**EP8280L Scanner**

**User Manual**



V1.1.1

**Bout This User Guide**

Please read all the content of the user guide carefully to use the products safely and effectively. You are advised of keeping it properly for your using reference.

**Disclaimer**

Please do not dismantle the product or tear up the seal on it, otherwise we won’t provide warranty or replacement service.

The pictures in this user guide are for reference only. If there are any pictures which not match the actual product, please take actual products as the standard. Updated information is subject to change without notice.

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**Service Information**

For technical assistant or product service and repair, please contact us.

**Revision**

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# **Preview**

**Introduction**

This manual mainly provides users with detailed information on how to use the EP80280L fixed scanner and related precautions.。

**Chapter Guideline**

|  |  |
| --- | --- |
| 《Chapter1 About EP8280L》 |  |
| 《Chapter 2 System Setting》 | Introduces configuration methods and describes how to configure general parameters of EP8280L scanner. |
| 《Chapter3 Scan Mode》 | Lists all supported scan mode and describes how to configure the relevant parameters. |
| 《Chapter 4 Communication Interface》 | Describe how to configure communication interfaces. |
| 《Chapter 5 Data Edit》 | Explain how to customize scanned data. |
| 《Chapter 6 Symbologies》 | Lists all compatible symbologies and describes how to configure the relevant parameters. |
| 《Appendix》 | Provides factory defaults table and a bunch of frequently used programming barcodes |

# **Chapter 1 About EP8280L**

**Introduction**

The EP8280L scanner reads a 1D or 2D barcode by capturing its image. Adopting the advanced technology and 2d image embedding application barcode engine, it begins a new era of 2d image embedding application barcode engine.

The scanner can read kinds of mainstream 1D barcodes, standard 2D barcodes.( all versions of PDF417,QR Code M1/M2/Micro and Data Matrix) and GS1-DataBarTM (RSS) barcodes, including Limited, Stacked, Expanded and so on. The scanner can read barcodes in papers, plastic cards, LCD and other kinds of mediums of printing and displaying. It has great performance. All-in-one design is extremely light and only needs small operation space It can be embedded in varieties of application.

## **Main Features**

\* High Scanning performance of scanning 1D and 2D codes.

\* Supports rich interfaces: USB-HID, USB-CDC, TTL, RS-232.

\* Easy second development and installation.

\* Compact Design

## **Unpacking**

Remove the material from its packing and inspect for damage. If the material was damaged in transit, contact vendor support.

**Start-up, Shutdown and Restart**

Start-up：Connect host computer with scanner, which will automatically start-up and in working state.

Shutdown：Remove the data cable which is connected with scanner; remove the USB which is connected with host computer; remove the power adapter which is inserted into RS-232 serial port.

Restart：If the scanner crashes or doesn't respond, please switch it off and restart

## **Maintenance**

\* The window must be kept clean, the supplier do not bear the guarantee responsibility due to the improper maintenance.

\* Avoid the window being wear and tear or scratched by hard object

\* Use the hairbrush to remove the stain on the window

\* Clean the window with a soft cloth, such as lens cleaning cloth

\* Spraying liquid onto the window is prohibited.

\* Prohibit any cleaning solvents, except for the cleaning water.

## **Symbologies Chart**

|  |  |  |  |
| --- | --- | --- | --- |
| **Symbology Type** | **Type** | **Support** | **On default** |
| 1D | Codabar | √ | × |
| Code 11 | √ | × |
| Code 128 | √ | √ |
| Code 32 | √ | × |
| Code 39 | √ | √ |
| Code 93 | √ | √ |
| EAN-8 | √ | √ |
| EAN-13 | √ | √ |
| ISBN | √ | √ |
| ISSN | √ | √ |
| GS1 DataBar | √ | × |
| GS1 DataBar Limited | √ | × |
| GS1 DataBar Expanded | √ | × |
| GS1 DataBar Stacked | √ | × |
| Interleaved 2 of 5 | √ | × |
| Industrial 2 of 5 | √ | × |
| Matrix 2 of 5 | √ | × |
| MSI Plessey | √ | × |
| UPC-A | √ | √ |
| UPC-E0 | √ | √ |
| UPC-E1 | √ | × |
| 2D | Aztec Code | √ | × |
| Data Matrix Code | √ | × |
| PDF417 | √ | × |
| Micro PDF417 | √ | × |
| QR Code | √ | √ |
| Micro QR Code | √ | √ |

# Chapter 2 System Setting

## **Introduction**

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

**Programming Barcodes**

|  |
| --- |
| 01010001_启动设置  Enter Setup(default)  1  2 |
| The figure above is an example that shows you you programming barcodes for the Enter Setup function：   1. The programming barcode. 2. The description of feature/option. |

**Use of programming barcode**

|  |  |
| --- | --- |
| 01010001_启动设置  Enter Setup（default） |  |
|  | 01010000_退出设置  Exit Setup |

**Restore Factory Default**

|  |  |
| --- | --- |
| 020100_恢复出厂设置  Restore Factory Default |  |
|  | 020100_恢复出厂设置_反色  Restore Inverse Barcode Setting |

**Read Firmware Version**

|  |  |
| --- | --- |
| 030100_读取版本号  Read Firmware Version |  |

**User Preference**

|  |  |
| --- | --- |
| 040100_保存用户默认设置  Save as user’s default |  |
|  | 040200_恢复用户默认设置  Restore to user default |

**Beeper**

### **Beeper Volume**

For startup beep, setting beep, good read beep, error warming beep.

he default value is 40%，setup range is ：1~100。

|  |  |  |
| --- | --- | --- |
| 05010828_蜂鸣器音量 音量高  High(40)(default) | |  |
|  | | 05010814_蜂鸣器音量 音量中  Medium (20) |
| 0501080A_蜂鸣器音量 音量低  Low (10) | |  |
|  | | 050108_自定义蜂鸣器音量  Set user specified volume |
| **Example** | Set user specified volume to 10%（default：40%）：   1. Scan **Set user specified volume** barcode 2. Scan digital barcodes **“1”“0”** from appendix 1. 3. Scan **Save** barcode from appendix 1 | |

### **Setup Beep**

|  |  |
| --- | --- |
| 05020101_条码设置成功提示音-打开  On(default) |  |
|  | 05020100_条码设置成功提示音-关闭  Off |

**Command setup beep**

|  |  |
| --- | --- |
| 05020201_指令设置成功提示音-打开  On |  |
|  | 05020200_指令设置成功提示音-关闭  Off(default) |

### Power up Beep

|  |  |
| --- | --- |
| 05030001_开机提示音-打开  On(default) |  |
|  | 05030000_开机提示音-关闭  Off |

### Good Read Beep

**On/Off**

|  |  |
| --- | --- |
| 05040101_解码成功提示音-打开  On(default) |  |
|  | 05040100_解码成功提示音-关闭  Off |

**Good Read Beep Duration**

This parameter is programmable in ms, the default value is 80ms. Setup range:1~200。

|  |  |  |
| --- | --- | --- |
| 05040328_解码成功提示音时长-时间短  Short(40ms) | |  |
|  | | 05040350_解码成功提示音时长-时间长  Long(80ms)(default) |
| 050403_自定义解码成功提示音时长  Set user-specified good read beep duration | |  |
| **Example** | Set user-specified good read beep duration to 50ms：   1. San **Set user-specified good read beep duration** barcode. 2. Scan digital barcodes **“5”“0”** from appendix 1. 3. Scan **Save** barcode from appendix 1. | |

### Error/Warming Beep

|  |  |
| --- | --- |
| 05050101_警告提示音-打开  On (default) |  |
|  | 05050100_警告提示音-关闭  Off |

**Illumination LED**

|  |  |
| --- | --- |
| 06000002_照明灯-普通  Normal(default) |  |
|  | 06000001_照明灯-常开  Always On |
| 06000000_照明灯-常关  Always Off |  |

**Indicator LED**

|  |  |
| --- | --- |
| 08010001_指示灯-打开  On (default) |  |
|  | 08010000_指示灯-关闭  Off |

### Indicator LED Level Setting

|  |  |
| --- | --- |
| 08020001_指示灯电平设置-高电平  High Level |  |
|  | 08020000_指示灯电平设置-低电平  Low Level (default) |

**Sleep Mode**

### On/off

|  |  |
| --- | --- |
| 09010000_休眠模式开关-关闭  Off (default)(default) |  |
|  | 09010001_休眠模式开关-开启  On |

### Scanner timeout timer

When there is no activity in a specified time period , the scanner enters low power mode. This setting only valid under level trigger mode or command scan mode. The scanner will not go into low power mode under auto-sensing mode and continuous scan mode.

This parameter is programmable in second and the default value is 5 s. Setup range is: 1~3600.

|  |  |  |
| --- | --- | --- |
| 09020001_休眠时间设置-1S  1s(default) | |  |
|  | | 09020005_休眠时间设置-5S  5s |
| 0900020A_休眠时间设置-10  10s | |  |
|  | | 090300_立即休眠  0 s  （scanner enters low power mode now） |
| 090200_自定义休眠时间设置  Set user specified timeout | |  |
| **Example** | 50ms Set user specified timeout timer to 50ms：   1. Scan **Set user specified timeout** barcode 2. Scan digital barcode：**“5”“0”** from appendix 1 3. Scan **Save** barcode. | |

**Chapter 2 Scan Mode**

## Scan Mode Selection

### Auto-sensing Mode **(default)**

The scanner waits for the image stabilization timeout to expire before activating a decode session everytime when the IR sensor detects a object.. **Reread Delay** can avoid undesired rereading of same barcode in a given period of time

|  |  |
| --- | --- |
| 0A010000_感应触发模式  Auto-sensing Mode(default) |  |

**Note：The Illumination LED must be normal mode under auto-sensing mode.**

### **Level Trigger Mode**

Only programmable via serial command. Please refer to serial program manual.

**Continuous Scan Mode**

|  |  |
| --- | --- |
| 0A010002_连续模式  Continuous Scan Mode |  |

**Command Mode**

The scanner can be set up as command mode only when its interface is RS-232, RS48,USB-CDC or HID POS.

|  |  |
| --- | --- |
| **Tips** | In the command mode, it is not allowed to change the communication interface. If you need to change it, please switch to other reading modes first. |

**Decode Session Timeout**

This only valid with Auto-sensing mode, level trigger mode and command scan mode.

This parameter is programming in 0.1 second and the default value is 30(3 second)

Setup Rnage：30~999。

|  |  |
| --- | --- |
| 0A0300001E_识读持续时间(3s)  3s(default) |  |
|  | 0A03000046识读持续时间(7s)  7s |
| 0A03000064_识读持续时间(10s)  10s |  |
|  | 0A0300_自定义识读持续时间  Set user-specified decode session timeout |

**Reread Delay**

This parameter set the time period before the scanner can read the same barcode a second time. Setting a reread delay protects against accidental rereads of the same barcode.

Reread delay only works when it’s in auto-sensing mode or continuous scan mode.

This parameter is programmable in 1ms and default value is 500ms.

When it’s set to 0ms, there’s no reread delay.

Setup range：0~65535ms.

|  |  |  |
| --- | --- | --- |
| 0A05000000_重码间隔时间（0ms）  0ms | |  |
|  | | 0A050001F4_重码间隔时间（500ms）  500ms(default) |
| 0A050003E8_重码间隔时间（1s）  1s | |  |
|  | | 0A0500_自定义重码间隔时间  Set user-specified reread delay |
| **Example** | Set user-specified reread delay to 1000ms：   1. Scan **Set user-specified reread delay** barcode. 2. Scan digital barcodes：**“1”“0”“0”“0”** from appendix 1. 3. Scan **Save** barcode in appendix 1. | |

**Bad Read Message**

On ：The scanner will send a bad read message when a good read does not occur before trigger release or decode session timeout.

Off (default)：The scanner will not send a bad read message.

User can set user-specified bad read message which contain up to 7 characters.

The default setting is “NG”.

|  |  |
| --- | --- |
| 0A060101_传输解码失败信息  On |  |
|  | 0A060100_不传输解码失败信息  Off (default)(default) |
| 0A0602_自定义解码失败信息  Set user-specified bad read message |  |

# 

# **Chapter 4 Communication Interface**

## Introduction

This chapter describes how to program your system for the desired interface.

### USB Keyboard(default)

The scanner’s transmission is simulated as USB keyboard input with no need for command configuration or a driver. Barcode data could be entered by the virtual keyboard directly and it is also convenient for the host device to receive data.

|  |  |
| --- | --- |
| 0B000001_通讯接口（USB键盘）  USB Keyboard (default) |  |

### USB CDC

It is compliant with the standard USB CDC class specifications defined by the USB-IF and allows the host device to receive data in the way as a serial port does. A driver is needed when using this feature.

|  |  |
| --- | --- |
| 0B000002_通讯接口（USB-CDC）  USB CDC |  |

### 

### RS-232

The RS-232 interface barcode is used when connecting to the serial port of a PC or terminal.However, you need to set communication parameters (including baud rate, parity check, data bit and stop bit) on the scanner to match the host device so that two devices can communicate with each other.

|  |  |
| --- | --- |
| 0B000004_通讯接口（RS-232）  RS-232 |  |

## USB Keyboard

### USB Countries Keyboard

|  |  |
| --- | --- |
| 0C010000_键盘-英语(美国)  United Stats (default) |  |
|  | 0C010009_键盘-英语(英国）  United Kingdom |
| 0C010001_键盘-意大利语(意大利)  Italian(Italy) |  |
|  | 0C010002_键盘-西班牙语(巴西)  Spanish(Brazil) |
| 0C01000C_键盘-西班牙语(西班牙）  Spanish(Spain) |  |
|  | 0C010003_键盘-葡萄牙语(葡萄牙)  Portuguese(Portugal) |
| 0C010004_键盘-葡萄牙语(巴西)  Portuguese(Brazil) |  |
|  | 0C010005_键盘-法语(法国)  French(France) |
| 0C01000D_键盘-法语(比利时）  French(Belgium) |  |
|  | 0C010006_键盘-德语(奥地利)  German(Austria) |
| 0C01000B_键盘-德语(瑞士)  German(Switzerland) |  |
|  | 0C010007_键盘-土耳其语Q  Turkish Q |
| 0C010008_键盘-土耳其语F  Turkish F |  |
|  | 0C01000A_键盘-日语(日本)  Japan |

### USB Keyboard Transmission Speed

If there is missed data on the receiving end, the sending speed should be turned down.

This parameter is programmable in ms. The default value is 5ms, ：0ms~200ms。

|  |  |
| --- | --- |
| 0C020005_键盘-发送速度（5ms）  5ms(default) |  |
|  | 0C02000A_键盘-发送速度（10ms）  10ms |
| 0C020014_键盘-发送速度（20ms）  20ms |  |
|  | 0C020_自定义键盘-发送速度  Set user-specified USB Keyboard Transmission Speed |

### Polling Speed

This parameter specifies the polling rate for a USB keyboard. If the Host drops characters, change the polling rate to a bigger value. This parameter is programmable in ms, the default value is 5ms, setup range is from 1~255ms.

|  |  |
| --- | --- |
| 0C050001_键盘-轮询速度（1ms）  1ms |  |
|  | 0C050005_键盘-轮询速度（5ms）  5ms(default) |
| 0C05000A_键盘-轮询速度（10ms）  10ms |  |
|  | 0C0500_自定义键盘-轮询速度  Set User-Specified Polling Speed |

### Keypad

#### Numeric characters output through Keypad

|  |  |
| --- | --- |
| 0C060100_数字字符采用数字小键盘-关闭  Off (default)(default) |  |
|  | 0C060101_数字字符采用数字小键盘-开启  On |

#### “+”“-”“\*”“/” characters output through keypad

|  |  |
| --- | --- |
| 0C060200_字符采用数字小键盘-关闭  Off (default)(default) |  |
|  | 0C060201_字符采用数字小键盘-开启  On |

### Control Character

This selection sends a test string instead of a control character. For example, when the control character for a carriage return is expected, the outputwould idsplay [CR] instead of the ASCII code of 0D. Refer to ASCII Conversion Chart (Appendix)

|  |  |
| --- | --- |
| 0C030000_控制字符-关闭  Off (default)(default) |  |
|  | 0C030001_控制字符-CTL_ASCII  Control + ASCII Mode |
| 0C030002_控制字符-ALT  Alt + Keypad Mode |  |

### Control Character GS Replace

|  |  |
| --- | --- |
| 0C070000_GS字符不替换  No replace(default) |  |
|  | 0C070001_GS字符替换成Ç  Replace with Ç |
| 0C070002_GS字符替换成竖线  Replace with | |  |
|  | 0C070003_GS字符替换成^]  Replace with ^] |
| 0C070004_GS字符替换成]  Replace with ] |  |
|  | 0C070005_GS字符替换成＜GS＞  Replace with <GS> |
| 0C070006_GS字符替换成（GS）  Replace with (GS) |  |

### CapsLock

|  |  |  |
| --- | --- | --- |
| 0C090001_CapsLock锁定开启  On | |  |
|  | | 0C090000_CapsLock锁定关闭  Off (default)(default) |
| **ATT** | This parameter has no effect for Linux Chinese mode. | |

## USB Keyboard Output Mode

### Code Page

|  |  |
| --- | --- |
| 0C040100_Code Page选择Code Page 1252（拉丁，西欧）  Code Page 1252（Latin, Western Europe） |  |
|  | 0C040101_Code Page选择Code Page 936（简体中文，GB2312，GBK）  Code Page 936（GB2312，GBK）(default) |

### Input Encoding Format

Select the encoding format of the input barcode for PDF417, QR Code, Data Matrix, etc.

|  |  |
| --- | --- |
| 0C040200_输入编码选择Code Page  Code Page(default) |  |
|  | 0C040201_输入编码选择UTF-8编码  UTF-8 |

### Output Environment

|  |  |
| --- | --- |
| 0C040300_输出环境选择windows系统(Txt或Excel)  windows(Txt/Excel)(default) |  |
|  | 0C040301_输出环境选择windows系统(Word)  windows(Word) |
| 0C040302_输出环境选择Linux系统(Txt或Excel或Word)  Linux(Txt/Excel/Word) |  |

**RS-232 Interface**

### Baud Rate

Baud rate is the number of bits of data transmitted per second. Set the baud rate to match the host requirements. The default value is 9600.

|  |  |
| --- | --- |
| 0D010000_波特率1200  Baud Rate 1200 |  |
|  | 0D010001_波特率4800  Baud Rate 4800 |
| 0D010002_波特率9600  Baud Rate 9600(default) |  |
|  | 0D010003_波特率14400  Baud Rate 14400 |
| 0D010004_波特率19200  Baud Rate 19200 |  |
|  | 0D010005_波特率38400  Baud Rate 38400 |
| 0D010006_波特率57600  Baud Rate 57600 |  |
|  | 0D010007_波特率115200  Baud Rate 115200 |

### Stop Bits

|  |  |
| --- | --- |
| 0D030001_停止位1  1 Stop Bit (default) |  |
|  | 0D030002_停止位2  2 Stop Bits |

### Parity Check

|  |  |
| --- | --- |
| 0D040000_串口-不校验  None Parity(default) |  |
|  | 0D040001_串口-奇校验  Odd Parity |
| 0D040002_串口-偶校验  Even Parity |  |

# **Chapter 5 Data Edit**

## Prefix/Suffix Sequence

|  |  |
| --- | --- |
| 10010000_前后缀输出顺序-Code ID+前缀+AIM ID+数据+后缀+结束符  Code ID+Prefix+AIM ID+Barcode Data+Suffix+Terminator(default) |  |
|  | 10010001_前后缀输出顺序-前缀+Code ID+AIM ID+数据+后缀+结束符  Prefix+Code ID+AIM ID+Barcode Data+Suffix+Terminator |

## Prefix

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

|  |  |
| --- | --- |
| 11010001_自定义前缀-打开  On |  |
|  | 11010000_自定义前缀-关闭  Off (default) |

|  |  |  |
| --- | --- | --- |
| 110200_修改自定义前缀  Set Prefix | |  |
| **Example** | Set prefix to ‘a’(Hex: 0x61）   1. Scan **Set Prefix** barcode. 2. Scan digital barcodes “6”“1” from appendix 1 3. Scan **Save** barcode from appendix 1 | |

## Suffix

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

|  |  |  |
| --- | --- | --- |
| 12010001_自定义后缀-打开  On | |  |
|  | | 12010000_自定义后缀-关闭  Off (default)(default) |
| 120200_修改自定义后缀  Set Suffix | |  |
| **Example** | Set suffix to ‘a’(Hex: 0x61）   1. Scan **Set Suffix** barcode. 2. Scan digital barcodes “6”“1” from appendix 1 3. Scan **Save** barcode from appendix 1 | |

## Code ID

Code ID can also be used to identify barcode type. Unlike AIM ID, Code ID is user programmable. Code ID can only consist of one English letter

|  |  |  |
| --- | --- | --- |
| 13010100_CODE ID输出-关闭 CODE ID  Off (default) (default) | |  |
|  | | 13010101_CODE ID输出-打开 CODE ID  On |
| 130102_自定义 CODE ID  Set user-specified Code ID | |  |
|  | | 130103_恢复默认CODE ID  Restore Code ID Setting |
| **Example** | Set Codabar（Code ID: 0x42） Code ID to “Y”（Hex: 0x59）：   1. Scan **Set user-specified code ID** barcode. 2. Scan **Set Codabar Code ID** barcode from appendix 6 3. Scan digit barcodes “5”“9” from appendix 1 4. Scan Save barcode from appendix 1 | |

## Terminator Character Suffix

A terminating character such as carriage return (CR) or carriage return/line feed pair (CRLF) can only be used to mark the end of data, which means nothing can be added after it

|  |  |
| --- | --- |
| 14000000_结束符为回车（Enter）  （Enter）(default) |  |
|  | 14000001_结束符为换行（Down）  （Down） |
| 14000002_结束符为回车换行（Enter+Down）  （Enter+Down） |  |
|  | 14000003_结束符为制表符  (Tab) |
| 14000004_结束符为 ETX  ETX（End） |  |
|  | 14000005_无结束符  No Terminator Character Suffix |

**Convert Case**

|  |  |
| --- | --- |
| 15000000_大小写输出-正常输出  Normal(default) |  |
|  | 15000001_大小写输出-大小写反转  Convert Case |
| 15000002_大小写输出-全部大写  Convert all to uppercase |  |
|  | 15000003_大小写输出-全部小写  Convert all to lowercase |

## **Data Edit**

Data output selection

**Transmit Original data (default)**: The barcode data will not be modified.

**Transmit Start-Field** : Only transmit the start-Field data and the length will be set up by **Set Length for Start Field** barcode. If the set length is greater than the length of the read character string, the original data will be transmitted. For example: if the string “1234567890” is read and the length is set to 3, the final output data is “123”.

**Transmit Middle Field**: Only transmit the Middle Field and the length will be set up by **Set length for Start Field** barcode and **Set Length for End Field** barcode. If the sum of the two length values is greater than the length of the read character string, the output is empty. For example: if the character string "1234567890" is read, and the start/end field lengths are set to 3 and 4 respectively, the final output data is "456".

**Transmit End Filed**: Only transmit the End-Field data and the length will be set up by **Set Length for End Field** barcode.. If the set length is greater than the length of the read character string, the original data will be output. For example: if the character string "1234567890" is read and the length is set to 3, the final output data is "890".

**Transmit Start Field and end Field**: The transmitted data is limited according to the data of **"Set Length for Start-Filed"** and **"Set Length for End-Field"**. If the sum of the two length values is greater than the length of the read character string, the original data will be transmitted. For example: if the character string "1234567890" is read, and the start/end field lengths are set to 3 and 4 respectively, the final transmitted data is "1237890".

|  |  |
| --- | --- |
| 16010000_数据编辑选择-原始数据输出  Original Data (default) |  |
|  | 16010001_数据编辑选择-前段数据输出  Transmit Start-Field Data |
| 16010002_数据编辑选择-中间数据输出  Transmit Middle Field Data |  |
|  | 16010003_数据编辑选择-后段数据输出  Transmit End Filed Data |
| 16010004_数据编辑选择-起始和结束数据输出  Transmit Start Field and End Filed Data |  |

### Set Length Range for Start Filed Data

默认值为1，需配合附录1设置长度，设置范围1~最大值512。

|  |  |  |
| --- | --- | --- |
| 160200_前段数据长度设置  Set Length Range for Start Field | |  |
| **Example** | **Example: Set Start Field Length as 12**   1. Scan **Set Length Range for Start Field** barcode. 2. Scan numeric barcode “1””2” from the Digital Barcodes section in Appendix 1. 3. Scan **Save** barcode in Appendix 1. | |

### Set Length Range for End Filed Data

|  |  |
| --- | --- |
| 160300_后段数据长度设置  Set Length Range for End Field |  |

# 

# **Chapter 6 Symbologies**

**Introduction**

Every symbology (barcode type) has its own unique attributes. This chapter provides programming barcodes for configuring the scanner so that it can identify various symbologies. It is recommended to disable those that are rarely used to increase

the efficiency of the scanner.

**Enable/Disable All Symbologies**

|  |  |
| --- | --- |
| 64000000_关闭所有条码  Disable All Symbologies |  |
|  | 64000001_开启所有条码  Enable All Symbologies |
| 64000002_恢复默认条码  Restore |  |

**Enable/Disable All 1D Symbologies**

|  |  |
| --- | --- |
| 65000001_开启所有一维条码  Enable All 1D Symbologies |  |
|  | 65000000_关闭所有一维条码  Disable All 1D Symbologies |
| 65000002_恢复默认一维条码  Restore 1D Symbologies |  |

**Enable/Disable All 2D Symbologies**

|  |  |
| --- | --- |
| 66000000_关闭所有二维条码  Enable All 2D Symbologies |  |
|  | 66000001_开启所有二维条码  Disable All 2D Symbologies |
| 66000002_恢复默认二维条码  Restore 2D Symbologies |  |

**Inverse Barcode**

### 1D Inverse Barcodes

|  |  |
| --- | --- |
| 67010001_正常一维码和反色一维码都可解  Decode both regular and inverse 1D barcodes |  |
|  | 67010000_仅解正常一维码  Only decode regular 1D barcodes(default) |

### 2D Inverse Barcodes

|  |  |
| --- | --- |
| 67020001_正常二维码和反色二维码都可解  Decode both regular and inverse 2D barcodes |  |
|  | 67020000_仅解正常二维码  Only decode regular 2D barcodes(default) |

**EAN-13**

### On /Off (default)

|  |  |
| --- | --- |
| 68010001_EAN13开启  EAN13 On (default) |  |
|  | 68010000_EAN13关闭  EAN13 Off (default) |

### Check Digit

|  |  |
| --- | --- |
| 68020001_开启EAN13传送校验  On (default) |  |
|  | 关闭EAN13传送校验  Off |

### EAN-13 2 digit Addenda

|  |  |
| --- | --- |
| 68030001_EAN13-识读2位附加码  2 Digit Addenda On |  |
|  | 68030000_EAN13-不识读2位附加码  2 Digit Addenda Off(default) |

### EAN-13 5 Digit Addenda

|  |  |
| --- | --- |
| 68040001_EAN13-识读5位附加码  On |  |
|  | 68040000_EAN13-不识读5位附加码  Off (default) |

### EAN-13 Addenda Required

|  |  |
| --- | --- |
| 68050001_输出方式-必须识别到使能的附加码可以输出  Required |  |
|  | 68050000_输出方式-无需识别到使能的附加码可以输出  Not Required(default) |

**ISSN**

### On /Off (default)

|  |  |
| --- | --- |
| 69010001_ISSN开启  ISSN On |  |
|  | 69010000_ISSN关闭  ISSN Off (default) |

### ISSN 2 Digit Addenda

|  |  |
| --- | --- |
| 69020001_附加码2位-识读2位附加码  On |  |
|  | 69020000_附加码2位-不识读2位附加码  Off(default) |

### ISSN Addenda Required

|  |  |
| --- | --- |
| 69030001_ISSN-必须识别到使能的附加码可以输出  Required |  |
|  | 69030000_ISSN-无需识别到使能的附加码可以输出  Not Required(default) |

**ISBN**

### On /Off (default)

|  |  |
| --- | --- |
| 6A010001_ISBN开启  ISBN On |  |
|  | 6A010000_ISBN关闭  ISBN Off (default) |

### ISBN 5 Digit Addenda

|  |  |
| --- | --- |
| 6A020001_附加码5位-识读5位附加码  On |  |
|  | 6A020000_附加码5位-不识读5位附加码  Off(default) |

### ISBN Addenda Required

|  |  |
| --- | --- |
| 6A030001_ISBN-必须识别到使能的附加码可以输出  Required |  |
|  | 6A030000_ISBN-无需识别到使能的附加码可以输出  Not Required(default) |

**EAN-8**

### On /Off (default)

|  |  |
| --- | --- |
| 6B010001_EAN8开启  EAN8 On (default) |  |
|  | 6B010000_EAN8关闭  EAN8 Off |

### Check Digit

|  |  |
| --- | --- |
| 6B020001_EAN8开启传送校验  On (default) |  |
|  | 6B020000_EAN8关闭传送校验  Off |

### Convert EAN-8 to EAN-13

|  |  |  |
| --- | --- | --- |
| 6B030001_开启EAN8转EAN13  Convert EAN8 to EAN13 | |  |
|  | | 6B030000_关闭EAN8转EAN13  Do not convert (default) |
| **ATT** | Add 5 "0" in front of the data, you need to pay attention to whether the additional code is On or not, otherwise the data length may be wrong. | |

### EAN-8 2 Digit Addenda

|  |  |
| --- | --- |
| 6B040001_EAN8-识读2位附加码  On |  |
|  | 6B040000_EAN8-不识读2位附加码  Off (default) |

### EAN-8 5 Digit Addenda

|  |  |
| --- | --- |
| 6B050001_EAN8-识读5位附加码  On |  |
|  | 6B050000_EAN8-不识读5位附加码  Off(default) |

### EAN-8 Addenda Require

|  |  |
| --- | --- |
| 6B060001_输出方式-必须识别到使能的附加码可以输出  Require |  |
|  | 6B060000_输出方式-无需识别到使能的附加码可以输出  Not Require (default) |

**UPC-A**

### On /Off (default)

|  |  |
| --- | --- |
| 6C010001_UPC-A开启  UPC-A On (default) |  |
|  | 6C010000_UPC-A关闭  UPC-A Off (default) |

### Check Digit

|  |  |
| --- | --- |
| 6C020001_开启UPC-A传送校验码  On (default) |  |
|  | 6C020000_关闭UPC-A传送校验码  Off |

### Convert UPC-A to EAN-13

|  |  |
| --- | --- |
| 6C030001_开启UPC-A转EAN13  Convert UPC-A to EAN13 |  |
|  | 6C030000_关闭UPC-A转EAN13  Do not convert(default) |

### UPC-A 2 Digit Addenda

|  |  |
| --- | --- |
| 6C040001_UPC-A-识读2位附加码  On |  |
|  | 6C040000_UPC-A-不识读2位附加码  Off(default) |

### UPC-A 5 Digit Addenda

|  |  |
| --- | --- |
| 6C050001_UPC-A-识读5位附加码  On |  |
|  | 6C050000_UPC-A-不识读5位附加码  Off (default) |

### UPC-A Addenda Require

|  |  |
| --- | --- |
| 6C060001_必须识别到使能的附加码可以输出  Require |  |
|  | 6C060000_无需识别到使能的附加码可以输出  Not Require(default) |

### UPC-A Number System

The numeric system digit of a UPC symbol is normally transmitted at the beginning of the scanned data, but can be programmed so it is not transmitted(Off).

|  |  |
| --- | --- |
| 6C070001_UPC-A-输出数字系统字符  On(default) |  |
|  | 6C070000_UPC-A-不输出数字系统字符  Off |

**UPC-E**

### On /Off (default)

|  |  |
| --- | --- |
| 6D010101_UPC-E0开启  UPC-E0 On (default) |  |
|  | 6D010100_UPC-E0关闭  UPC-E0 Off (default) |
| 6D010201_UPC-E1开启  UPC-E1 On |  |
|  | 6D010200_UPC-E1关闭  UPC-E1 Off (default)(default) |

### Check Digit

|  |  |
| --- | --- |
| 6D020001_开启UPC-E传送校验码  On (default) |  |
|  | 6D020000_关闭UPC-E传送校验码  Off |

### Convert UPC-E to UPC-A

|  |  |
| --- | --- |
| 6D030001_开启UPC-E转UPC-A  Convert UPC-E to UPC-A |  |
|  | 6D030000_关闭UPC-E转UPC-A  Do not convert(default) |

### UPC-E 2 Digit Addenda

|  |  |
| --- | --- |
| 6D040001_UPC-E-识读2位附加码  On |  |
|  | 6D040000_UPC-E-不识读2位附加码  Off (default) |

### UPC-E 5 Digit Addenda

|  |  |
| --- | --- |
| 6D050001_UPC-E-识读5位附加码  On |  |
|  | 6D050000_UPC-E-不识读5位附加码  Off (default) |

### UPC-E Addenda Require

|  |  |
| --- | --- |
| 6D060001_必须识别到使能的附加码可以输出  Require |  |
|  | 6D060000_无需识别到使能的附加码可以输出  Not Require(default) |

### UPC-E Number System

The numeric system digit of a UPC symbol is normally transmitted at the beginning of the scanned data, but can be programmed so it is not transmitted(Off)

|  |  |
| --- | --- |
| 6D070001_输出数字系统字符  On(default) |  |
|  | 6D070000_不输出数字系统字符  Off |

**Code 128**

### Code 128 On /Off

|  |  |
| --- | --- |
| 6E010001_Code128开启  Code128 On (default) |  |
|  | 6E010000_Code128关闭  Code128 Off (default) |

### Code 128 Message Length

|  |  |  |
| --- | --- | --- |
| 6E0201_Code128- 最小长度设置  Minimum Message Length | |  |
|  | | 6E0202_Code128- 最大长度设置  Maximum Message Length |
| **Example** | **Set the scanner to decode Code128 containing between 8 and 12 characters:**  1.Scan the **Minimum Message Length** barcode.  2.Scan the numeric barcode “8” from the “Digit Barcodes” section in Appendix.  3.Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.  4.Scan the **Maximum Message Length** barcode.  5. Scan the numeric barcodes “1” and “2” from the “Digit Barcodes” section in Appendix.  6. Scan the **Save** barcode from the “Save/Cancel Barcodes” | | |

**Code 39**

### On /Off

|  |  |
| --- | --- |
| 6F010001_Code39开启  Code39 On (default) |  |
|  | 6F010000_Code39关闭  Code39 Off |

### Check Character

|  |  |
| --- | --- |
| 关闭Code39校验  Off (default) |  |
|  | 6F020001_开启Code39校验，不传输校验字符  Validate, but Don’t Transmit |
| 6F020002_开启Code39校验，传输校验字符  Validate and Transmit |  |

### Code 39 Start/Stop Characters

|  |  |
| --- | --- |
| 6F030101_Code 39-起始符和结束符输出  On |  |
|  | 6F030100_Code 39-起始符和结束符不输出  Off(default) |

### Code 39 Full ASCII

|  |  |
| --- | --- |
| 6F040001_Code 39-Full ASCII码识读功能-开启  On |  |
|  | 6F040000_Code 39-Full ASCII码识读功能-关闭  Off (default) |

**Code 39 Message Length**

|  |  |  |
| --- | --- | --- |
| 6F0501_Code 39-最小长度设置  Minimum Message Length | |  |
|  | | 6F0502_Code 39-最大长度设置  Maximum Message Length |
| **Example** | **Set the scanner to decode Code39 containing between 8 and 12 characters:**  1.Scan the **Minimum Message Length** barcode.  2.Scan the numeric barcode “8” from the “Digit Barcodes” section in Appendix.  3.Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.  4.Scan the **Maximum Message Length** barcode.  5. Scan the numeric barcodes “1” and “2” from the “Digit Barcodes” section in Appendix.  6. Scan the **Save** barcode from the “Save/Cancel Barcodes” | |

**Code 32**

|  |  |  |
| --- | --- | --- |
| 70010001_Code32开启  Code32 On | |  |
|  | | 70010000_Code32关闭  Code32 Off (default) |
| **ATT** | The scanner can not read inverse Code 32. | |

**Code 93**

### On /Off

|  |  |
| --- | --- |
| 71010001_Code93开启  Code93 On (default) |  |
|  | 71010000_Code93关闭  Code93 Off |

### Check Character

|  |  |
| --- | --- |
| 关闭Code93校验  No Check Character |  |
|  | 71020001_开启Code93校验，不传输校验字符  Validate, but Don’t Transmit(default) |
| 71020002_开启Code93校验，传输校验字符  Validate and Transmit |  |

### Code 93 Message Length

|  |  |  |
| --- | --- | --- |
| 710301_Code93-最小长度设置  Minimum Message Length | |  |
|  | | 710302_Code93-最大长度设置  Maximum Message Length |
| **Example** | **Set the scanner to decode Code 93 containing between 8 and 12 characters:**  1.Scan the **Minimum Message Length** barcode.  2.Scan the numeric barcode “8” from the “Digit Barcodes” section in Appendix.  3.Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.  4.Scan the **Maximum Message Length** barcode.  5. Scan the numeric barcodes “1” and “2” from the “Digit | |

**Codabar**

### On /Off

|  |  |
| --- | --- |
| 72010001_Codabar开启  Codabar On (default) |  |
|  | 72010000_Codabar关闭  Codabar Off |

### Codabar Start/Stop Characters

|  |  |
| --- | --- |
| 72020001_Codabar传送起始和终止符  On |  |
|  | 72020000_Codabar不传送起始和终止符  Off(default) |

### Codabar Check Character

|  |  |
| --- | --- |
| 72030000_关闭CodeBar校验  Off (default) |  |
|  | 72030001_开启CodeBar校验，不传输校验字符  Validate but Don’t Transmit |
| 72030002_开启CodeBar校验，传输校验字符  Validate and Transmit |  |

### Codabar Message Length

|  |  |  |
| --- | --- | --- |
| 720401_开启CodeBar-最小长度设置  Minimum Message Length | |  |
|  | | 720402_开启CodeBar-最大长度设置  Maximum Message Length |
| **Example** | **Set the scanner to decode Codabar containing between 8 and 12 characters:**  1.Scan the **Minimum Message Length** barcode.  2.Scan the numeric barcode “8” from the “Digit Barcodes” section in Appendix.  3.Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.  4.Scan the **Maximum Message Length** barcode.  5. Scan the numeric barcodes “1” and “2” from the “Digital Barcodes. | |

## **Interleaved 2 of 5 （ITF5）**

### On /Off

|  |  |
| --- | --- |
| 73010001_Interleaved 2 of 5（ITF5）开启  Interleaved 2 of 5（ITF5）On |  |
|  | 73010000_Interleaved 2 of 5（ITF5）关闭  Interleaved 2 of 5（ITF5）Off (default) |

### ITF25 Check Digit

|  |  |
| --- | --- |
| 73020000_关闭Interleaved 2 of 5（ITF5）校验  No Check Digit (default) |  |
|  | 73020001_开启Interleaved 2 of 5（ITF5）校验，不传输校验字符  Validate but Don’t Transmit |
| 73020002_开启Interleaved 2 of 5（ITF5）校验，传输校验字符  Validate and Transmit |  |

### ITF25 Message Length

|  |  |
| --- | --- |
| 730301_Interleaved 2 of 5（ITF5)-最小长度设置  Minimum Message Length |  |
|  | 730302_Interleaved 2 of 5（ITF5)-最大长度设置  Maximum Message Length |
| 730303_ITF6  ITF-6 |  |
|  | 730304_ITF14  ITF-14 |

**Industrial 2 of 5**

### On /Off

|  |  |
| --- | --- |
| 76010001_Industrial 2 of 5开启  Industrial 2 of 5 On |  |
|  | 76010000_Industrial 2 of 5关闭  Industrial 2 of 5 Off (default) |

### Check Digit

|  |  |
| --- | --- |
| 76020000_关闭Industrial 2 of 5校验  No Check Digit (default) |  |
|  | 76020001_开启Industrial 2 of 5校验，不传输校验字符  Validate but Don’t Transmit |
| 76020001_开启Industrial 2 of 5校验，传输校验字符  Validate and Transmit |  |

**Industrial 2 of 5 Message Length**

|  |  |
| --- | --- |
| 760301_Industrial 2 of 5-最小长度设置  Minimum Message Length |  |
|  | 760302_Industrial 2 of 5-最大长度设置  Maximum Message Length |

**Matrix 2 of 5**

### On /Off (default)

|  |  |
| --- | --- |
| 77010001_Matrix 2 of 5开启  Matrix 2 of 5 On |  |
|  | 77010000_Matrix 2 of 5关闭  Matrix 2 of 5 Off (default) |

### Matrix 2 of 5 Check Digit

|  |  |
| --- | --- |
| 77020000_关闭Matrix 2 of 5校验  No Check Digit(default) |  |
|  | 77020001_开启Matrix 2 of 5校验，传输校验字符  Validate, but Don’t Transmit |
| 77020002_开启Matrix 2 of 5校验，不传输校验字符  Validate and Transmit |  |

### Matrix 2 of 5 Message Length

|  |  |  |
| --- | --- | --- |
| 770301_Matrix 2 of 5-最小长度设置  Minimum Message Length | |  |
|  | | 770302_Matrix 2 of 5-最大长度设置  Maximum Message Length |
| **Example** | **Set the scanner to decode Matrix 2 of 5 containing between 8 and 12 characters:**  1.Scan the **Minimum Message Length** barcode.  2.Scan the numeric barcode “8” from the “Digit Barcodes” section in Appendix.  3.Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.  4.Scan the **Maximum Message Length** barcode.  6. Scan the numeric barcodes “1” and “2” from the “Digital Barcodes. | |

**Code 11**

### On /Off

|  |  |
| --- | --- |
| 78010001_code11开启  Code 11 On |  |
|  | 78010000_code11关闭  Code 11 Off (default) |

### Code 11 Check Digit

|  |  |
| --- | --- |
| 78020000_关闭Code 11校验  No Check Digit(default) |  |
|  | 78020001_开启Code 11校验，不传输校验字符  Validate but Don’t Transmit |
| 78020002_开启Code 11校验，传输校验字符  Validate and Transmit |  |

### Code 11 Message Length

|  |  |  |
| --- | --- | --- |
| 780301_code11最小长度设置  Minimum Message Length | |  |
|  | | 780302_code11最大长度设置  Maximum Message Length |
| **Example** | **Set the scanner to decode Code 11 containing between 8 and 12 characters:**  1.Scan the **Minimum Message Length** barcode.  2.Scan the numeric barcode “8” from the “Digit Barcodes” section in Appendix.  3.Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.  4.Scan the **Maximum Message Length** barcode.  6. Scan the numeric barcodes “1” and “2” from the “Digital Barcodes. | | |

**MSI-Plessey**

**MSI On /Off**

|  |  |
| --- | --- |
| 79010001_MSI-Plessey开启  MSI-Plessey On |  |
|  | 79010000_MSI-Plessey关闭  MSI-Plessey Off (default) |

**MSI Check Character**

|  |  |
| --- | --- |
| 79020100_关闭MSI-Plessey校验  No Check Digit (default) |  |
|  | 79020101_开启MSI-Plessey一位校验 MOD 10  Validate Type MOD 10(default) |
| 79020102_开启MSI-Plessey二位校验 MOD10_MOD 11  Validate 2 MOD 10/MOD 11 |  |

**Check Character Transmission**

|  |  |
| --- | --- |
| 79020201_MSI-Plessey传输校验字符  Transmit MSI-Plessey Check Character (default) |  |
|  | 79020200_MSI-Plessey不传输校验字符  Don’t Transmit MSI-Plessey Check Character |

**MSI-Plessey Message Length**

|  |  |  |
| --- | --- | --- |
| 790301_MSI-Plessey-最小长度设置  Minimum Message Length | |  |
|  | | 790302_MSI-Plessey-最大长度设置  Maximum Message Length |
| **Example** | **Set the scanner to decode MSI-Plessey containing between 8 and 12 characters:**  1.Scan the **Minimum Message Length** barcode.  2.Scan the numeric barcode “8” from the “Digit Barcodes” section in Appendix.  3.Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.  4.Scan the **Maximum Message Length** barcode.  6. Scan the numeric barcodes “1” and “2” from the “Digital Barcodes. | | |

**GS1-DataBar（RSS）**

### RSS-14 On /Off

|  |  |
| --- | --- |
| 7A010101_RSS-14开启  RSS-14 On |  |
|  | 7A010100_RSS-14关闭  RSS-14 Off (default) |

### RSS-Limited On /Off

|  |  |
| --- | --- |
| 7A020101_RSS-Limited开启  RSS-Limited On |  |
|  | 7A020100_RSS-Limited关闭  RSS-Limited Off (default) |

### RSS-Expaned On /Off

|  |  |
| --- | --- |
| 7A030101_RSS-Expaned开启  RSS-Expaned On |  |
|  | 7A030100_RSS-Expaned关闭  RSS-Expaned Off (default) |

### RSS-Stacked On /Off

|  |  |
| --- | --- |
| 7A040101_RSS-Stacked开启  RSS-Stacked On |  |
|  | 7A040100_RSS-Stacked关闭  RSS-Stacked Off (default) |

### GS1-DataBar Message Length

|  |  |  |
| --- | --- | --- |
| 7A0501_GSI-Databar（RSS）-最小长度设置  Minimum Message Length | |  |
|  | | 7A0502_GSI-Databar（RSS）-最大长度设置  Maximum Message Length |
| **Example** | **Set the scanner to decode GS1-Databar containing between 8 and 12 characters:**  1.Scan the **Minimum Message Length** barcode.  2.Scan the numeric barcode “8” from the “Digit Barcodes” section in Appendix.  3.Scan the **Save** barcode from the “Save/Cancel Barcodes” section in Appendix.  4.Scan the **Maximum Message Length** barcode.  6. Scan the numeric barcodes “1” and “2” from the “Digital Barcodes. | |

**Micro QR Code**

### Micro QR Code On/Off

|  |  |
| --- | --- |
| 7B010001_Micro QR 正色码 开启  On |  |
|  | 7B010000_Micro QR 正色码 关闭  Off (default) |

**QR Code**

### QR Code On/Off

|  |  |
| --- | --- |
| 7C010001_QR 正色开启  On (default) |  |
|  | 7C010000_QR 正色关闭  Off (default) |

### QR Code with URL

|  |  |
| --- | --- |
| 7C020001_QR网址码开启  On |  |
|  | 7C020000_QR网址码关闭  Off (default) |

**Data Matrix**

### Data Matrix On/Off

|  |  |
| --- | --- |
| 7D010001_Data Matrix正色码开启  On (default) |  |
|  | 7D010000_Data Matrix正色码关闭  Off (default) |

**PDF417**

|  |  |
| --- | --- |
| 7E010001_PDF417开启  PDF417 On |  |
|  | 7E010000_PDF417关闭  PDF417 Off (default) |

## **Micro PDF417**

|  |  |
| --- | --- |
| 7F010001_Micro PDF417开启  Micro PDF417 On |  |
|  | 7F010000_Micro PDF417关闭  Micro PDF417Off (default) |

**Aztec Code**

### Aztec Code On/Off

|  |  |
| --- | --- |
| 80010001_Aztec Code正色码开启  On |  |
|  | 80010000_Aztec Code正色码关闭  Off (default) |

**Appendix**

**Appendix1 Digital and Programming Barcodes**

|  |  |
| --- | --- |
| 数字0 |  |
| 0 |
|  | 数字1 |
| 1 |
| 数字2 |  |
| 2 |
|  | 数字3 |
| 3 |
| 数字4 |  |
| 4 |
|  | 数字5 |
| 5 |
| 数字6 |  |
| 6 |
|  | 数字7 |
| 7 |
| 数字8 |  |
| 8 |
|  | 数字9 |
| 9 |

|  |  |
| --- | --- |
| 字母A |  |
| A |
|  | 字母B |
| B |
| 字母C |  |
| C |
|  | 字母D |
| D |
| 字母E |  |
| E |
|  | 字母F |
| F |
| 保存 |  |
| Save |
|  | 取消当前设置 |
| Cancel Last String of Scans |
| 取消前面读的一串数据 |  |
| Reset |
|  | 取消前一次读的数据 |
| Cancel Last Scan |

**Appendix 2 Symbologies Chart**

|  |  |  |
| --- | --- | --- |
| **Type** | **Code ID** | |
| **HEX** | **ID** |
| Codabar | 0x42 | B |
| Code 11 | 0x68 | h |
| Code 128 | 0x6A | j |
| Code 39(Code 32) | 0x62 | b |
| Code 93 | 0x69 | i |
| ISBN | 0x53 | S |
| EAN-13 | 0x64 | d |
| EAN-8 | 0x44 | D |
| GS1 DataBar | 0x79 | y |
| GS1 DataBar Limited | 0x7B | { |
| GS1 DataBar Expanded | 0x7D | } |
| GS1 DataBar Stacked | 0x59 | Y |
| Interleaved 2 of 5 | 0x65 | e |
| Matrix 2 of 5 | 0x6D | m |
| Industrial 2 of 5 | 0x66 | f |
| MSI | 0x67 | g |
| UPC-A | 0x63 | c |
| UPC-E0 | 0x45 | E |
| UPC-E1 | 0x61 | a |
| Aztec Code | 0x41 | A |
| Data Matrix | 0x77 | w |
| PDF417 | 0x72 | r |
| Micro PDF417 | 0x52 | R |
| QR | 0x73 | s |
| Micro QR | 0x51 | Q |

**Appendix 3 ASCII Control Character Conversion**

|  |  |  |  |
| --- | --- | --- | --- |
| **DEC** | **ASCII** | **Control + ASCII** | **Alt + Keypad** |
| 1 | SOH (Start of Header) | Ctrl+A | Alt+001 |
| 2 | STX (Start of Text) | Ctrl+B | Alt+002 |
| 3 | ETX (End of Text) | Ctrl+C | Alt+003 |
| 4 | EOT (End of Transmission) | Ctrl+D | Alt+004 |
| 5 | ENQ (Enquiry) | Ctrl+E | Alt+005 |
| 6 | ACK (Acknowledgment) | Ctrl+F | Alt+006 |
| 7 | BEL (Bell) | Ctrl+G | Alt+007 |
| 8 | BS (Backspace) | Back Space | Alt+008 |
| 9 | HT (Horizontal Tab) | Tab | Alt+009 |
| 10 | LF (Line Feed) | Ctrl+P | Alt+010 |
| 11 | VT (Vertical Tab) | Ctrl+Q | Alt+011 |
| 12 | FF (Form Feed) | Ctrl+R | Alt+012 |
| 13 | CR (Carriage Return) | Enter | Alt+013 |
| 14 | SO (Shift Out) | Ctrl+N | Alt+014 |
| 15 | SI (Shift In) | Ctrl+O | Alt+015 |
| 16 | DLE (Data Link Escape) | Ctrl+P | Alt+016 |
| 17 | DC1 (XON) (Device Control 1) | Ctrl+Q | Alt+017 |
| 18 | DC2 (Device Control 2) | Ctrl+R | Alt+018 |
| 19 | DC3 (XOFF) (Device Control 3) | Ctrl+S | Alt+019 |
| 20 | DC4 (Device Control 4) | Ctrl+T | Alt+020 |
| 21 | NAK (Negative Acknowledgement) | Ctrl+U | Alt+021 |
| 22 | SYN (Synchronous Idle) | Ctrl+V | Alt+022 |
| 23 | ETB (End of Trans. Block) | Ctrl+W | Alt+023 |
| 24 | CAN (Cancel) | Ctrl+X | Alt+024 |
| 25 | EM (End of Medium) | Ctrl+Y | Alt+025 |
| 26 | SUB (Substitute) | Ctrl+Z | Alt+026 |
| 27 | ESC (Escape) | Ctrl+[ | Alt+027 |
| 28 | FS (File Separator) | Ctrl+\ | Alt+028 |
| 29 | GS (Group Separator) | Ctrl+] | Alt+029 |
| 30 | RS (Request to Send) | Ctrl+^ | Alt+030 |
| 31 | US (Unit Separator) | Ctrl+\_ | Alt+031 |

**Appendix 4 Lower ASCII Reference Table**

（The characters with yellow background are control characters; the characters with white background are visible characters）

|  |  |  |  |
| --- | --- | --- | --- |
| **BIN** | **DEC** | **HEX** | **CHAR** |
| 0 | 0 | 0 | NUL (NULL) |
| 1 | 1 | 1 | SOH (Start Of Headling) |
| 10 | 2 | 2 | STX (Start Of Text) |
| 11 | 3 | 3 | ETX (End Of Text) |
| 100 | 4 | 4 | EOT (End Of Transmission) |
| 101 | 5 | 5 | ENQ (Enquiry) |
| 110 | 6 | 6 | ACK (Acknowledge) |
| 111 | 7 | 7 | BEL (Bell) |
| 1000 | 8 | 8 | BS (Backspace) |
| 1001 | 9 | 9 | HT (Horizontal Tab) |
| 1010 | 10 | 0A | LF/NL(Line Feed/New Line) |
| 1011 | 11 | 0B | VT (Vertical Tab) |
| 1100 | 12 | 0C | FF/NP (Form Feed/New Page) |
| 1101 | 13 | 0D | CR (Carriage Return) |
| 1110 | 14 | 0E | SO (Shift Out) |
| 1111 | 15 | 0F | SI (Shift In) |
| 10000 | 16 | 10 | DLE (Data Link Escape) |
| 10001 | 17 | 11 | DC1/XON |
| (Device Control 1/Transmission On) |
| 10010 | 18 | 12 | DC2 (Device Control 2) |
| 10011 | 19 | 13 | DC3/XOFF |
| (Device Control 3/Transmission Off) |
| 10100 | 20 | 14 | DC4 (Device Control 4) |
| 10101 | 21 | 15 | NAK (Negative Acknowledge) |
| 10110 | 22 | 16 | SYN (Synchronous Idle) |
| 10111 | 23 | 17 | ETB (End of Transmission Block) |
| 11000 | 24 | 18 | CAN (Cancel) |
| 11001 | 25 | 19 | EM (End of Medium) |
| 11010 | 26 | 1A | SUB (Substitute) |
| 11011 | 27 | 1B | ESC (Escape) |
| 11100 | 28 | 1C | FS (File Separator) |
| 11101 | 29 | 1D | GS (Group Separator) |
| 11110 | 30 | 1E | RS (Record Separator) |
| 11111 | 31 | 1F | US (Unit Separator) |
| 100000 | 32 | 20 | (Space) |
| 100001 | 33 | 21 | ! |
| 100010 | 34 | 22 | " |
| 100011 | 35 | 23 | # |
| 100100 | 36 | 24 | $ |
| 100101 | 37 | 25 | % |
| 100110 | 38 | 26 | & |
| 100111 | 39 | 27 | ' |
| 101000 | 40 | 28 | ( |
| 101001 | 41 | 29 | ) |
| 101010 | 42 | 2A | \* |
| 101011 | 43 | 2B | + |
| 101100 | 44 | 2C | , |
| 101101 | 45 | 2D | - |
| 101110 | 46 | 2E | . |
| 101111 | 47 | 2F | / |
| 110000 | 48 | 30 | 0 |
| 110001 | 49 | 31 | 1 |
| 110010 | 50 | 32 | 2 |
| 110011 | 51 | 33 | 3 |
| 110100 | 52 | 34 | 4 |
| 110101 | 53 | 35 | 5 |
| 110110 | 54 | 36 | 6 |
| 110111 | 55 | 37 | 7 |
| 111000 | 56 | 38 | 8 |
| 111001 | 57 | 39 | 9 |
| 111010 | 58 | 3A | : |
| 111011 | 59 | 3B | ; |
| 111100 | 60 | 3C | < |
| 111101 | 61 | 3D | = |
| 111110 | 62 | 3E | > |
| 111111 | 63 | 3F | ? |
| 1000000 | 64 | 40 | @ |
| 1000001 | 65 | 41 | A |
| 1000010 | 66 | 42 | B |
| 1000011 | 67 | 43 | C |
| 1000100 | 68 | 44 | D |
| 1000101 | 69 | 45 | E |
| 1000110 | 70 | 46 | F |
| 1000111 | 71 | 47 | G |
| 1001000 | 72 | 48 | H |
| 1001001 | 73 | 49 | I |
| 1001010 | 74 | 4A | J |
| 1001011 | 75 | 4B | K |
| 1001100 | 76 | 4C | L |
| 1001101 | 77 | 4D | M |
| 1001110 | 78 | 4E | N |
| 1001111 | 79 | 4F | O |
| 1010000 | 80 | 50 | P |
| 1010001 | 81 | 51 | Q |
| 1010010 | 82 | 52 | R |
| 1010011 | 83 | 53 | S |
| 1010100 | 84 | 54 | T |
| 1010101 | 85 | 55 | U |
| 1010110 | 86 | 56 | V |
| 1010111 | 87 | 57 | W |
| 1011000 | 88 | 58 | X |
| 1011001 | 89 | 59 | Y |
| 1011010 | 90 | 5A | Z |
| 1011011 | 91 | 5B | [ |
| 1011100 | 92 | 5C | \ |
| 1011101 | 93 | 5D | ] |
| 1011110 | 94 | 5E | ^ |
| 1011111 | 95 | 5F | \_ |
| 1100000 | 96 | 60 | ` |
| 1100001 | 97 | 61 | a |
| 1100010 | 98 | 62 | b |
| 1100011 | 99 | 63 | c |
| 1100100 | 100 | 64 | d |
| 1100101 | 101 | 65 | e |
| 1100110 | 102 | 66 | f |
| 1100111 | 103 | 67 | g |
| 1101000 | 104 | 68 | h |
| 1101001 | 105 | 69 | i |
| 1101010 | 106 | 6A | j |
| 1101011 | 107 | 6B | k |
| 1101100 | 108 | 6C | l |
| 1101101 | 109 | 6D | m |
| 1101110 | 110 | 6E | n |
| 1101111 | 111 | 6F | o |
| 1110000 | 112 | 70 | p |
| 1110001 | 113 | 71 | q |
| 1110010 | 114 | 72 | r |
| 1110011 | 115 | 73 | s |
| 1110100 | 116 | 74 | t |
| 1110101 | 117 | 75 | u |
| 1110110 | 118 | 76 | v |
| 1110111 | 119 | 77 | w |
| 1111000 | 120 | 78 | x |
| 1111001 | 121 | 79 | y |
| 1111010 | 122 | 7A | z |
| 1111011 | 123 | 7B | { |
| 1111100 | 124 | 7C | | |
| 1111101 | 125 | 7D | } |
| 1111110 | 126 | 7E | ~ |
| 1111111 | 127 | 7F | DEL (Delete) |

**Appendix 5 ASCII Extended Character Table**

Note：Only valid for Code page mode and Code page 1252 setting.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **DEC** | **CHAR** | **DEC** | **CHAR** | **DEC** | **CHAR** | **DEC** | **CHAR** | **DEC** | **CHAR** |
| 128 | € | 154 | š | 180 | ´ | 206 | Î | 232 | è |
| 129 |  | 155 | › | 181 | µ | 207 | Ï | 233 | é |
| 130 | ‚ | 156 | œ | 182 | ¶ | 208 | Ð | 234 | ê |
| 131 | ƒ | 157 |  | 183 | · | 209 | Ñ | 235 | ë |
| 132 | „ | 158 | ž | 184 | ¸ | 210 | Ò | 236 | ì |
| 133 | … | 159 | Ÿ | 185 | ¹ | 211 | Ó | 237 | í |
| 134 | † | 160 |  | 186 | º | 212 | Ô | 238 | î |
| 135 | ‡ | 161 | ¡ | 187 | » | 213 | Õ | 239 | ï |
| 136 | ˆ | 162 | ¢ | 188 | ¼ | 214 | Ö | 240 | ð |
| 137 | ‰ | 163 | £ | 189 | ½ | 215 | × | 241 | ñ |
| 138 | Š | 164 | ¤ | 190 | ¾ | 216 | Ø | 242 | ò |
| 139 | ‹ | 165 | ¥ | 191 | ¿ | 217 | Ù | 243 | ó |
| 140 | Œ | 166 | ¦ | 192 | À | 218 | Ú | 244 | ô |
| 141 |  | 167 | § | 193 | Á | 219 | Û | 245 | õ |
| 142 | Ž | 168 | ¨ | 194 | Â | 220 | Ü | 246 | ö |
| 143 |  | 169 | © | 195 | Ã | 221 | Ý | 247 | ÷ |
| 144 |  | 170 | ª | 196 | Ä | 222 | Þ | 248 | ø |
| 145 | ‘ | 171 | « | 197 | Å | 223 | ß | 249 | ù |
| 146 | ’ | 172 | ¬ | 198 | Æ | 224 | à | 250 | ú |
| 147 | “ | 173 |  | 199 | Ç | 225 | á | 251 | û |
| 148 | ” | 174 | ® | 200 | È | 226 | â | 252 | ü |
| 149 | · | 175 | ¯ | 201 | É | 227 | ã | 253 | ý |
| 150 | – | 176 | ° | 202 | Ê | 228 | ä | 254 | þ |
| 151 | — | 177 | ± | 203 | Ë | 229 | å | 255 | ÿ |
| 152 | ˜ | 178 | ² | 204 | Ì | 230 | æ |  |  |
| 153 | ™ | 179 | ³ | 205 | Í | 231 | ç |  |  |

**Appendix 6 Code ID Table**

|  |  |
| --- | --- |
| **Symbologies Type** | **Programming Barcode** |
| EAN-13 | 00030000_EAN-13 |
| EAN-8 | 00030001_EAN-8 |
| UPC-A | 00030002_UPC-A |
| UPC-E0 | 00030003_UPC-E0 |
| UPC-E1 | 00030004_UPC-E1 |
| Code 128 | 00030005_Code 128 |
| Code 39 | 00030006_Code 39 |
| Code 93 | 00030007_Code 93 |
| Codabar | 00030008_Codabar |
| Interleaved 2 of 5 | 00030009_Interleaved 2 of 5 |
| Industrial 2 of 5 | 0003000A_Industrial 2 of 5 |
| Matrix 2 of 5 | 0003000B_Matrix 2 of 5 |
| Code 11 | 0003000C_Code 11 |
| MSI-Plessey | 0003000D_MSI-Plessey |
| RSS14 | 0003000E_RSS14 |
| RSS-Limited | 0003000F_RSS-Limited |
| RSS-Expaned | 00030010_RSS-Expaned |
| QR | 00030011_QR |
| Data Matrix | 00030012_Data Matrix |
| PDF417 | 00030013_PDF417 |
| Aztec Code | 00030015_Aztec Code |
| Micro PDF417 | 00030016_Micro PDF417 |
| ISBN | 00030017_ISBN |
| RSS-Stacked | 00030018_RSS-Stacked |
| ISSN | 00030019_ISSN |
| Micro QR | 0003001A_Micro QR |

**Appendix 7 Prefix/Suffix Control Character Chart**

Note：Prefix/Suffix control characters are not affected by“Control + ASCII mode”and“Alt + Keypad mode”.

|  |  |  |
| --- | --- | --- |
| **Dec** | **ASCII** | **Char** |
| 1 | SOH (Start of Header) | Null |
| 2 | STX (Start of Text) | Home |
| 3 | ETX (End of Text) | End |
| 4 | EOT (End of Transmission) | Null |
| 5 | ENQ (Enquiry) | Null |
| 6 | ACK (Acknowledgment) | Null |
| 7 | BEL (Bell) | Null |
| 8 | BS (Backspace) | Null |
| 9 | HT (Horizontal Tab) | Tab |
| 10 | LF (Line Feed) | Down Arrow |
| 11 | VT (Vertical Tab) | Null |
| 12 | FF (Form Feed) | Null |
| 13 | CR (Carriage Return) | Enter |
| 14 | SO (Shift Out) | Null |
| 15 | SI (Shift In) | Null |
| 16 | DLE (Data Link Escape) | Null |
| 17 | DC1 (XON) (Device Control 1) | Null |
| 18 | DC2 (Device Control 2) | Null |
| 19 | DC3 (XOFF) (Device Control 3) | Null |
| 20 | DC4 (Device Control 4) | Null |
| 21 | NAK (Negative Acknowledgement) | Null |
| 22 | SYN (Synchronous Idle) | Null |
| 23 | ETB (End of Trans. Block) | Null |
| 24 | CAN (Cancel) | Null |
| 25 | EM (End of Medium) | Null |
| 26 | SUB (Substitute) | Null |
| 27 | ESC (Escape) | Null |
| 28 | FS (File Separator) | Null |
| 29 | GS (Group Separator) | Null |
| 30 | RS (Request to Send) | Null |
| 31 | US (Unit Separator) | Null |