode]

@DMCINV1

[Only recognize reverse barcode]

@DMCINV2

[Recognize both positive and negative barcodes]

Character encoding

@DMCENC0

* *【default】

@DMCENC1

【 UTF-8 】

Startup settings

ECI Output

【Prohibited】

**【Enable】

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 in a specific position of the barcode data character.

Normally, when you scan a barcode, it will be output automatically. But when creating a data format, you must use the "send" command (send command) to allow the data format editing function Can output data.

A total of four data formats can be set, namely the data format 0 ,Data Format 1 ,Data Format 2 ,Data Format 3 , The four data formats can be set separately according to actual needs. It can be used correctly after setting. The data format includes the application range of the data format (such as barcode type, barcode length) and data editing commands. Be aware
When the barcode read does not match the data format used, the scanner will emit an error tone (if it is turned on " Data format does not match error sound").

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

The data format editing function is disabled by default, and the user needs to enable this function before using it. There are two ways to add data format: one is through EasySet The software is configured, and the second is to read the setting code.

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

* *【Factory default data format】

Exit settings

Open/close data format editing

Turn off or turn on the data format editing function through the following settings.

- **Close data format editing**

  Turn off the data format editing function.

- **Open data format editing, require matching, keep the prefix and suffix**

  Turn on the data format editing function. The barcode matching the data format rules will be output according to the data format requirements. Whether to add the prefix and suffix depends on the setting of the prefix a

  Barcodes that do not match the data format rules are not output, and the scanner emits an error tone (if the "Data Format Mismatch Error Prompt Tone" is turned on).

- **Open data format editing, require matching, discard the prefix and suffix**

  Turn on the data format editing function. Barcodes that match the data format rules are output according to the data format requirements, without prefixes and suffixes (ignoring the prefix and suffix settings);

  Barcodes that do not match the data format rules are not output, and the scanner emits an error tone (if the "Data Format Mismatch Error Prompt Tone" is turned on).

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

  Turn on the data format editing function. Bar codes matching the data format rules are output according to the data format requirements. Whether to add the prefix and suffix depends on the setting of the prefix and su

  Barcodes that do not match the data format rules are output as the original information. Whether to add the prefix and suffix depends on the setting of the prefix and suffix.

- **Open data format editing, do not require matching, discard the prefix and suffix**

  Turn on the data format editing function. Bar codes matching the data format rules are output according to the data format requirements, without adding the prefix and suffix (ignoring the setting of the prefix and suffix);

  Barcodes that do not match the data format rules are output as the original information. Whether to add the prefix and suffix depends on the setting of the prefix and suffix.

#SETUPE1

Startup settings

@DFMENA0

**【Close data format editing】

@DFMENA1

[Open data format editing, matching is required, and prefixes and suffixes are reserved]

@DFMENA2

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

@DFMENA3

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

@DFMENA4

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

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Add data format

step 1 : Read "Startup Settings";

step 2 : Read "Add Data Format";

@DFMADD

【Add data format】

step 3 : Choose data format

Read Data code " 0 "or" 1 "or" 2 "or" 3 ", they respectively represent the selected data format 0 ~ 3 .

step 4 : Read sequentially Data code " 6 "" 9 "" 9 "" 9 "

step 5 : Select barcode number

The data format only works for the specified type of barcode. Reference appendix- Barcode serial number comparison table . The barcode serial number is determined by 3 Consists of several data bits. If the set data format is valid for all barcode types, then set the barcode serial number to **999** . For example only for EAN-13 Do processing, then read Data code " 005 "

step 6 : Set barcode data length

The data format only works for barcodes of specified length. The data length is determined by 4 Consists of several data bits. For example, set the barcode data length to 32 , Then read Data code " 0032" . If the set data format is valid for all barcodes with data length, then set the barcode length to **9999** .

step 7 : Set data format editing commands

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

step 8 : Read " save "Set the code.

#SETUPE1

Startup settings

Example

Add data format 0 , This data format only applies to data length 10 Byte Code 128 , Send the barcode data and add the character " A ", the setting steps are as follows:

1. read " Startup settings "
2. read " Add data format "
3. Add data format 0 ,read Data code "0"
4. read Data code "6" "9" "9" "9"
5. Code 128 Barcode serial number 002 ,read Data code "0" "0" "2"
6. The barcode length is 10 Byte, read Data code "0" "0" "1" "0"
7. Send after sending all data "A" , The corresponding data format compilation command is F141 ,read Data code "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 " Clear all data formats " Set the code to clear all data formats; the other is to read first " Clear a set of data formats " Set the code, and then read the number of the data format that needs to be cleared Data code , Then read " save " Set code, clear 4 One group in the group data editing format configuration. For example, to clear " Data Format 2" , First read " Clear a set of data formats " Set the code, then read the data code "2" , Finally read " save " .

@DFMCAL

【Clear all data format】

@DFMCLR

【Clear a set of data format】

#SETUPE0

Exit settings

Startup settings

Choose data format

After opening the data format editing function, you can choose which set of data formats to use, and select different data formats through the following four setting codes. Default: Number According to the format 0 .

* * 【Data Format 0 】

【Data Format 1 】

【Data Format 2 】

【Data Format 3 】

#SETUPE1

Startup settings

Single use data format

The single-use data format means that it only affects a barcode read after setting, and the data format used afterwards will be restored to the original data format. Can pass the following
The setting code selects the data format for single use. For example, the scanner has been set to select the data format 3 , But want to use the data format when reading a barcode 1 , In this case, you need to scan the "Single Use Data Format" before reading that barcode. 1 "Set the code.

@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 sound

If the data format mismatch prompt sound is turned on, the scanner will emit an error sound when reading barcodes that do not meet the data format requirements.

@DFMTON0

【shut down】

@DFMTON1

**【Open】

#SETUPE0

Exit settings

#SETUPE1

Query data format

- Query the current data format

  Get the currently configured data format 0 To data format 3 Configuration content .

- Query the factory default data format

  Get the data format of factory configuration 0 To data format 3 The configuration content.

  The configuration content format of all data formats found is as follows:

  Data Format 0:xxxx;

  Data Format 1:xxxx;

  Data Format 2: xxxx;

  Data Format 3:xxxx;

@DFMQCU

[Query the current data format]

@DFMQFA

[Query the factory default data format]

#SETUPE1

Startup settings

Data format editing commands

Using the data format editor is like moving a virtual cursor in the input data string. The following commands can be used not only to move the cursor to different positions, but also to select and replace Exchange, insert data into final output, etc. For the hexadecimal value involved in the command, refer to the appendix ASCII Code Table.

Initial cursor position: point to the first byte of the original barcode information that has not been processed by data format editing.

Like the above barcode, the initial cursor position is in " 1 "To the left.

send command

F1 Send all characters

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

Output all characters to the right of the cursor, and then output characters xx .

F2 Send several characters

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

To the right of the output cursor nn Characters, then output characters xx .

F2 Example: Send several characters

Before sending the above barcode content 10 Characters, then send a carriage return. Command string: **F2100D**

F2 : "Send a few characters" command

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

0D : The hexadecimal value of the carriage return

Output result: **1234567890<CR>**

#SETUPE0

Exit settings

#SETUPE1

F3 Send all characters before a character

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

Output current cursor right to character ss All characters between the left side (excluding characters ss), then output characters xx . Cursor to the right ss To the left.

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

1234567890ABCDEFGHIJ

Send the above barcode content " D "Before (not including D), then send a carriage return.

Command string: **F3440D**

F3 : "Send all characters before a character" command

44 : D Hexadecimal value of

0D : The hexadecimal value of the carriage return

Output result: **1234567890ABC<CR>**

#SETUPE1

Startup settings

B9 Send all characters before a string

Command format= B9nnnns...s (nnnn : String s...s length; s...s : String that can be matched)

Output the right side of the current cursor to the string s...s All characters between the left side (excluding the string s...s). Cursor to the right s...s To the left.

B9 Example: Send all characters before a defined string

Send the above barcode content " AB "Before (not including AB).

Command string: **B900024142**

B9 : "Send all characters before a string" command

0002 : Length of string (2 Characters)

41 : A Hexadecimal value of

42 : B Hexadecimal value of

Output result: 1234567890

E9 Send all characters before the last few characters

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

Output from the right to the end of the current cursor nn All characters before (on the left). The cursor moves to the right of the last character sent (that is, the end nn Characters to the left).

F4 Send one character multiple times

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

nn Secondary output characters xx , The cursor position remains unchanged.

#SETUPE0

Exit settings

#SETUPE1

E9 with F4 Example: Send all characters before the last few characters, then send two Tab

Send the above barcode content at the end 9 All characters before the bit character, send two more tab .

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 : Horizontal tab Hexadecimal value of

02 :send Tab Number of times

Output result: **1234567890A<tab><tab>**

B3 Insert symbology name

Insert the symbology name in the output information without moving the cursor.

B4 Insert barcode length

Insert the length of the bar code in the output information without moving the cursor. The barcode length is output in digital form and does not include leading zeros.

B3 with B4 Example: Insert symbology name and length

Send the symbol system name, length and barcode data of the above barcode, use spaces as the spacer, and send a carriage return at the end.

Command string: **B3F42001B4F42001F10D**

B3 : "Insert Symbology Name" command

F4 : "Insert a character multiple times" command

20 : The hexadecimal value of the space

01 : The number of times a space was sent

B4 : "Insert barcode length" command

F4 : "Insert a character multiple times" command

20 : The hexadecimal value of the space

01 : The number of times a space was sent

F1 : "Send all characters" command

0D : The hexadecimal value of the carriage return

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

Move command

F5 Move the cursor a few characters to the right

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

Move cursor right nn Characters.

F5 Example: Move the cursor to the right and send barcode data

In the above barcode, move the cursor to the right 3 Characters, send all barcode data to the right of the cursor, and send a carriage return at the end.

Command string: F503F10D

F5 : "Move the cursor several characters to the right" command

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

F1 : "Send all characters" command

0D : The hexadecimal value of the carriage return

Output result: 4567890ABCDEFGHIJ<CR>

F6 Move the cursor a few characters to the left

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

Move cursor left nn Characters.

F7 Move the cursor to the starting position

Command format= F7

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

EA Move the cursor to the end position

Command format= EA

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

#SETUPE1

Startup settings

Search command

F8 Search characters to the right

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

Search for characters from the current cursor position to the right in the input information xx , The cursor moves to the left of the character.

F8 Example: Send a character and subsequent data in a barcode message

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

Command string: **F844F10D**

F8 : "Search characters to the right" command

44 : " D The hexadecimal value of

F1 : "Send all characters" command

0D : The hexadecimal value of the carriage return

Output result: **DEFGHIJ<CR>**

F9 Search character left

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

Search for characters from the current cursor position to the left in the input information xx , The cursor moves to the left of the character.

B0 Search string 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 for a string from the current cursor position to the right in the input information S , The cursor moves to the left of the string. E.g, B0000454657374 Indicates to search for the first occurrence of the string " Test ".

#SETUPE0

#SETUPE1

B0 Example: Send a character string and subsequent data in barcode information

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

Command string: **B00003464748F10D**

B0 : "Search string forward" command

0003 : Length of string (3 Characters)

46 : " F The hexadecimal value of

47 : " G The hexadecimal value of

48 : " H The hexadecimal value of

F1 : "Send all characters" command

0D : The hexadecimal value of the carriage return

Output result: **FGHIJ<CR>**

B1 Search string 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 for a string from the current cursor position to the left in the input information S , The cursor moves to the left of the string. E.g, B1000454657374 Indicates to search left for the first occurrence of the string " Test ".

E6 Search right for unmatched characters

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

Search for the first occurrence of and from the current cursor position to the right in the input information xx For characters that do not match, the cursor moves to the left of the character.

#SETUPE1

Startup settings

E6 Example: Delete leading zeros in barcode information

0000123abc

The above barcode information has a leading zero, and the barcode data after the leading zero is required to be sent. Search for the first non-zero character to the right, send the character and subsequent data, and send one al

A carriage return.

Command string: **E630F10D**

E6 : "Search to the right for unmatched characters" command

30 : " 0 The hexadecimal value of

F1 : "Send all characters" command

0D : The hexadecimal value of the carriage return

Output result: **123abc<CR>**

E7 Search left unmatched characters

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

Search for the first occurrence of and from the current cursor position to the left in the input information xx For characters that do not match, the cursor moves to the left of the character.

#SETUPE0

Exit settings

#SETUPE1

Other commands

FB Block output characters

Command format= FBnnxxyy..zz (nn : The number of the same character that prevents output; xxyy..zz : Prevent the hexadecimal value of the output character)

Starting from the right side of the current cursor, block output of characters (up to 15 Different characters), the movement of the cursor is determined by other commands.

FB Example: Delete characters such as spaces in the barcode information

12 34_5*6 78

The above barcode information contains spaces, underscores and "*", it is required to delete this 3 Send the rest of the data after the character type.

Command string: **FB03205F2AF10D**

FB : "Block output characters" command

03 :prevent 3 Kind of character

20 : The hexadecimal value of the space

5F : The hexadecimal value of "_"

2A : The hexadecimal value of "*"

F1 : "Send all characters" command

0D : The hexadecimal value of the carriage return

Output result: **12345678<CR>**

E4 Replacement character

Command format= E4nnxx$_1$ xx$_2$ yy$_1$ yy$_2$ …Zz$_1$ zz$_2$ (nn : Number of characters replaced + number of characters replaced; xx$_1$: The hexadecimal value of the character to be replaced, xx$_2$: The hexadecimal value of the replacement character, and so on)

Starting from the right side of the current cursor, replace the output characters (up to 15 Characters) without moving the cursor.

E4 Example: Replace zeros in barcode information with carriage returns

12304560780AB

#SETUPE1

Startup settings

When the barcode contains characters not needed by the host application, it can be used E4 The command replaces unnecessary characters with other characters. This example requires replacing zeros in the barcode with carriage returns.

Command string: **E402300DF10D**

E4 : "Replace character" command

02 : Number of characters replaced + number of characters replaced (0 Replace with CR ,total 2 Characters)

30 : " 0 The hexadecimal value of

0D : The hexadecimal value of carriage return (replace with carriage return 0)

F1 : "Send all characters" command

0D : The hexadecimal value of the carriage return

Output result: **123**

456

78

AB<CR>

BA Replace string multiple times

Command format= BAnnNN $_1$ SS $_1$ NN $_2$ SS $_2$ (nn : Number of replacements, nn=00 Means replace all SS $_1$; NN $_1$: The length of the string being replaced; SS $_1$: Replaced

The hexadecimal value of the string; NN $_2$: The length of the new string; SS $_2$: The hexadecimal value of the new string)

Starting from the right side of the current cursor, the replacement process does not move the cursor. The original information is traversed only once, and no repeated search and replacement is performed; the string appears in

NN $_{2>=}$ 0 .

BA Example: Change the barcode information twenty three Replace with XYZ

1234Abc23R0123U

Command string: BA020232330358595AF100

BA : "Replace string multiple times" command

#SETUPE0

Exit settings

02 : Number of replacements

02 : String " twenty three "length

3233 : String " twenty three The hexadecimal value of

03 : String " XYZ "Length (if set to 00 No string is added afterwards)

58595A : String " XYZ The hexadecimal value of

F1 : "Send all characters" command

00 : The hexadecimal value of the null character

Output result: **1XYZ4AbcXYZR0123U**

EF Delay between characters for USB Keyboard communication mode

Command format= EFnnnn (nnnn Indicates that the delay time is 5ms of nnnn Times, expressed in decimal)

Insert a delay between characters, the length of the delay is 5ms Multiples of up to 49995ms . Can be inserted at most 255 Section delay.

EF Example: In the barcode 5 Characters and 7 Insert delay after characters

Command string: F20500EF0200F20200EF0200F100

F2 : "Send a few characters" command

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

00 : NUL Hexadecimal

EF : " Delay " command

0200 : The delay length is 5ms of 200 Times, namely 1s

F2 : "Send a few characters" command

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

00 : NUL Hexadecimal

EF : " Delay " command

0200 : The delay length is 5ms of 200 Times, namely 1s

Output result: **12345{1s Delay} 67{1s Delay} 890ABCDEFGHIJ**

B5 Insert button for USB Keyboard communication mode

Command format: B5nnssxx (nn : The total number of keys inserted (excluding control keys); ss : Control key serial number, which is a hexadecimal number; xx : Indicates the key sequence number, which is a hexadecimal number)

Refer to appendix for button number Keyboard key sequence number middle 104 Key and 105 Key keyboard layout, control key numbers are shown in the table below:

Control key	
No control keys	00
left Shift	01
right Shift	02
left Alt	04
right Alt	08
left Control	10
right Control	20

#SETUPE1

B5 Example: American English 104 Keyboard layout mode, insert at the beginning of the barcode aBc

12345678

Command string characters: B503001F01320030F100

B5 : "Insert button" command

03 ：Number of keys inserted

00 : No control key

1F : " a "Key sequence 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 : Nul Hexadecimal number

Output result: **aBc12345678**

#SETUPE1

Startup settings

Chapter 8 Prefix and Suffix Setting

Introduction

After the scanner is successfully decoded, a string of data is obtained. This string of data can be numbers, English, symbols, etc., for QR codes, it can also be Chinese characters, and this string of data is a barcode Contained data information. In practical applications, we may not only need the data information of the bar code, or the data information contained in the bar code cannot meet your needs. For example, you may want to know which type of barcode the data information is obtained from, or want to know the day when the barcode information was scanned, or you want to After scanning a barcode, the text of the recorded barcode can automatically wrap and enter, and these may not be included in the data information of the barcode.

Adding these contents when making codes will inevitably increase the length of the bar code and is not flexible enough, which is not a recommended practice. At this time, we think of artificially in front of the barcode data inform Or add some content later, and these added content can be changed in real time according to needs, and you can choose to add or block. This is the front of the barcode data information. Suffix, the method of adding suffixes and suffixes meets the needs without modifying the content of the barcode information.

Steps of barcode processing:

1. Data format editing
2. Add suffixes
3. Data packing
4. Add terminator suffix

#SETUPE0

Exit settings

#SETUPE1

Startup settings

Comprehensive settings

All suffixes

If set to " Prohibit " , The decoded information only contains the data information of the barcode without the prefix and suffix.

If set to " Enable " , It will increase before and after decoding the information "CodeID Prefix " , "AIM Prefix " , " Custom prefix " , " Custom suffix " , " End suffix " .

@APSENA0

* * 【Prohibit all prefixes and suffixes】

@APSENA1

[Enable all prefixes and suffixes]

Prefix order

@PRESEQ0

* * 【 Code ID + Custom prefix+ AIM ID 】

@PRESEQ1

[Custom Prefix+ Code ID+AIM ID 】


#SETUPE1

Startup settings

Custom prefix

The custom prefix adds a user-defined string before the decoded information. For example, it is allowed to add a custom prefix and set the prefix to a string "AB" , The reading data is "123" After the barcode, the scanner is "123" Add before the string "AB" String, received by the host "AB123" .


@CPRENA0

* * 【Prohibited】


@CPRENA1

【Enable】

Modify custom prefix

Custom read first " Modify custom prefix " , And then read in order the value of each byte in the prefix string to be set 16 Base value, read last " Save Settings " Complete the custom prefix setting. Note: The total length of the custom prefix string cannot exceed 10 Characters, the character range is 0x00~0xFF .


@CPRSET

【Modify custom prefix】

Example

Set the custom prefix to " CODE "(16 The base value is 0x43/0x4F/0x44/0x45):

1. read " Startup settings "
2. read " Modify custom prefix " code
3. Read the following data code: "4" "3" "4" "F" "4" "4" "4" "5"
4. read " save " code
5. read " Exit settings "

After this setting is completed, as long as the custom prefix is set to " Enable " , Then read any barcode, the scanner will add the custom Suffix string "CODE" .


#SETUPE0

Exit settings

#SETUPE1

AIM ID Prefix

AIM Yes Automatic Identification Manufacturers (Automatic Identification Manufacturers Association) abbreviation, AIM ID The identification codes are defined for various standard bar codes.

The specific definition is shown in the table below. The scanner can add this identification code before the barcode data after decoding, that is AIM Prefix. Prefix format: "]"+AIM Prefix + number "0" ,

Such as Code 128 of AIM ID Prefixed with "]C0" .

@AIDENA0

* * 【Prohibited】

@AIDENA1

【Enable】

User cannot customize AIM ID .

#SETUPE1

Startup settings

Code ID Prefix

apart from AIM The prefix can be used to identify different barcode types, users can also use Code ID Prefix to identify the barcode type. versus AIM The prefix is different, each barcode type corresponds to Code ID The prefix can be customized. All barcodes CodeID for 1 Or 2 Characters, and must be letters, cannot be numbers, invisible characters, or punctuation marks, etc.

@CIDENA0

* * 【Prohibited】

@CIDENA1

【Enable】

default Code ID

@CIDDEF

【reset Code ID Settings]

#SETUPE0

Exit settings

#SETUPE1

modify Code ID

modify Code ID And restore Code ID Please refer to the following example for the factory setting method.

modify PDF417 of CodeID for "P" (16 The base value is 0x70):

1. read " Startup settings "
2. read "PDF417"
3. Read data code "7" , "0" (See appendix-data code)
4. Read "Save" (see appendix-save or cancel)
5. read " Exit settings "

Recovery includes PDF417 Of all barcodes Code ID Is the default value:

1. read " Startup settings "
2. read " reset Code ID Set up "
3. read " Exit settings "

Modify one-dimensional barcode Code ID


@CID002

【 Code 128 】


@CID003

【 GS1-128 (UCC/EAN-128) 】


@CID004

【 EAN-8 】


@CID005

EAN-13


@CID006

【 UPC-E 】


@CID007

【 UPC-A 】

#SETUPE1

@CID013

【 Code 39 】

@CID020

【 AIM 128 】

@CID021

【 ISBT 128 】

@CID023

【 ISSN 】

@CID024

【 ISBN 】

@CID030

【 GS1 Composite 】

Modify the QR code Code ID


@CID032

【 PDF417 】


@CID033

【 QR 】


@CID034

【 Aztec 】


@CID035

【 Data Matrix 】

#SETUPE1

Custom suffix

The custom suffix is to add a user-defined string after decoding the information.

For example, allow adding a custom suffix and set the suffix as a string "AB" , The reading data is "123" After the barcode, the scanner is "123" Add after the string "AB" String, Received by the host "123AB" .

@CSUENA0

* * 【Prohibited】

@CSUENA1

【Enable】

#SETUPE1

Startup settings

Modify custom suffix

Read first " Modify custom suffix " , And then read each byte in the suffix string to be set in sequence 16 Base value, read last " Save Settings " Complete the setting of the custom suffix. Note: The total length of the custom suffix string cannot exceed 10 Characters.

@CSUSET

【Modify custom suffix】

Example

Set the custom suffix to "CODE" (16 The base value is 0x43/0x4F/0x44/0x45):

1. read " Startup settings "
2. read " Modify custom suffix " Set code
3. Read the following data code: "4" "3" "4" "F" "4" "4" "4" "5"
4. read " save " Set code
5. read " Exit settings "

After this setting is completed, as long as the custom suffix is set to " Enable " , Then read any barcode, the scanner will add self Define suffix string "CODE" .

#SETUPE0

Exit settings

Data packing

For some applications, there are high requirements for data integrity, reliability, etc., and the data can be packaged and output, and the content format can be checked and verified. Ensure complete and reliable data transmission.

For data transmission using the packaged format, the software on the host computer is required to parse the packaged format.

* * 【Prohibition of data packing】

[Enable data packing, format 1]

[Enable data packing, format 2]

Startup settings

Packaging format

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

- STX: 0x02
- ATTR: 0x00
- LEN: The length of the DATA data, expressed in two bytes, with the high byte first, and the value range is 0~65535.
- AL_TYPE: 0x36
- DATA: Data information content.
- LRC: check character.

LRC : Check character. LRC Algorithm of check character: 0xFF^LEN^ÂL_TYPE^DATA (^Table˜ shows arithmetic XOR operation), all data is XOR operation in byte unit. which is 0xFF versus LEN XOR the first byte to get a byte of data and then with LEN The second byte of the XOR is performed, and the XOR operation is repeated once until all the data is XORed. The last byte of data obtained is the check character.

The second format is: [STX + ATTR + LEN] + [AL_TYPE] + [Symbology_ID + DATA] + [LRC]

- STX: 0x02
- ATTR: 0x00
- LEN: The length of Symbology ID + DATA data, expressed in two bytes, with the high byte first, and the value range is 0~65535.
- AL_TYPE: 0x3B
- Symbology_ID: barcode serial number, 1 byte (for barcode serial number refer to appendix "Barcode Serial Number Comparison Table")
- DATA: Data information content.
- LRC: check character.

LRC : Check character. LRC Algorithm of check character: 0xFF^LEN^ÂL_TYPE^˜ Symbology_ID^˜ DATA (^Table˜ shows arithmetic exclusive OR operation), all data
XOR operation is performed in byte units. which is 0xFF versus LEN XOR the first byte to get a byte of data and then with LEN The second byte of XOR is performed, and the XOR operation is repeated once until all data is XORed. The last byte of data obtained is the check character.

Exit settings

Startup settings

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 forms of data formatting; terminator suffix one It must be the final content when a piece of data is sent, and there will be no additional data after that.

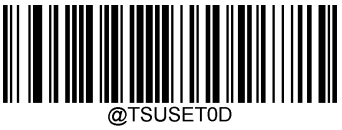
【Prohibited】

* * 【Enable】

Modify the terminator suffix

Read first " Modify the terminator suffix " , And then read each byte in the suffix string to be set in sequence 16 Base value, read last " Save Settings " Complete the setting of the terminator suffix. Note: The total length of the terminator suffix string must not exceed 2 Characters.

【Modify the suffix of terminator】



[Modify the terminator suffix to < CR> (0x0D)】

* *[Modify the terminator suffix to < CR> <LF> (0x0D , 0x0A)】

Startup settings

Chapter 9 Batch Processing Settings

Introduction

When multiple settings are required to read the device, it may be cumbersome to set one by one. At this time, we can save all the information that needs to be set as a barcode information, and the device will read After taking the barcode, multiple settings can be completed.

The following are the guidelines for batch processing:

1 , The format of each command in the batch command is command + parameter.

2 , Commands end with a semicolon, please note that there can be no spaces between each command.

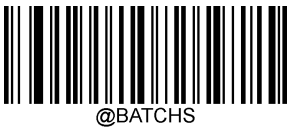
3 , This command can be made into a barcode supported by any scanner in the coding software, and a QR code is recommended.

For example: turn on the lights (command: ILLSCN1), reading code in induction mode (command: SCNMOD2), one reading timeout time 2 second

(command: ORTSET2000), the batch command content is as follows (@ indicates that the command needs to be stored):

@ILLSCN1;SCNMOD2;ORTSET2000;I25ENA0;

Read when you need to set " Start batch setting " , And then read the prepared batch code to complete the setting.



[Start batch setting]

Exit settings

Generate batch instructions

A batch command can contain many individual commands. Each individual command is separated by a semicolon.

Command structure: command (+setting information)

A total of 3 Set command form

1 , Setting syntax 1 :command

The most commands in this form are the setting commands that can be completed in one setting without using data codes.

E.g:

Set the baud rate 38400bps The command is @ 232BAD6

The command to set automatic code reading is @ SCNMOD2

2 , Setting syntax 2 : Command + number

This form of command is used to set the value of some parameters. These parameters include: barcode reading maximum and minimum length setting, one reading timeout setting, same reading delay

Late setting, sensitivity setting, etc.

E.g:

Set the time of one reading delay as 3000 The command in milliseconds is: @ ORTSET3000

3 , Setting syntax 3 : Command + hexadecimal number

This form of command can be used to set custom prefix, custom suffix, terminator suffix, CodeID Wait.

Note: Every two hexadecimal characters in the command represent a character to be set.

E.g:

Set the custom prefix to "J" The command is: @ CPRSET4A

Set up Code128 of CodeID for" j "The command is: @ CID0026A

#SETUPE1

Startup settings

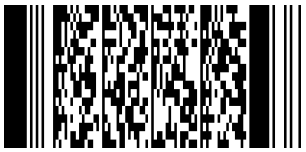
Make batch barcode

Batch barcodes can use any barcode supported and enabled by the scanner. Two-dimensional barcodes are recommended.

For example, you need to set and save: turn on the light, read the code in the induction mode, modify the timeout time of one reading to 2 second. The instructions are:

"@ ILLSCN1;SCNMOD2;ORTSET2000;I25ENA0; ". The production data is "@ ILLSCN1;SCNMOD2;ORTSET2000;I25ENA0 "of

PDF417 The code is as follows:



#SETUPE0

Exit settings

#SETUPE1

Startup settings

Use batch barcode

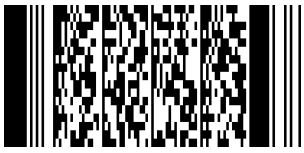
Follow the steps below to read the setup code and batch barcode in sequence:

@SETUPE1

【Startup Settings】

@BATCHS

[Start batch setting]



【Batch Setting Code】

@SETUPE0

【Exit setting】

Data code

Be sure to read after reading the data code " save " To save the data code settings.

0~9

【 0 】

【 1 】

【 2 】

【 3 】

【 4 】

【 5 】

@DIGIT6

【6】

@DIGIT7

【7】

@DIGIT8

【8】

@DIGIT9

【9】

A~F

【A】

【B】

【C】

【D】

【E】

【F】

Save or cancel

After reading the data code, you must read the save code to save the read data. If there is an error when reading the data code, in addition to resetting, you can also cancel the reading Bad data.

For example, read a set code and read the data in sequence "1" , "2" , "3" , If you read " Cancel the previous data read " , The last number read will be cancelled "3" , If read " Cancel a string of data read previously " Will cancel the read data "123" , If read " Cancel current setting " Cancel the setting code together, but the device is still in the startup setting state.

@DIGSAV

【save】

@DIGCAN

【Cancel current setting】

@DIGDEL

【Cancel the previous data read】

@DIGDAL

[Cancel a string of data read before]

Default setting table

parameter name	default setting	Remarks
System settings		
Setting code function	shut down	
Send setting code information	Do not send	
flashlight	Turn on	
Successfully decoded LED light	Turn on	
Successful decoding LED light duration	Short (20 ms)	
Power-on prompt	Turn on	
Successfully decoded sound	Turn on	
Reading mode	Continuous reading mode	
One reading timeout	3000 ms	0-3600000 milliseconds
Image stabilization timeout (sensing mode)	200 ms	1-3000 ms
Reread delay	Turn on	
Reread delay time	1000 milliseconds	1-3600000 milliseconds
Reread timeout reset	Turn on	
Decoding timeout	500 ms	1-3000 ms
Sensitivity	Enhanced (5)	
Serial trigger command	Prohibit	
Literacy Preference	Barcode payment mode	
Prohibit/Allow Code Reading	Allow reading	
Decoding center area	Whole area decoding	
Image flip	Normal image	
Send the unsuccessful reading message	Prohibit	
Modify the unread code success message	NG	
Communication Interface	USB CDC serial port	
RS-232 communication settings		
Baud rate	9600	
Parity check	No verification	
Data bit transmission	8-bit	
Stop bit	1 person	
USB communication settings		
National keyboard layout	American English	USB keyboard
Unknown character tone	shut down	USB keyboard
Keyboard emulation input characters	shut down	USB keyboard

Code Page	Code Page 1252 (Latin, Western Europe)	USB keyboard
Unicode output	shut down	USB keyboard
Leading "0"	shut down	USB keyboard
Control character output	shut down	USB keyboard
Key delay	No delay	USB keyboard
Case lock setting	Close (non-Japanese keyboard)	USB keyboard
Case conversion	No conversion	USB keyboard
Analog numeric keypad		USB keyboard
Numerical characters use numeric keypad	shut down	USB keyboard
Characters'+','-','*','/' use numeric keypad	shut down	USB keyboard
Fast mode	shut down	USB keyboard
Polling speed	4 ms	USB keyboard
Barcode parameter setting		
Code 128		
Enable/disable reading	Enable	
The maximum length	127	
Minimum length	1	
EAN-8		
Enable/disable reading	Prohibit	
Send check character	Send	
2-digit extension code	Do not read 2-digit extension code	
5-digit extension code	Cannot read 5-digit extension code	
Convert to EAN-13	No conversion	
EAN-13		
Enable/disable reading	Prohibit	
Send check character	Send	
2-digit extension code	Do not read 2-digit extension code	
5-digit extension code	Cannot read 5-digit extension code	
UPC-E		
Enable/disable reading	Prohibit	
UPC-E0	Do not read UPC-E0	
UPC-E1	Do not read UPC-E1	
Send check character	Send	
2-digit extension code	Do not read 2-digit extension code	
5-digit extension code	Cannot read 5-digit extension code	
Transmit leading characters	Transmission system characters	

Convert to UPC-A	Does not convert to UPC-A	
UPC-A		
Enable/disable reading	Prohibit	
Send check character	Send	
2-digit extension code	Do not read 2-digit extension code	
5-digit extension code	Cannot read 5-digit extension code	
Transmit leading characters	Transmission system characters	
Coupon		
UPC-A/EAN-13 with Coupon extension code Coupon	shut down	
GS1 DataBar output	shut down	
Code 39		
Enable/disable reading	Prohibit	
The maximum length	127	
Minimum length	1	
check	Prohibit	
Start and stop	Don't send	
Full ASCII	Enable	
Code 32 Pharmaceutical (PARAF) Code32	Prohibit	
prefix	Prohibit	
Code32 start character and stop character	Don't send	
Code32 check character	Don't send	
UCC/EAN-128		
Enable/disable reading	Prohibit	
The maximum length	127	
Minimum length	1	
EAN•UCC Composite		
Enable/disable reading	Prohibit	
UPC/EAN version	Prohibit	
ISBN		
Enable/disable reading	Prohibit	
ISBN format	ISBN-13	
ISSN		
Enable/disable reading	Prohibit	
AIM 128		
Enable/disable reading	Prohibit	
The maximum length	127	

Minimum length	1	
ISBT 128		
Enable/disable reading	Prohibit	
PDF417		
Enable/disable reading	Prohibit	
The maximum length	2710	
Minimum length	1	
PDF417 double code	Only read a single PDF417 code	
PDF417 invert	Only recognize normal barcodes	
Character encoding	default	
ECI output	Enable	
QR Code		
Enable/disable reading	Enable	
The maximum length	7089	
Minimum length	1	
QR code	Only read a single QR code	
QR reverse	Only recognize normal barcodes	
Character encoding	default	
ECI output	Enable	
Aztec		
Enable/disable reading	Prohibit	
The maximum length	3832	
Minimum length	1	
Multi-code same image processing settings	Read-only single code	
Character encoding	default	
ECI output	Enable	
Data Matrix		
Enable/disable reading	Prohibit	
The maximum length	3116	
Minimum length	1	
Data Matrix double code	Only read a single Data Matrix code	
Rectangular code	enable	
Data Matrix Invert	Recognize only normal barcodes	
Character encoding	default	
ECI output	Enable	
Data format editing		

Turn on/off data format	Prohibit	
Choose data format	Data format 0	
Data format mismatch error sound	Turn on	
Suffix setting		
All suffixes	Prohibit	
Prefix order	Code ID+custom prefix+AIM ID	
Custom prefix	Prohibit	
AIM ID prefix	Prohibit	
Code ID prefix	Prohibit	
Custom suffix	Prohibit	
Data packing	Prohibit data packing	
End suffix	On, default: carriage return and line feed	

AIM ID List

Barcode type	AIM ID	Possible AIM ID qualification parameters (m)
Code128	]C0	
GS1-128 (UCC/EAN-128)	]C1	
EAN-8	]E4	
EAN-8 with Addon	]E3	
EAN-13	]E0	
EAN-13 with Addon	]E3	
UPC-E	]E0	
UPC-E with Addon	]E3	
UPC-A	]E0	
UPC-A with Addon	]E3	
Code 39	]Am	0 , 1 , 3 , 4 , 5 , 7
AIM 128	]C2	
ISBT 128	]C4	
ISSN	]X0	
ISBN	]X0	
GS1 Composite	]em	0-3
PDF417	]Lm	0-2
QR Code	]Qm	0-6
Aztec	]zm	0-9 , AC
Data Matrix	]dm	0-6

Reference materials: ISO/IEC 15424 : 2008 information Technology - Automatic identification and data acquisition technology - Data carrier identifier (including symbolic identifier)

Code ID List

Barcode type	Code ID
Code128	j
GS1-128 (UCC/EAN-128)	j
EAN-8	d
EAN-13	d
UPC-E	c
UPC-A	c
Code 39	b
AIM 128	x
ISBT 128	x
ISSN	g
ISBN	B
GS1 Composite	y
PDF417	r
QR Code	s
Aztec	z
Data Matrix	u

Barcode serial number comparison table

Barcode type	Serial number
Code 128	002
GS1-128 (UCC/EAN-128)	003
EAN-8	004
EAN-13	005
UPC-E	006
UPC-A	007
Code 39	013
AIM 128	020
ISBT 128	021
ISSN	023
ISBN	024
GS1 Composite	030
PDF417	032
QR Code	033
Aztec	034
Data Matrix	035

ASCII Stopwatch

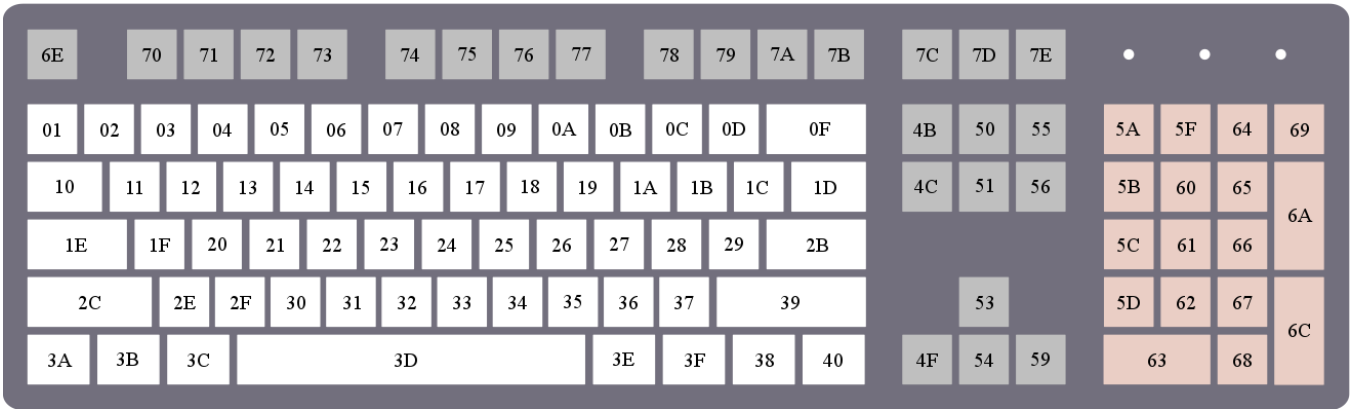
Hexadecimal	Decimal	character
00	0	NUL (Null char.)
01	1	SOH (Start of Header)
02	2	STX (Start of Text)
03	3	ETX (End of Text)
04	4	EOT (End of Transmission)
05	5	ENQ (Enquiry)
06	6	ACK (Acknowledgment)
07	7	BEL (Bell)
08	8	BS (Backspace)
09	9	HT (Horizontal Tab)
0a	10	LF (Line Feed)
0b	11	VT (Vertical Tab)
0c	12	FF (Form Feed)
0d	13	CR (Carriage Return)
0e	14	SO (Shift Out)
0f	15	SI (Shift In)
10	16	DLE (Data Link Escape)
11	17	DC1 (XON) (Device Control 1) (Device
12	18	DC2 Control 2)
13	19	DC3 (XOFF) (Device Control 3) (Device
14	20	DC4 Control 4)
15	twenty one	NAK (Negative Acknowledgment)
16	twenty two	SYN (Synchronous Idle)
17	twenty three	ETB (End of Trans. Block) (Cancel)
18	twenty four	CAN
19	25	EM (End of Medium)
1a	26	SUB (Substitute)
1b	27	ESC (Escape)
1c	28	FS (File Separator)
1d	29	GS (Group Separator)
1e	30	RS (Request to Send)
1f	31	US (Unit Separator)
20	32	SP (Space)

twenty one	33	! (Exclamation Mark)
twenty two	34	" (Double Quote)
twenty three	35	# (Number Sign)
twenty four	36	$ (Dollar Sign)
25	37	% (Percent)
26	38	& (Ampersand)
27	39	` (Single Quote)
28	40	((Right / Closing Parenthesis) (Right /
29	41	) Closing Parenthesis) (Asterisk)
2a	42	*
2b	43	+ (Plus)
2c	44	, (Comma)
2d	45	- (Minus / Dash)
2e	46	. (Dot)
2f	47	/ (Forward Slash)
30	48	0
31	49	1
32	50	2
33	51	3
34	52	4
35	53	5
36	54	6
37	55	7
38	56	8
39	57	9
3a	58	: (Colon)
3b	59	; (Semi-colon)
3c	60	< (Less Than)
3d	61	= (Equal Sign)
3e	62	> (Greater Than)
3f	63	? (Question Mark)
40	64	@ (AT Symbol)
41	65	A
42	66	B
43	67	C
44	68	D

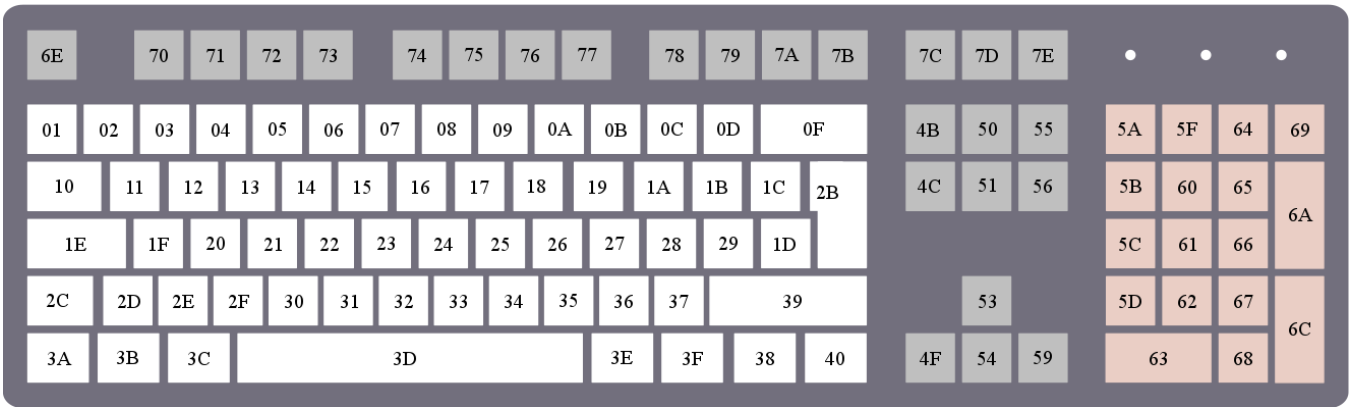
45	69	E
46	70	F
47	71	G
48	72	H
49	73	I
4a	74	J
4b	75	K
4c	76	L
4d	77	M
4e	78	N
4f	79	O
50	80	P
51	81	Q
52	82	R
53	83	S
54	84	T
55	85	U
56	86	V
57	87	W
58	88	X
59	89	Y
5a	90	Z
5b	91	[(Left / Opening Bracket) (Back
5c	92	\ Slash)
5d	93	] (Right / Closing Bracket) (Caret /
5e	94	^ Circumflex)
5f	95	_ (Underscore)
60	96	' (Grave Accent)
61	97	a
62	98	b
63	99	c
64	100	d
65	101	e
66	102	f
67	103	g
68	104	h

69	105	i
6a	106	j
6b	107	k
6c	108	l
6d	109	m
6e	110	n
6f	111	o
70	112	p
71	113	q
72	114	r
73	115	s
74	116	t
75	117	u
76	118	v
77	119	w
78	120	x
79	121	y
7a	122	z
7b	123	{ (Left/ Opening Brace)
7c	124	| (Vertical Bar)
7d	125	} (Right/Closing Brace)
7e	126	~ (Tilde)
7f	127	DEL (Delete)

Keyboard key sequence number



104 American keyboard



105 Key European keyboard