



# **NT-1203L User Manual**

**Jun 22, 2026**

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# 1 System Settings

## 1.1 Read firmware version



Read firmware version

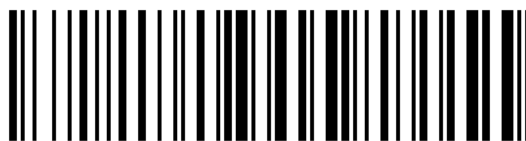
## 1.2 Restore Factory Defaults

### Note

If Write Custom Defaults has been performed, Restore Defaults restores those custom defaults; otherwise it restores factory defaults.

### Important

Set Factory Defaults clears all custom defaults and restores factory defaults.



Restore custom defaults



Write custom default values



Set factory defaults

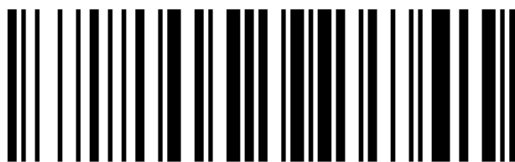
## 1.3 working mode

### Note

During the data upload process, if you scan the “data upload” command again, the current upload will be canceled or stopped.

**Note**

In wireless transmission mode, if automatic storage is turned on, barcodes that fail to be transmitted will be automatically saved, and the stored data can be read through “data upload” .



\* Normal mode



storage mode



Upload storage data



Read the total number of stored barcodes



Clear storage data after uploading



Read storage space usage



Clear stored barcode



\* Autosave mode off



Automatic storage mode is on

## 2 Power management

### 2.1 Read sleep time



Read sleep time

### 2.2 Set sleep time



Hibernate now



Sleep after 1 minute



Sleep after 3 minutes (default)



Sleep after 5 minutes



Sleep after 10 minutes



Sleep after 30 minutes



Sleep after 1 hour



Sleep after 2 hours



never sleep

## 2.3 Get scanner battery level



Get battery level

## 3 Feedback Indicators

### 3.1 Buzzer control



mute



\* high volume



medium volume



low volume



\* high pitch



low pitch



\* SDK voice response off



SDK voice response enabled



Base connection buzzer prompt switch

## 3.2 Vibration motor control

### Note

The vibration motor works with a beep prompt, not all models support this feature.



Disable



Enable

### 3.3 Buzzer sound definition

| Type        | Sound                           | Description                                               | Audio file                        |
|-------------|---------------------------------|-----------------------------------------------------------|-----------------------------------|
| Beep        | Single tone (2 pitches)         | Storage mode decode; power-off prompt.                    | storage-mode.m4a, shutdown.m4a    |
| Beep        | Single tone (3 pitches)         | Power-on prompt; setting saved; upload complete.          | startup.m4a, wireless-setting.m4a |
| Beep        | Short single tone               | Successful decode.                                        | one-beeps.m4a                     |
| Beep        | 30-second continuous short tone | 2.4G pairing waits for the receiver; stops after pairing. | pair2.4G.m4a                      |
| Alarm sound | Two tones (same pitch)          | Low-battery alarm during decoding.                        | two-beeps.m4a                     |
| Alarm sound | Three tones (same pitch)        | Inventory storage error or capacity exceeded.             | three-beeps.m4a                   |
| Alarm sound | Transmission failure            | Alarm when barcode transmission fails.                    | No audio available                |
| Alarm sound | Five tones (same pitch)         | Boot failure caused by low battery.                       | five-beeps.m4a                    |

### 3.4 Indicator definition

| Indicator               | Status                                                                                                                                                                                              |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| red light / green light | When charging, the red light is on and the green light is off; when fully charged, the red light is off and the green light is on.                                                                  |
| blue light              | Following the buzzer action, the buzzer lights up when it sounds and goes out when it does not sound; models that support Bluetooth mode are also used to indicate the Bluetooth connection status. |

## 4 wired mode

#### Note

Only applicable to scanners that support wired transmission.

### 4.1 USB transfer method



\* USB keyboard mode



USB virtual serial port mode

**Note**

After the automatic interface selection is turned on, the device will automatically switch between wired and wireless; when plugging in the USB cable, the wired mode will be used first. When the USB cable is not plugged in or USB is unavailable, the scanner works in 2.4G mode. Some models may not support this feature.



\* Wired/wireless automatic selection turns on



Wired/wireless automatic selection off

## 4.2 USB keyboard transfer speed

**Note**

This setting also affects the speed of RF and Bluetooth transmission of very long barcodes and stored data uploads.



\* top speed



top speed



medium speed



medium speed



Read keyboard speed



Read keyboard speed

### 4.3 USB HID multi-key send settings

#### Note

The settings in this section are only applicable to Windows systems.



USB HID multi-key sending enabled



\* USB HID multi-key sending off

## 5 wireless mode

### Note

Only suitable for scanners that support 2.4G transmission.

### 5.1 Read Interface Settings



Current Interface Settings

### 5.2 Wireless transmission method

### Note

The blue light is always on or flashing to indicate that it is currently in Bluetooth mode; the blue light is off to indicate that it is currently in 2.4G mode or USB wired mode.



2.4G transmission mode

### 5.3 2.4G pairing

### Important

Only valid in wireless 2.4G mode.



Start 2.4G pairing



one-to-one pairing



One-to-one pairing

## 5.4 Receiver working mode

### Note

Composite device mode is only available on receivers running FWVerL or later. You can also use `ReceiverAddress.exe` to generate a pairing barcode and complete pairing by scanning it.



Receiver as composite device



Receiver as virtual serial port

### Note

This mode requires the virtual serial port driver to be installed.



receiver as keyboard

## Receiver keyboard transmission speed

### **Note**

The instructions in this section are only applicable to receivers of FWVerL and above. The transmission speeds of the scanner and receiver must match, otherwise errors may occur when transmitting long barcodes.

### **Important**

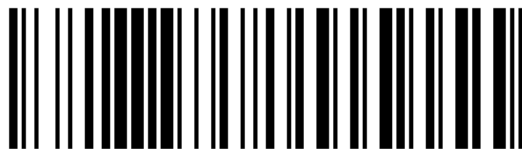
This command is only valid in wireless 2.4G mode and the receiver is connected normally.



Read keyboard speed

### **Example**

KB SP=2, 4 represents a USB keyboard speed of 2ms and a receiver keyboard speed of 4ms.



receiver keyboard high speed



Receiver Keyboard Medium Speed



Receiver Keyboard Low Speed

### **Note**

It is only valid in wireless 2.4G mode and the receiving end receives normally.

## 5.5 2.4G transmission cache

### **Note**

This command is only available on some scanners that support this feature. After scanning the setup code, two short beeps indicate disabled, and one three-tone beep indicates enabled.

When scanning ordinary barcodes, if the amount of barcode data is large and the scanning interval is short, and the data is not uploaded in time, you can use this setting barcode to turn on or off data caching.



SRAM cache switch

In normal mode, after data caching is turned on, if the device briefly leaves the communication distance and enters offline state, you can use this setting to choose to wait for connection before uploading the cached data, or to clear the cached data.



Offline caching switch

## 6 Bluetooth Mode

### **Note**

Only suitable for RF+BT scanners with Bluetooth function.

### 6.1 Read Interface Settings



Current Interface Settings

### 6.2 Bluetooth Transmission Mode

**Note**

The blue light is always on or flashing to indicate that it is currently in Bluetooth mode; the blue light is off to indicate that it is currently in 2.4G mode or USB wired mode.



Bluetooth Transmission

## 6.3 Bluetooth Operating Mode

**Note**

Valid only in Bluetooth mode.

**Note**

Before switching the Bluetooth working mode, you need to clear the pairing information between the host device and the scanner.



Bluetooth HID Keyboard (Default)



Bluetooth SPP Serial Port



Bluetooth BLE Serial Port



Bluetooth cradle transmission mode

#### **Note**

It is suitable for pairing with a Bluetooth cradle that has already been paired. When the barcode on the base is damaged, you can also use the gadget BluetoothAddress.exe to generate a pairing barcode.

## **6.4 Change Bluetooth Name**

After entering the new Bluetooth name, scan the generated QR code to complete the setup. If the host has saved old pairing records after modification, please delete the old pairing first and search for connection again.

## **6.5 Clear Bluetooth HID Pairing**

After scanning “Clear Pairing” in Bluetooth transmission mode, the scanner will disconnect the currently paired device and clear the pairing list, then wait for new devices to be paired. Historically paired devices need to be deleted and paired again.



Clear Bluetooth Pairing

## **6.6 System Keyboard Functions**

### **iOS system pop-up keyboard function**



iOS pop up/hide keyboard



Press and hold the trigger for 4 seconds to toggle the iOS on-screen keyboard



Double-press the trigger to toggle the iOS on-screen keyboard



Pop up iOS keyboard switch after sending

## Windows Caps Lock detection

### Note

This command is only available on some Bluetooth scanners. After scanning the setup code, two short beeps indicate disabled, and one three-tone beep indicates enabled.



Windows Caps Lock detection switch

## 6.7 Switch between Bluetooth and 2.4G by pressing and holding for 8 seconds

### Note

This command is only available on some RF+BT scanners (DS, C, RT). When enabled, press and hold the trigger for more than 8 seconds and release it to switch between RF and BT. If you hold it for more than 16 seconds, the scanner powers off and the mode does not switch. After scanning the setup code, two short beeps indicate disabled, and one three-tone beep indicates enabled.



Press and hold the trigger for 8 seconds to toggle RF/BT switching

## 6.8 Bluetooth keyboard transmission speed

### Note

Valid only in Bluetooth mode.



Read Bluetooth HID delay



High speed (2 ms)



High speed (6 ms)



\* Medium speed (10 ms)



Medium speed (18 ms)



Low speed (25 ms)



Low speed (30 ms)

## 6.9 Bluetooth connection status non-sleep setting

### **Note**

After scanning the setup code, two short beeps indicate disabled, and one three-tone beep indicates enabled.



Bluetooth connection status non-sleep switch

## 7 Keyboard Settings

### 7.1 HID Keyboard General Setting

HID common settings

### **Note**

The general HID mode settings in this section are applicable to USB keyboard, RF2.4G keyboard, and BT HID keyboard.

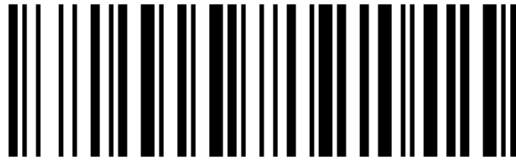
#### Ctrl key combination settings



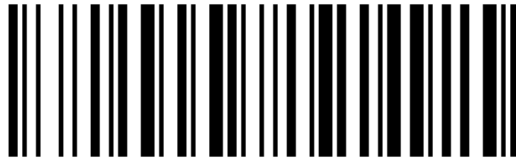
\\* Combine-Key Off



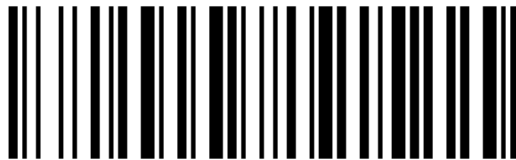
Ctrl+ Key Config1



Alt+ Key Config2



Normal-Key Config3



Ctrl+ Key Config4



Alt+ Key Config5

**Note**

only for ASCII <0x20 chars, Alt+ key only for Windows system.

## Case settings



normal



Swap case



all caps



all lowercase

\*When set to ALT, TH keyboard language, the case setting does not apply.

### Num Lock Settings



Num Lock Settings



Num Lock on

\*When the receiving device is a mobile phone, you need to keep the Num Lock off setting, otherwise the numbers will not be displayed.

### Enter character set settings

#### Note

Applicable only to certain mod's of 2D scanners, this setting matches the 2D module's output character set.



Read the current character set settings



automatic



GBK / BIG5 / HANGUL / SJIS



ISO/IEC 8859



UTF8 (Word)



UTF8 (Txt)



Normal mode

illustrate:

| model        | Applicable scenarios                                                                                                        | Code scan engine<br>output character set | limit                                                   |
|--------------|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------|---------------------------------------------------------|
| Auto         | Automatically select the input character set as UTF8 or ISO/IEC 8859; Word or Txt output is based on the last UTF8 setting. | primitive type                           | none                                                    |
| GBK          | Windows Notepad, Excel Chinese input.                                                                                       | GBK (GB2312) or original type            | Applies to Windows systems only.                        |
| UTF8 (Word)  | Word, QQ Chinese input.                                                                                                     | UTF8 or primitive type                   | Applies to Windows systems only.                        |
| ISO/IEC 8859 | European single-byte special characters ( $\geq C0H$ ), applicable to FR, GE, TR, PT, ES, CS, IT, UK, HU, SK.               | primitive type                           | Languages not listed need to be added by customization. |
| UTF8 (Txt)   | To input special characters in Windows Notepad, you need to install the Unicode plug-in.                                    | UTF8 or primitive type                   | Applies to Windows systems only.                        |
| Normal       | Multi-language special characters, suitable for characters on FR, GE, TR, PT, ES, CS, IT, UK, HU, SK keyboards.             | UTF8 or primitive type                   | Languages not listed need to be added by customization. |

## Receiving device selection

**Note**

This section is used to set the way different receiving devices input ASCII characters (0x20 to 0x7F) and needs to be used in conjunction with [Keyboard Language Settings](#).



Read the current receiving device settings



Windows device



iPhone/iPad/Mac devices



Android device

\*IOS/MAC devices are currently valid: FR, DE, TR, PT, ES, CS, IT, UK, HU, SK. Please refer to the document “MAC iphone ipad keyboard layout for barcode scanner.docx”

\*It is recommended to install Google Gboard input method uniformly on Android devices. Please refer to the document “Android device keyboard layout for barcode scanner.docx”

## 7.2 Keyboard language settings

**See also**

Keyboard language settings have been split into a separate page: [Keyboard Language Settings](#).

## 8 Keyboard Language

### 8.1 Read the current keyboard layout



Read the current keyboard layout

**L1 \*ENUSA EN key**



\* US English keyboard

**L2 FR France French key**



French French keyboard

**L3 DE Germany key**



german german keyboard

**L4 IT Italy Italy key**



Italian keyboard

**L5 PT Portugal Portugal key**



Portuguese keyboard

**L6 ES Spain Spain key**



spanish keyboard

**L7 TR Turkey Turkey key**



Turkish Q keyboard



Turkish F keyboard

**L8 ENUK UK key**



British English keyboard

**L9 CS Czech Czech key**



Czech keyboard



Czech standard keyboard

**L10 HU Hungary Hungary key**



Hungarian keyboard

**L11 FR Belgium (French) Belgium FR Key**



Belgian French keyboard

**L12 PT Brazil (Portuguese) Brazil PT Key**



Brazilian Portuguese keyboard

**L13 FR Canadian French (Traditional) Canadian FR Key**



Canadian French (traditional) keyboard

**L14 HRCroatia Key**

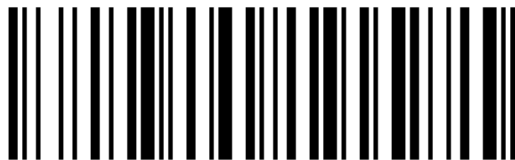


Croatian keyboard

**L15 SK Slovak Key**



Slovak QWERTY keyboard



Slovak keyboard

**L16 DA Denmark Denmark Key**



Danish keyboard

**L17 FI Finland Key**



Finnish keyboard

**L18 ES Latin America (Spanish) Latin-America ES Key**



Latin American Spanish keyboard

**L19 NL Netherlands Netherlands Key**



Dutch keyboard

**L20 NO Norway Norway Key**



Norwegian keyboard

**L21 PL Poland Poland Key**



Polish keyboard

**L22 SR Serbia (Latin) Serbia Key**



Serbian Latin keyboard

**L23 SL Slovenia Key**



Slovenian keyboard

**L24 SV Sweden Sweden Key**



Swedish keyboard

#### **L25 DE Switzerland (German) Swiss DE Key**



Swiss German keyboard

#### **L26 JP Japanese Japanese Key**



Japanese keyboard

#### **L27 TH Thai Thailand Key**

##### **Note**

When using a Thai keyboard, the code scan engine also needs to be set to TH output.



Thai keyboard

##### **See also**

Reference file: RF2.4G, Bluetooth Settings\_Chinese, Thai, Korean.docx.

#### **L28 ALT International Keyboard ALT Global Key**

##### **Note**

The ALT international keyboard layout is only available on Windows systems. It is not affected by the host keyboard layout, but it reduces transmission speed.



ALT international keyboard

## L29 ALT Single Byte Special Keyboard ALT Single Byte Special Key



ALT single-byte special character keyboard

### Note

Languages not listed in this section need to be customized to be supported.

## 9 Data Editing

### 9.1 Standard Data Editing Settings

This section describes how to configure common output rules such as prefixes, suffixes, and hidden characters by scanning setup codes.

#### Prefix/Suffix and Hidden Character Settings

You can add up to 10 prefixes and/or 10 suffixes to the output data. To configure them, scan the two-digit hexadecimal numeric setup codes that correspond to the required ASCII value (that is, two barcodes per character).

#### See also

For character values, please refer to *ASCII Function Key Character Reference Table* and *ASCII Character Reference Table*; for parameters that require input of numerical values, please scan *Numeric Setup Codes*; for specific procedures, see *Add a Prefix or Suffix*.

Can be set to hide the first, middle or last characters of the barcode. After scanning the corresponding hidden setting barcode, scan the two-digit hexadecimal setting barcode corresponding to the length of the characters to be hidden (00~FF, for example, scan 0 and 4 in sequence when hiding 4 characters).

#### See also

See *Steps to Hide the First/Middle/Tail Characters of a Barcode* for the hidden character process.

## Operation Code



Add Prefix



Add Suffix



Clear all prefixes



Clear all suffixes



Hide Leading Characters



Hide Middle Section Start Position



Hide Middle Section Length



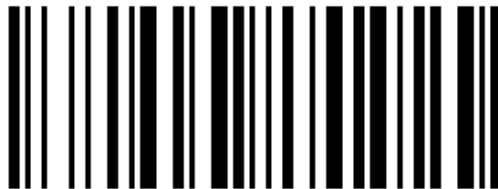
Hide Trailing Characters

## Numeric Setup Codes

For parameters that require a numeric value, scan the corresponding numeric setup codes.



Numeric Setup Code 0



Numeric Setup Code 1



Numeric Setup Code 2



Numeric Setup Code 3



Numeric Setup Code 4



Numeric Setup Code 5



Numeric Setup Code 6



Numeric Setup Code 7



Numeric Setup Code 8



Numeric Setup Code 9



Numeric Setup Code A



Numeric Setup Code B



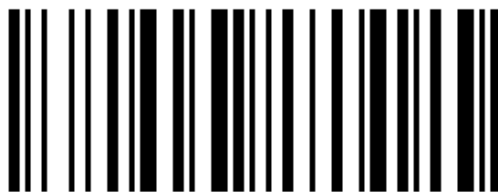
Numeric Setup Code C



Numeric Setup Code D



Numeric Setup Code E



Numeric Setup Code F

## Output Format Settings

To change the output data format, scan the corresponding setup barcode below.



Default Output Format



Allow Suffix Output



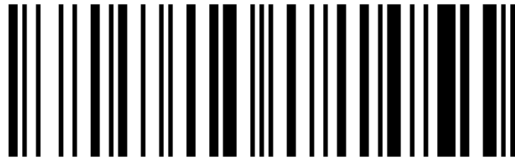
Allow Prefix Output



Allow Hiding Leading Data



Allow Hiding Middle Data



Allow Hiding Trailing Data

## Procedure Examples

### Add a Prefix or Suffix

1. If prefix and suffix output has not been enabled, please scan the corresponding output formatting code first.
2. The new characters will be appended to the existing suffixes; if you want to abandon the original suffixes, please scan “Clear all prefixes/suffixes” and then reset them.
3. Scan the “Add Prefix” or “Add Suffix” setting barcode.
4. Determines the hexadecimal value of the prefix or suffix to be entered based on *ASCII Function Key Character Reference Table* or *ASCII Character Reference Table*.
5. Scan the corresponding two-digit hexadecimal setting barcode.
6. To continue adding characters, repeat steps 4 and 5.

#### Example

If you need to add `Ctrl+A` as a prefix, scan “Add Prefix” “9” “7” “4” “1” in sequence.

#### Example

If you need to add `Ctrl+Alt+A` as a suffix, scan “Add suffix” “9” “7” “9” “9” “4” “1” in sequence.

### Steps to Hide the First/Middle/Tail Characters of a Barcode

1. Scan the setting barcode that hides the header, middle starting bit, middle length or trailing characters of the barcode.
2. Determine the hexadecimal value corresponding to the character length to be hidden (for example, hide 4 characters scan 0, 4; hide 12 characters scan 0, C).
3. Scan the corresponding two-digit hexadecimal setting barcode.
4. Enable or disable the hidden character function through the output formatting code.

## 9.2 Extended Data Editing Settings

This section lets you generate data editing setup codes from complete commands in one step. It is intended for batch configuration, remote serial-command delivery, or character replacement.

## Online One-Code Setup Generator

### Note

The online generator is shown only in the HTML manual. After generating a setup code, scan the generated barcode to complete the setting, or send the command by serial command using the format below.

### Add Prefix

### Add Suffix

### Hide Leading Barcode Characters

### Hide Middle Barcode Characters

### Hide Trailing Barcode Characters

### Character Replacement

### One-Code Setup Command Format

Edit format:

```
$DATA#nc1lxx#
```

**n**

1 suffix; 2 prefix; 3 hides the tail content of the barcode; 4 hides the middle content of the barcode; 5 hides the first content of the barcode; 7 replaces characters.

**c**

Code ID currently supports only 0, which indicates all symbologies.

**11**

Length, hexadecimal value: 01~0A, hide 01~FF, replace 01~05.

**xx**

ASCII value. Hexadecimal can be represented by \x plus two characters, and the character range is 0~9, A~F.

Table 1: One-Code Setup Examples

| Command                | Description                                                        |
|------------------------|--------------------------------------------------------------------|
| \$DATA#1005abcd\x03#   | Add 0x05 suffixes: abcd + 0x03.                                    |
| \$DATA#200ANETUM12345# | Add 0x0A prefix NETUM12345.                                        |
| \$DATA#3008#           | Hide the last 0x08 characters of the barcode.                      |
| \$DATA#40050A#         | Hides the 0x0A characters after the 0x05 character in the barcode. |
| \$DATA#5011#           | Hide barcode header 0x11 bytes.                                    |
| \$DATA#7001\x1D02GS#   | Replace GS (0x1D) characters with GS.                              |
| \$DATA#7002NT01Z#      | Replace NT with Z.                                                 |

## Character replacement operation

Format: \$DATA#70 + replaced character length + replaced characters + replacement data length + replacement data #

The sum of the lengths of the replaced characters and the replacement characters is  $\leq 6$ , supporting 1~6 characters being replaced by 5~0 characters.



Read replacement settings



Clear replacement settings

### Example

\$DATA#7001\x1D02GS# means replacing the non-displayable character GS (0x1D) with GS for display.



Character replacement operation: GS to text GS

### Example

\$DATA#7001\x0A01\x0D# means replacing LF (0x0A) with CR (0x0D).



Character replacement operation: LF to CR

### Example

\$DATA#7006ABCDEF00# means replacing the string ABCDEF with an empty string, that is, not displaying it.

## 9.3 Terminal character settings

**Note**

This terminal character is independent of the scan engine suffix and wireless suffix, which facilitates quick setting when the scan engine has no suffix.



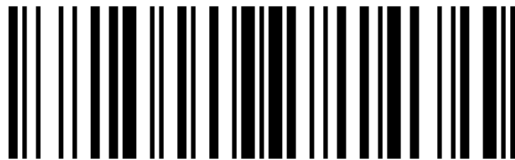
None (Default)



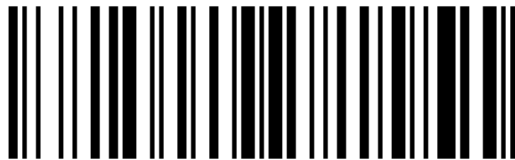
Carriage Return CR



Tab TAB



Carriage Return + Line Feed CRLF



Line Feed LF

## 9.4 GS1 AI field bracket settings

**Note**

Only some AI fields are applicable and require special version support.



Raw Format (Default)



Add Parentheses



Add brackets and separate with CR



Add brackets and separate them with TAB

## 10 Scan Mode

### 10.1 Barcode Decode Mode



Key scan mode (default)



Continuous scan mode

**Note**

Continuous Scan Mode is suitable for high-volume scanning workflows. Press the Trigger button once to start or stop scanning.



Key pulse scan mode

**Note**

Scanning starts when a key-level change is detected and maintained for about 30 ms. Scanning stops when another key-level change is detected, or when a decode succeeds or times out.



Host trigger mode (only applicable to some customized models)

**Note**

Host trigger mode is only applicable to some customized models.



Batch scanning mode (only applicable to some customized models)

## Decoding timeout

This parameter sets the maximum time that decoding processing lasts during a scan attempt. Default: 3000ms, range: 0500-9999ms.



3 seconds (default)



6 seconds

## Scan Interval

The interval between two readings in continuous mode. Default: 500ms, range: 0100-9999ms.



0.5 seconds (default)



1 second

## 11 Module Settings

### 11.1 Engine Code ID

#### Decode data format

#### Decoded Data Packet Format

Currently, a type of data packet transparent transmission format related to SSI / SNAP I has been confirmed.

The device can transparently transmit user-defined parameter barcodes to the host as ordinary decoding data:

- User-defined parameter barcode format:

```
<FNC3><L><data>
或
<FNC3><B><12 bytes of data>
```

- Decoded data format:

```
<0xf3><L><data>
或
<0xf3><B><12 bytes of data>
```

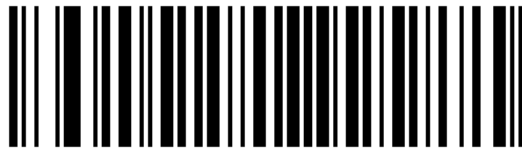
The B type only supports 12 byte data. After successfully reading the user-defined parameter barcode, the device will issue a normal decoding beep.

### AIM Code identifier

Used to control whether the output data contains AIM Code ID or Extended Code ID.

Options:

- None, default value
- AIM Code ID Character
- Extended Code ID Character



\* Do not output Code ID



Output AIM Code ID



Output Extended Code ID

If this option is enabled, Code ID will be inserted between “prefix” and “decoded data” .

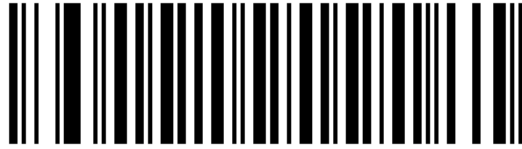
#### Note

If Transmit "No Read" Message is enabled at the same time, and AIM Code ID Character or Extended Code ID Character is enabled, the device will append the code identifier of Code 39 after the NR message.

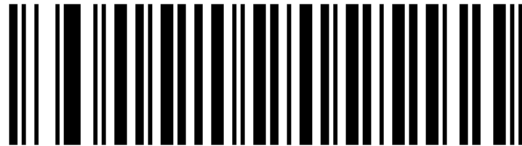
### Unable to read message

Used to control whether NR is sent to the host when decoding is unsuccessful.

- Enable No Read
- Disable No Read, default value



Enable No Read messages



\* Disable No Read messages

## AIM Code ID and FN1

### AIM Code ID characters

#### See also

This section mainly undertakes the control logic of “whether to output AIM Code ID” ; see [Engine character table](#) for the terminal-specific Code ID comparison table.

### FN1 replacement

Applies to USB HID keyboard host only. When enabled, FN1 (0x1b) in the EAN-128 barcode can be replaced with the user-set value.

The default replacement value is 7013, which is the Enter key.

When setting via host command:

The documentation requires setting Key Category to 1 first, and then setting the 3-digit key value.

### FN1 replacement value table

Used to set the FN1 replacement target value.

Barcode menu setting steps:

1. Scan Set FN1 Substitution Value
2. Find the target key in the ASCII character table corresponding to the current host interface
3. Scan 4-bit ASCII value



Set FN1 replacement value

If you make a mistake, you can scan Cancel and re-enter.

## 11.2 Engine Output Format

### Suffix Settings

PL5 does not have a dedicated “Suffix Settings” chapter. In the wireless customized version, keep the minimum suffix workflow: first set `Scan Suffix 1` or `Scan Suffix 2`, then write `Prefix/Suffix Values`, and finally select a `Scan Data Transmission Format` that includes the suffix.

Common terminator values:

- 1013: CR / Enter.
- 7013: Enter, commonly used in terminal or FN1 substitution value scenarios.

Recommended procedure:

1. Scan `Scan Suffix 1` or `Scan Suffix 2`.
2. Use numeric setting barcodes to enter 1013 or 7013.
3. Scan for `<DATA> <SUFFIX 1>`, `<DATA> <SUFFIX 2>` or `<DATA> <SUFFIX 1> <SUFFIX 2>`.
4. To cancel suffix output, scan `Data As Is`.



Scan suffix 1



Scan suffix 2



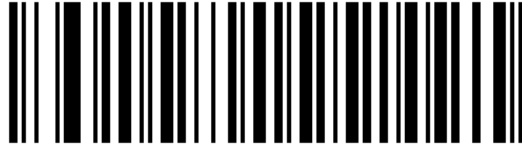
\\* Data As Is



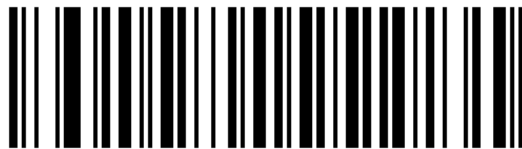
<DATA> <SUFFIX 1>



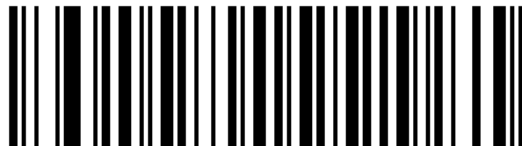
<DATA> <SUFFIX 2>



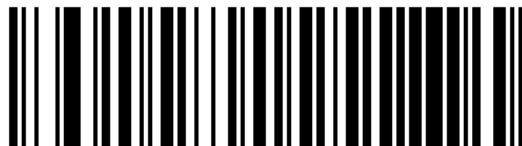
<DATA> <SUFFIX 1> <SUFFIX 2>



<PREFIX> <DATA> <SUFFIX 1>



<PREFIX> <DATA> <SUFFIX 2>



<PREFIX> <DATA> <SUFFIX 1> <SUFFIX 2>

## 11.3 Trigger Settings

### Trigger Mode

#### Trigger mode selection/Trigger Mode

Used to select the trigger method for the device to start decoding. The following options are currently confirmed from the original text:

- **Level** Enters the decoding process after the trigger event starts, until the trigger ends, decoding is successful, or the “decoding session timeout” is reached.
  - **Presentation Mode** is automatically triggered when the device detects a target within the field of view and attempts to decode it. This mode is only available in decoding mode, and the target detection range is fixed under normal lighting conditions; the device will not enter low-power mode in this mode.
  - **Host** triggers the trigger signal by the host command; the actual physical trigger is still interpreted in the **Level** way.
-

- **Auto Aim** Turns on the aiming pattern when motion is detected, and starts decoding after pulling the trigger; if there is no activity for 2 seconds, the aiming pattern automatically turns off.
- **Auto Aim with Illumination** turns on the aiming pattern and internal lighting LED at the same time when motion is detected, and starts decoding after pulling the trigger; if there is no activity for 2 seconds, the aiming pattern and lighting LED automatically turn off.



Level



Presentation Mode



Host



Auto Aim



Auto Aim with Illumination

## Continuous code reading and timeout

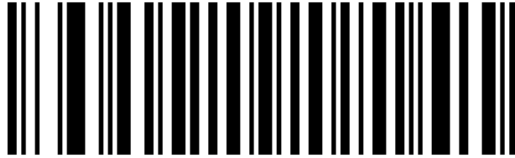
### Continuous code reading

Used to control whether the device continues to try to read barcodes after a trigger.

- **Disable**, default value
- **Enable**



\* Disable continuous code reading



Enable continuous code reading

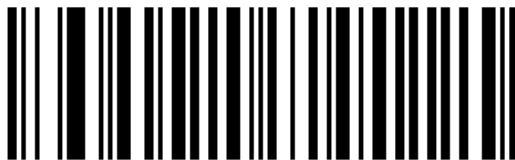
### Unique barcode reporting

Used to control the reporting strategy of repeated content during continuous code reading.

- Disable, default value
- Enable



\* Disable unique barcode reporting



Enable unique barcode reporting

### Low light motion detection

Used to adjust motion detection strategies in low-light environments.

- No Low Light Motion Detection, default value
- Low Light Motion Detection 1
- Low Light Motion Detection 2



\* Disable low-light motion detection



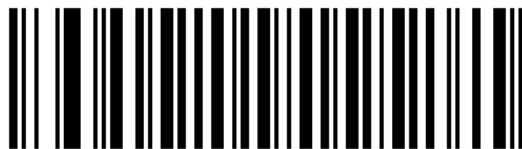
Low light motion detection level 1



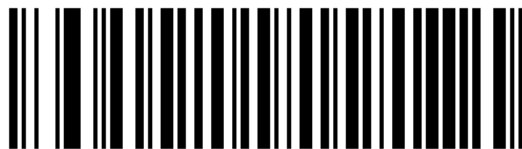
Low light motion detection level 2

### Demo mode view

Used to adjust the target detection field of view in demonstration mode. The default value is `Medium Field of View`. The corresponding setting code has been extracted. The name of the field of view type shall be subject to the original text for subsequent proofreading.



Demo mode field of view option 00h



Demo mode field of view option 01h



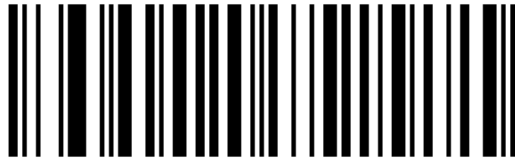
Demo mode field of view option 02h

### PDF priority timeout

Used to set the waiting time for the device to first try to read `PDF417` before reporting the one-dimensional code in the field of view after `PDF Prioritization` is enabled.

- Value range: 0 to 5000 ms
  - Default value: 200 ms
  - Setting method: first scan the setting code below, then scan the 4-digit barcode and enter the millisecond value
-

For example, when set to 400 ms, you need to scan the setting code and then enter 0400.



Set PDF priority timeout

### Same code repetition decoding interval

Used to limit the same barcode from being output repeatedly in a short period of time. According to the default parameter table, the default value is 0.6 seconds. It is currently confirmed that there is an independent setting code, which is suitable for inputting specific interval values in conjunction with numerical barcodes.



Set the same code repeated decoding interval

### Different code repetition decoding interval

Used to limit the minimum interval when reading different barcodes continuously. According to the default parameter table, the default value is 0.2 seconds.

- Value range: 0.1 to 9.9 seconds
- Input method: After scanning the setup code below, scan the 2-digit barcode



Set the different code repetition decoding interval

### Low power consumption and stop conditions

#### Low power delay

This parameter is used to set how long the device remains active after decoding is complete. After a scanning session ends, the device waits for a set time before entering low-power mode.

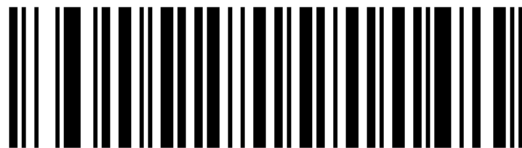
#### Note

Original description: This parameter only takes effect when `Power Mode` is set to low power mode.

## Low power consumption delay value table

The following values have been confirmed from the original text:

- 1 Second
- 5 Seconds
- 1 Minute
- 5 Minutes
- 15 Minutes
- 1 Hour



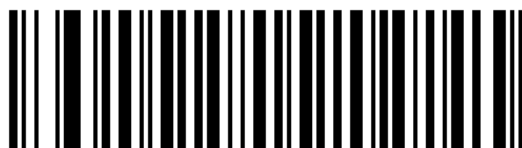
1 second



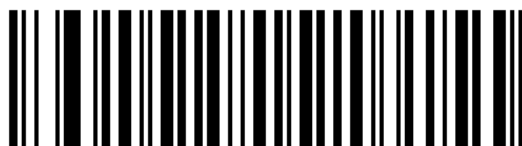
5 seconds



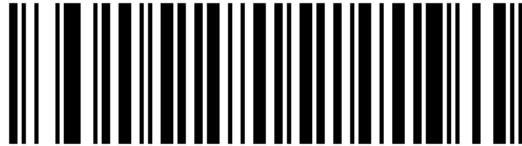
1 minute



5 minutes



15 minutes



1 hour

If you need to set it to a value other than the above, the original text requires programming through the “Using Time Delay to Low Power Mode with SSI” method in the SSI interface.

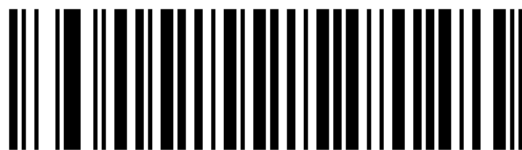
### Low power mode switch

Source page: Page 102 Power Mode (Serial Hosts Only)

- Continuous On Does not enter low power state after decoding attempt.
- Low Power Mode Press the “low power delay” parameter to enter low power mode after decoding attempt.



Continuous On



Low Power Mode

### Picklist mode

Used to limit the device to decoding only bar codes located below the center area of the targeting pattern.

- Disabled Always, default value
- Enabled Always



\* Always disable Picklist



Always enable Picklist

## Decoding session timeout

Used to set the maximum duration of a single decoding attempt, ranging from 0.5 to 9.9 seconds in 0.1 seconds.



Set decoding session timeout

## Host Serial Response Timeout

### See also

This parameter belongs to the serial port and SSI communication parameters; when using the serial port host mode directly, the complete value and communication instructions should be checked in the complete PL5 module manual.

## Host Character Timeout

### See also

This parameter belongs to the serial port and SSI communication parameters; when using the serial port host mode directly, the complete value and communication instructions should be checked in the complete PL5 module manual.

## 11.4 Imager Settings

### Images and Video

#### Imager Preferences

This section serves as the general entry point for imager parameters related to decoding, image capture, video viewfinder, and image quality.

#### Work Mode

Used for parameters related to the imager work mode, capture mode, or image output mode.

#### Mobile Screen Display Mode

Used to improve decode compatibility when reading from display media such as mobile phone screens and electronic displays.

- Disable, default value
- Enable



\* Disable Mobile Screen Mode



Enable Mobile Screen Mode

## Video Resolution

Used to reduce the resolution before video transmission, in exchange for smaller video data size by deleting rows and columns.

| Option          | Value | Video size               |
|-----------------|-------|--------------------------|
| Full Resolution | 00h   | 752 x 480                |
| 1/2 Resolution  | 01h   | 376 x 240                |
| 1/4 Resolution  | 03h   | 188 x 120, default value |



full resolution



1/2 resolution



\* 1/4 resolution

## Frame rate

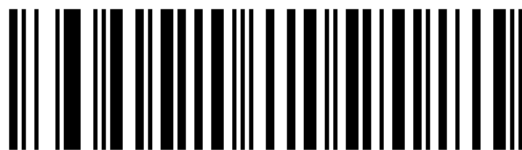
Used to control the frame rate during image acquisition and video transmission. Lower frame rates often help brighten images.

The following options are currently confirmed from the original text:\_\_\_\_\_

- Auto, default value
- 60 fps
- 55 fps
- 50 fps
- 45 fps
- 40 fps
- 30 fps
- 20 fps
- 15 fps
- 10 fps



\*Auto frame rate



60 fps



55 fps



50 fps



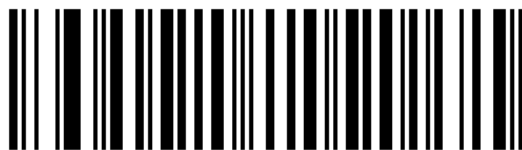
45 fps



40 fps



30 fps



20 fps



15 fps



10 fps

**Note**

When the frame rate is lower than or equal to 30 fps, the aiming pattern may appear to flicker.

### Image File Size Selector

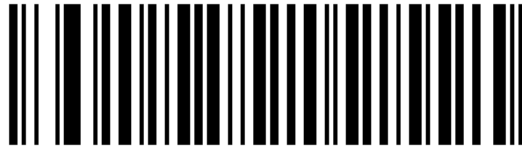
Confirmed for use with `JPEG Size Selector`, which controls the maximum JPEG file size by entering a 3-digit value.



BMP file format



\*JPEG file format



TIFF file format

## Image file metadata

Controls whether JPEG images are accompanied by EXIF 2.2 metadata.

- Enable Image File Meta Data
- Disable Image File Meta Data, default value

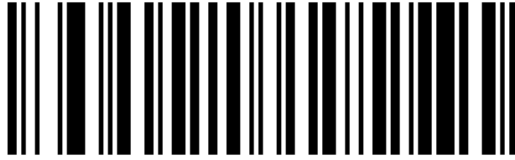
When enabled, the following fields can be written to:

- Time after power on
- Sensor type
- Device name
- manufacturer
- Frame rate
- Host type
- Image number after power on
- Image enhancement parameters
- Image sharpening parameters
- Image contrast enhancement parameters

This setting has no effect on the TIFF and BMP formats.



Enable image file metadata



\* Disable image file metadata

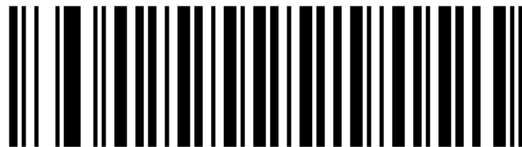
## video viewfinder

Used to control whether the live video viewfinder is displayed in image mode.

- Disable Video View Finder, default value
- Enable Video View Finder



\* Disable video viewfinder



Enable video viewfinder

## Video viewfinder image size

Used to set the video viewfinder image size, the input unit is 100-byte block.

- Value range: 800 to 12,000 bytes
- Default: 1700 bytes

The smaller the value, the higher the frame rate; the larger the value, the higher the image quality.



Set video viewfinder image size

## Target video frame size

Used to set the video data block size transmitted per second, the input unit is 100-byte block.

- Value range: 800 to 20,000 bytes
- Default: 2200 bytes

The smaller the value, the higher the frame rate; the larger the value, the higher the image quality.



Set target video frame size

## Lighting and aiming

### Illumination

This section explains the lighting control items in decoding and capture scenarios.

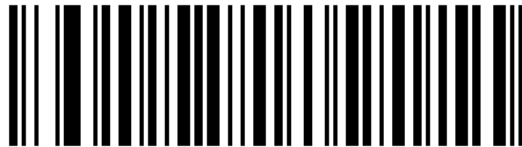
#### LED lighting

Used to describe how an LED light source is enabled, disabled, or working. If you access a separate parameter page later, you can add the relationship between switch value and brightness in this section.

#### Image acquisition lighting

Used to control whether lighting is enabled when taking a snapshot.

- Enable Image Capture Illumination, default value
- Disable Image Capture Illumination



\* Enable image acquisition lighting



Disable image acquisition lighting

Enabling lighting usually results in a better image, but the further away the target is, the less effective the fill light will be.

#### Lighting brightness

Used to set lighting brightness by adjusting LED power.

- Value range: 1 to 10
- Default value: 10
- Setting method: first scan the setting code below, then scan the 2-digit barcode to enter the brightness value

For example, when setting the brightness to 6, you need to scan the “Lighting Brightness” setting code first, and then enter 0 and 6.

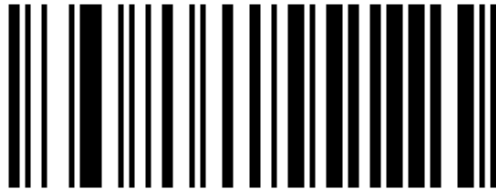


Set lighting brightness

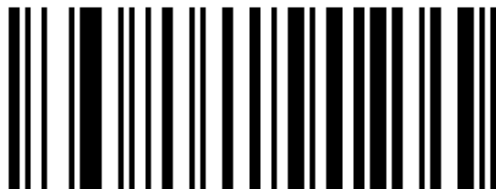
### Aim for brightness

Used to set the aiming pattern brightness. The default value is 0, which means the aiming pattern continues to light up between two exposures; when the value is greater than 0, every increase of 1, aiming duration increased 0.5 ms.

- Value range: 0 to 255
- Recommended range: When the frame rate is 60 fps, it is recommended to use 0 to 30
- Setting method: first scan the corresponding setting code, then enter the 3-digit barcode



snapshot mode



video mode



Set aiming brightness

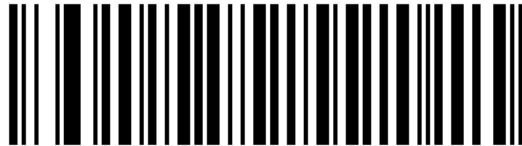
### Decode aiming pattern

Used to control whether to project the aiming pattern during decoding.

- Enable Decode Aiming Pattern, default value
- Disable Decode Aiming Pattern



Disable decoding aiming patterns



\* Enable decoding aiming patterns

**Note**

If Picklist mode is enabled, the aiming pattern will still flash even if Decode Aiming Pattern is turned off.

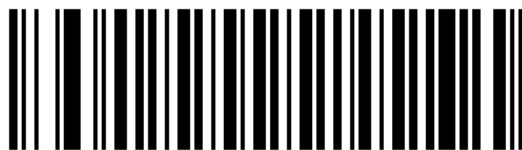
### snapshot aiming pattern

Used to control whether to display the aiming pattern in snapshot mode.

- Enable Snapshot Aiming Pattern, default value
- Disable Snapshot Aiming Pattern



\* Enable snapshot aiming pattern



Disable snapshot aiming pattern

### Snapshot mode timeout

Used to set the time the device stays in snapshot mode. After a timeout or triggering event, the device exits snapshot mode.

- The default value 0 means 30 seconds
- For each subsequent increase of 1, the time increases by 30 seconds.



Set snapshot mode timeout

## exposure and brightness

### automatic exposure

Used to control whether automatic exposure and automatic gain are enabled in decoding mode.

- Enable Decoding Autoexposure, default value
- Disable Decoding Autoexposure



\* Enable decoding auto-exposure



Disable decoding auto-exposure

When turned off, gain and exposure time need to be set manually. Officially only recommended for use by advanced users in complex reading scenarios.

#### Note

Switching this parameter under `Presentation Mode` is not recommended.

### Image acquisition automatic exposure

Used to control whether automatic exposure and automatic gain are enabled in snapshot capture mode.

- Enable Image Capture Autoexposure, default value
- Disable Image Capture Autoexposure



\* Enable automatic exposure for image acquisition



Disable automatic exposure for image acquisition

### fixed gain

Used to manually enlarge the original image data after decoding or image acquisition auto-exposure is turned off. Increasing gain increases brightness and contrast and may also increase image noise.

- Default value: 50
- Value range: 1 to 100
- Input method: After scanning the setup code below, scan the 3-digit barcode



Set fixed gain

### Exposure time

Used to manually specify the exposure duration after turning off automatic exposure. The default value is 100, which is 10 ms. This parameter is more suitable for use with automatic exposure off scenes.

- Each integer value represents 100  $\mu$ s
- Default value: 100
- Value range: 1 to 1000
- Input method: After scanning the setup code below, scan the 4-digit barcode



Set exposure time

### Image brightness target white value

Used to set the target white value used by the automatic exposure algorithm in snapshot and video modes.

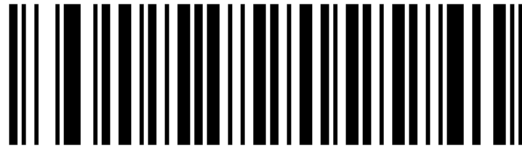
- Default value: 180
- Input method: scan Image Brightness and then enter 3 digits

The document defines white as decimal 240 and black as decimal 1; the default value 180 will make the image white bit approximately 180.

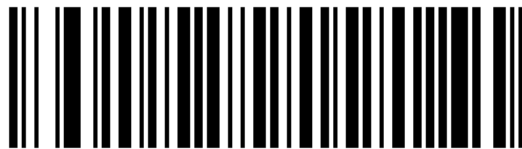
## bit depth

Used to set the number of effective bits per pixel when capturing images.

- 1 BPP
- 4 BPP
- 8 BPP, default value



1 BPP



4 BPP



\* 8 BPP

### Note

JPEG images always use 8 BPP and are not affected by this parameter.

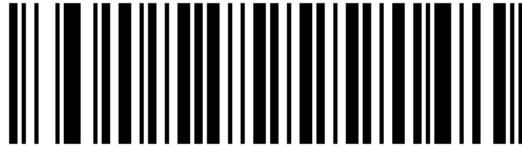
## Image resolution

Used to reduce the capture resolution before image compression, in exchange for a smaller image data size by deleting rows and columns.

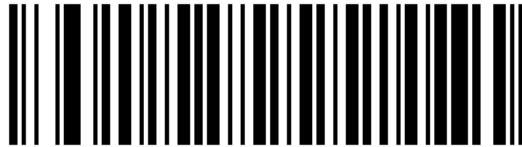
| Option          | Value | Uncropped image size |
|-----------------|-------|----------------------|
| Full Resolution | 00h   | 752 x 480            |
| 1/2 Resolution  | 01h   | 376 x 240            |
| 1/4 Resolution  | 03h   | 188 x 120            |



\* Full resolution



1/2 resolution



1/4 resolution

## Image enhancement and cropping

### Fuzzy one-dimensional processing

Used to enhance the reading ability of one-dimensional barcodes that are slightly blurred or have unclear edges.

- `Disable`
- `Enable`, default value



Disable blur 1D processing

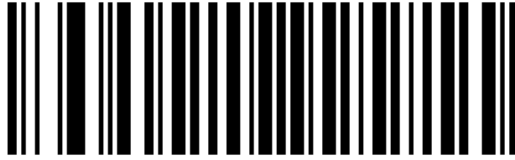


\* Enable blurred 1D processing

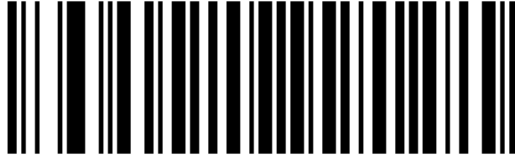
## mirror image

Used to control whether the output image is mirrored.

- `Disable`, default value
- `Enable`



\* Disable image mirroring



Enable image mirroring

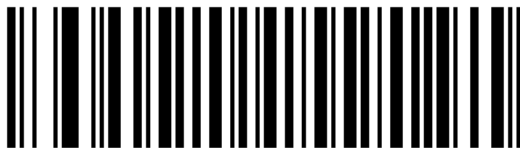
## image enhancement

Used to improve the look and feel of images through edge sharpening and contrast enhancement.

- Off (0)
- Low (1), default value
- Medium (2)
- High (3)
- User (4)



Image enhancement disabled (0)



\*Image enhancement low(1)



Image enhancement (2)



Image Enhancement High (3)



Image enhancement user customization (4)

After selecting `User`, you also need to set “Image Edge Sharpening” and “Image Contrast Enhancement” separately.

### Image contrast enhancement

Only takes effect when Image Enhancement is set to `User`.

- `Disable`
- `Enable`, default value



Disable image contrast enhancement



\* Enable image contrast enhancement

### image rotation

Used to control the rotation angle of the output image.

- `Rotate 0°`, default value
- `Rotate 90°`
- `Rotate 180°`
- `Rotate 270°`



\* Rotate 0°



Rotate 90°



Rotate 180°



Rotate 270°

### Image edge sharpening

Only takes effect when “Image Enhancement” is set to `User`, you can enter the 3-digit number manually, or use the recommended value directly.

- Off (0)
- Low (30), default value
- Medium (75)
- High (100)



Image edge sharpening setting code



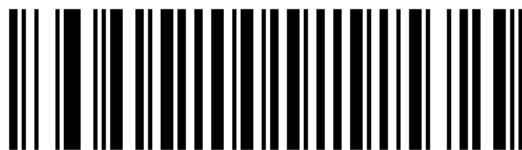
Sharpening disabled (0)



\* Sharpen Low (30)



Sharpening(75)



Sharpen High (100)

## Image cropping

Used to control whether to crop the screenshot.

- Enable Image Cropping
- Disable Image Cropping, default, uses full 742 x 480 image

### Note

The device's crop resolution is 4 pixels. If the crop size is set to less than 3 pixels, the entire image will actually be transferred.



Enable image cropping



\* Disable image cropping

## Crop by pixel address

When image cropping is enabled, the cropping area can be set by pixel coordinates:

- Column coordinate range: 0 to 751
- Row coordinate range: 0 to 479

For example, the 4 x 8 area in the lower right corner can be set to:

- Top = 476
- Bottom = 479
- Left = 744
- Right = 751

### Note

The minimum cropping granularity is 4 pixels, and non-multiples of 4 are rounded up.

## JPEG image options

Lets you choose between Optimize for Quality or Optimize for Size in the JPEG image.

- JPEG Quality Selector, default value
- JPEG Size Selector

## JPEG quality and size

Used to enter a JPEG quality value or target size value:

- JPEG Quality Value Default value 065, range 5 to 100
- JPEG Size Value Default value 160, range 5 to 350

where JPEG Size Value is in 1024 bytes, for example 008 represents a maximum of approximately 8192 bytes.

## Image file format

Used to select the snapshot saving format.

- BMP File Format
- JPEG File Format, default value
- TIFF File Format

## 11.5 Barcode Settings

### General instructions

- Most barcode parameters will take effect by scanning a setting code.
- Numeric parameters such as length, redundancy, timeout, etc. usually need to scan the entry setting code first, and then scan *Numeric barcodes*.
- If an error occurs during the input process, scan `Cancel` to cancel the current input sequence.

### Disable All Code Types

#### All encodings disabled



Disable All Code Types

### UPC/EAN

#### UPC-A Switch



\* Enable UPC-A



Disable UPC-A

#### UPC-E Switch



\* Enable UPC-E



Disable UPC-E

#### UPC-E1 switch



Enable UPC-E1



\* Disable UPC-E1

#### EAN-8/JAN-8 switch



\* Enable EAN-8/JAN-8



Disable EAN-8/JAN-8

#### EAN-13/JAN-13 switch



\* Enable EAN-13/JAN-13



Disable EAN-13/JAN-13

### Bookland EAN switch



\* Enable Bookland EAN



Disable Bookland EAN

### Bookland ISBN format



\\* Bookland ISBN-10



Bookland ISBN-13

### UPC/EAN/JAN additional code reading mode



Decode UPC/EAN/JAN Only With Supplementals



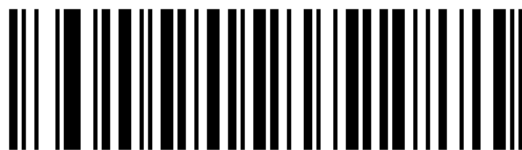
\* Ignore Supplementals



Autodiscriminate UPC/EAN/JAN Supplementals



Enable 378/379 Supplemental Mode



Enable 978/979 Supplemental Mode



Enable 977 Supplemental Mode



Enable 414/419/434/439 Supplemental Mode



Enable 491 Supplemental Mode



Enable Smart Supplemental Mode

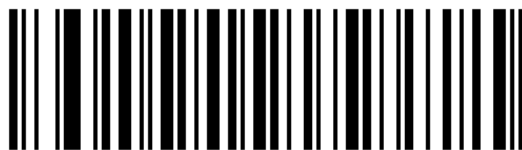
### Custom add-on code pattern



Supplemental User-Programmable Type 1



Supplemental User-Programmable Type 1 and 2



Smart Supplemental Plus User-Programmable 1



Smart Supplemental Plus User-Programmable 1 and 2

### Custom extension code type



User-Programmable Supplemental 1



User-Programmable Supplemental 2

## Additional code redundancy



UPC/EAN/JAN Supplemental Redundancy

## Additional code transmission format



Separate



\* Combined



Separate Transmissions

## UPC-A Check Digit Transmission

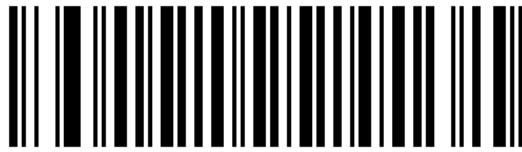


\* Transmit UPC-A Check Digit



Do Not Transmit UPC-A Check Digit

## UPC-E Check Digit Transmission

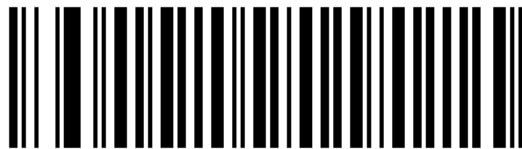


\* Transmit UPC-E Check Digit

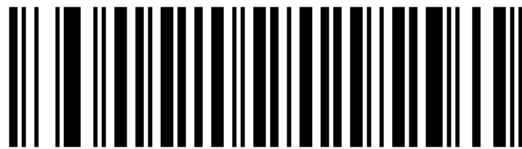


Do Not Transmit UPC-E Check Digit

## UPC-E1 check digit transmission



\* Transmit UPC-E1 Check Digit



Do Not Transmit UPC-E1 Check Digit

## UPC-A preamble



No Preamble ()

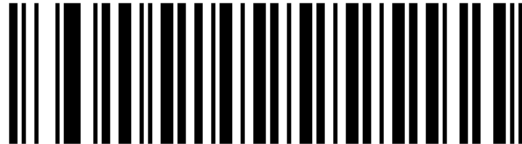


\* System Character ()

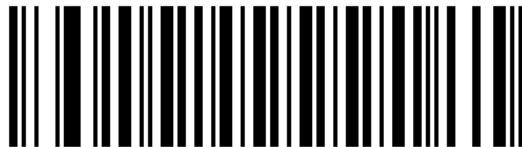


System Character & Country Code (< COUNTRY CODE> )

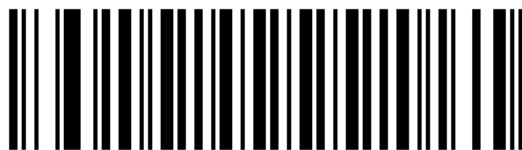
## UPC-E preamble



No Preamble ()



\* System Character ()



System Character & Country Code (< COUNTRY CODE> )

## UPC-E1 preamble



No Preamble ()

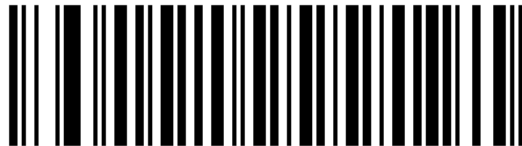


\* System Character ()

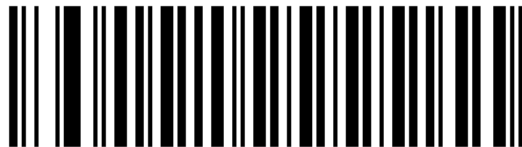


System Character & Country Code (< COUNTRY CODE> )

### UPC-E to UPC-A conversion

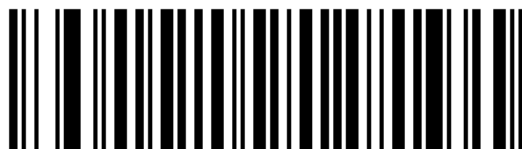


Convert UPC-E to UPC-A (Enable)



\* Do Not Convert UPC-E to UPC-A (Disable)

### Convert UPC-E1 to UPC-A



Convert UPC-E1 to UPC-A (Enable)

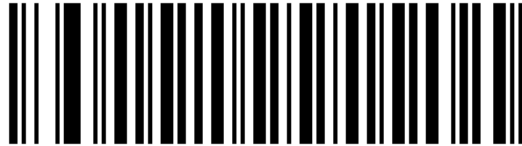


\* Do Not Convert UPC-E1 to UPC-A (Disable)

### EAN/JAN zero extension



Enable EAN/JAN Zero Extend



\* Disable EAN/JAN Zero Extend

### UCC Coupon extension code



Enable UCC Coupon Extended Code



\* Disable UCC Coupon Extended Code

### Coupon code format



Old Coupon Symbols

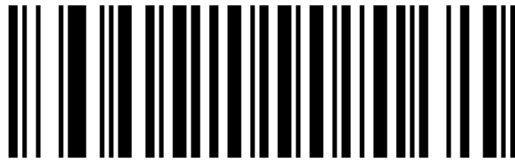


\* New Coupon Symbols

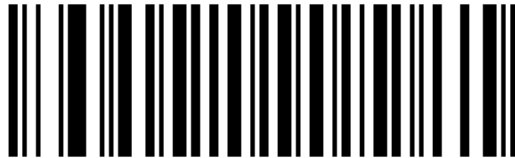


Both Coupon Formats

## ISSN EAN switch



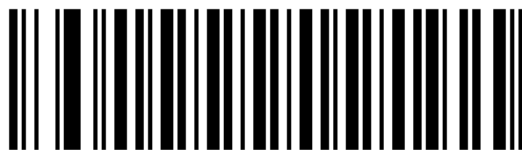
Enable ISSN EAN



\* Disable ISSN EAN

## Code 128

### Code 128 Switch



\* Enable Code 128



Disable Code 128

## Code 128 length setting



Code 128 - One Discrete Length



Code 128 - Two Discrete Lengths



Code 128 - Length Within Range



\* Code 128 - Any Length

## GS1-128 switch



\* Enable GS1-128



Disable GS1-128

## ISBT 128 switch

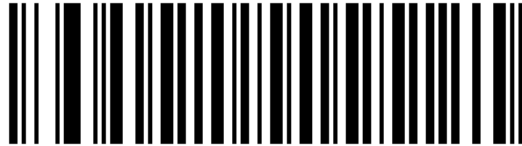


\* Enable ISBT 128



Disable ISBT 128

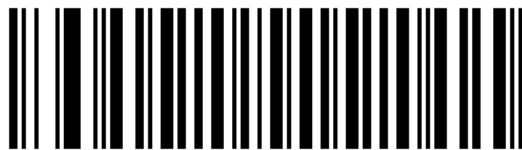
## ISBT connection mode



\* Disable ISBT Concatenation



Enable ISBT Concatenation



Autodiscriminate ISBT Concatenation

## ISBT table verification



\* Enable Check ISBT Table



Disable Check ISBT Table

## ISBT Concatenation Redundancy



ISBT Concatenation Redundancy

## Code 39

### Code 39 Switch

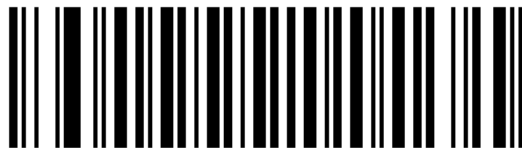


\* Enable Code 39

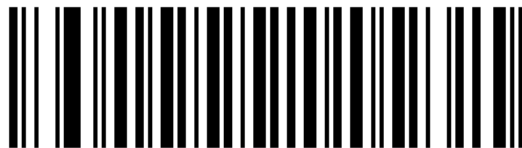


Disable Code 39

### Trioptic Code 39 switch



Enable Trioptic Code 39



\* Disable Trioptic Code 39

### Code 39 to Code 32



Enable Convert Code 39 to Code 32



\* Disable Convert Code 39 to Code 32

## Code 32 prefix



Enable Code 32 Prefix



\* Disable Code 32 Prefix

## Code 39 length setting



Code 39 - One Discrete Length



Code 39 - Two Discrete Lengths



\* Code 39 - Length Within Range

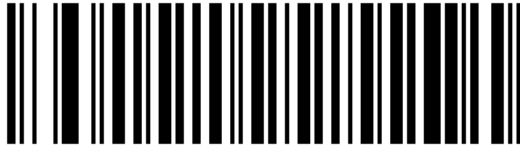


Code 39 - Any Length

## Code 39 Check Digit



Enable Code 39 Check Digit



\* Disable Code 39 Check Digit

### Code 39 Check Digit Transmission

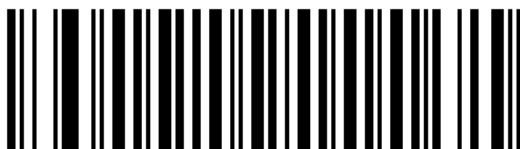


Transmit Code 39 Check Digit (Enable)



\* Do Not Transmit Code 39 Check Digit (Disable)

### Code 39 Full ASCII



Enable Code 39 Full ASCII

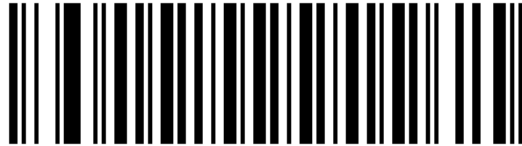


\* Disable Code 39 Full ASCII

### Code 39 buffer mode

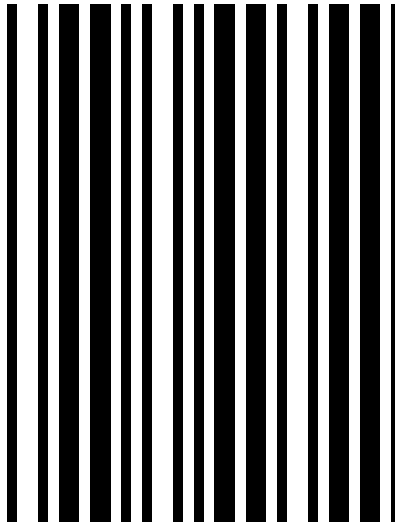


Buffer Code 39 (Enable)

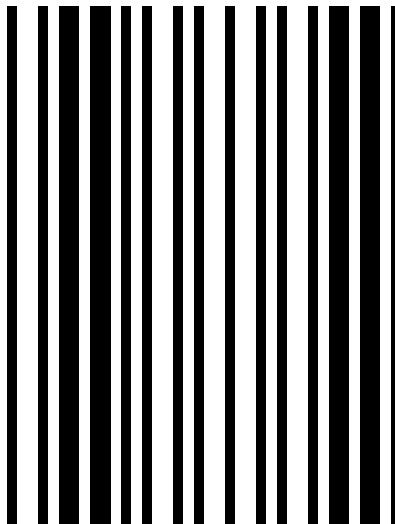


\* Do Not Buffer Code 39 (Disable)

## Code 39 Buffer Control



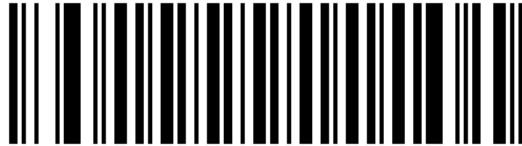
Clear Buffer



Transmit Buffer

## Code 93

### Code 93 Switch



Enable Code 93



\* Disable Code 93

### Code 93 length setting



Code 93 - One Discrete Length



Code 93 - Two Discrete Lengths



\* Code 93 - Length Within Range



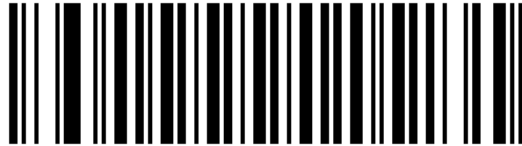
Code 93 - Any Length

### Code 11

#### Code 11 Switch



Enable Code 11



\* Disable Code 11

### Code 11 length setting



Code 11 - One Discrete Length



Code 11 - Two Discrete Lengths



\* Code 11 - Length Within Range



Code 11 - Any Length

### Code 11 check digit number



\* Disable

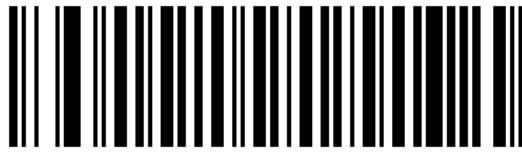


One Check Digit

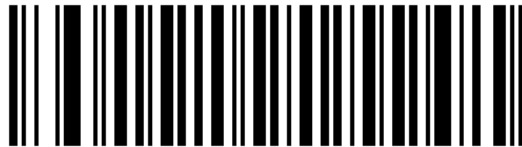


Two Check Digits

## Code 11 Check Digit Transmission



Transmit Code 11 Check Digit(s) (Enable)



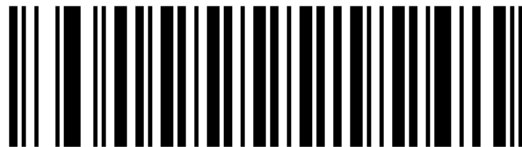
\* Do Not Transmit Code 11 Check Digit(s) (Disable)

## Interleaved 2 of 5 (ITF)

### Interleaved 2 of 5 Switch



Enable Interleaved 2 of 5



\* Disable Interleaved 2 of 5

## Interleaved 2 of 5 Length Settings



\* I 2 of 5 - One Discrete Length



I 2 of 5 - Two Discrete Lengths



I 2 of 5 - Length Within Range



I 2 of 5 - Any Length

### Interleaved 2 of 5 verification method



\* Disable



USS Check Digit



OPCC Check Digit

### Interleaved 2 of 5 check digit transmission

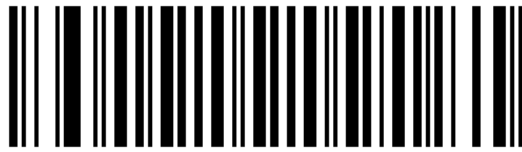


Transmit I 2 of 5 Check Digit (Enable)



\* Do Not Transmit I 2 of 5 Check Digit (Disable)

## Interleaved 2 of 5 to EAN-13



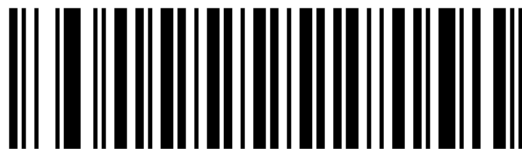
Convert I 2 of 5 to EAN-13 (Enable)



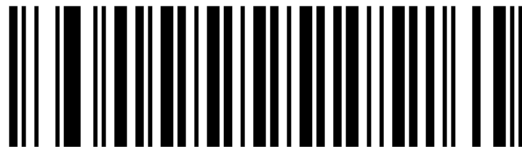
\* Do Not Convert I 2 of 5 to EAN-13 (Disable)

## Discrete 2 of 5 (DTF)

### Discrete 2 of 5 Switch



Enable Discrete 2 of 5



\* Disable Discrete 2 of 5

## Discrete 2 of 5 Length Settings



\* D 2 of 5 - One Discrete Length



D 2 of 5 - Two Discrete Lengths



D 2 of 5 - Length Within Range



D 2 of 5 - Any Length

## Codabar (NW-7)

### Codabar Switch



Enable Codabar



\* Disable Codabar

## Codabar length setting



Codabar - One Discrete Length



Codabar - Two Discrete Lengths



\* Codabar - Length Within Range



Codabar - Any Length

## CLSI Editor

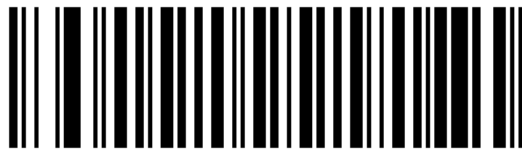


Enable CLSI Editing

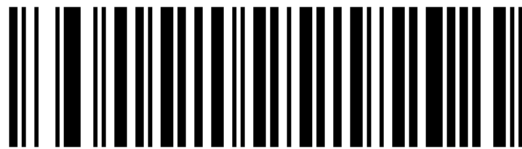


\* Disable CLSI Editing

## NOTICE Edit



Enable NOTIS Editing



\* Disable NOTIS Editing

## Start/terminator case



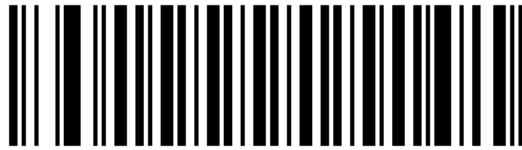
Lower Case



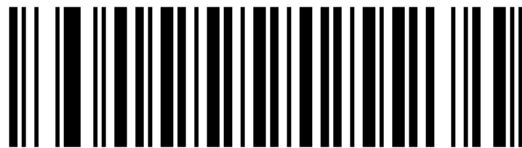
\*uppercase

## MSI

### MSI switch



Enable MSI



\* Disable MSI

### MSI length settings



MSI - One Discrete Length



MSI - Two Discrete Lengths



\* MSI - Length Within Range

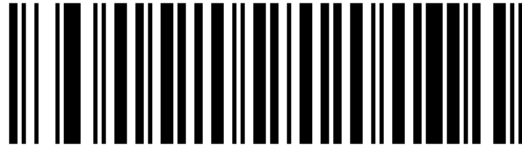


MSI - Any Length

### MSI check digit number

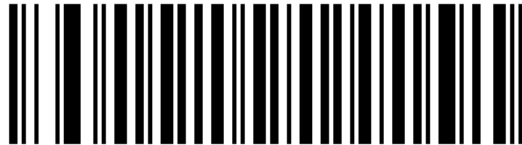


\* One MSI Check Digit

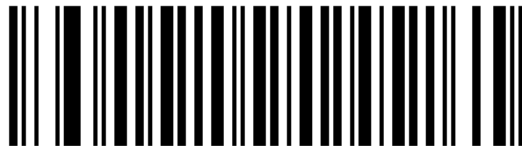


Two MSI Check Digits

### MSI check digit transmission



Transmit MSI Check Digit(s) (Enable)



\* Do Not Transmit MSI Check Digit(s) (Disable)

### Chinese 2 of 5

#### Chinese 2 of 5 Check Algorithm



MOD 10/MOD 11



\\* MOD 10/MOD 10

### Chinese 2 of 5 switch



Enable Chinese 2 of 5



\* Disable Chinese 2 of 5

## Matrix 2 of 5

### Matrix 2 of 5 Switch



Enable Matrix 2 of 5



\* Disable Matrix 2 of 5

## Matrix 2 of 5 length setting



\* Matrix 2 of 5 - One Discrete Length



Matrix 2 of 5 - Two Discrete Lengths

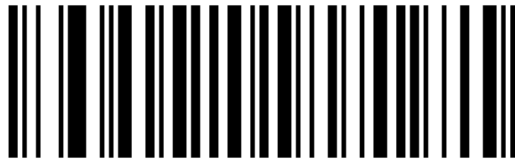


Matrix 2 of 5 - Length Within Range

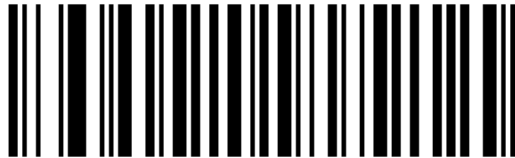


Matrix 2 of 5 - Any Length

## Matrix 2 of 5 check digit

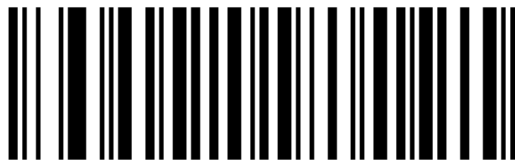


Enable Matrix 2 of 5 Check Digit



\* Disable Matrix 2 of 5 Check Digit

## Matrix 2 of 5 check digit transmission



Transmit Matrix 2 of 5 Check Digit



\* Do Not Transmit Matrix 2 of 5 Check Digit

## Korean 3 of 5

### Korean 3 of 5 Switch



Enable Korean 3 of 5



\* Disable Korean 3 of 5

## Reverse color 1D code

### Inverse color reading mode



\* Regular



Inverse Only



Inverse Autodetect

## Postal Code

### US Postnet switch



Enable US Postnet

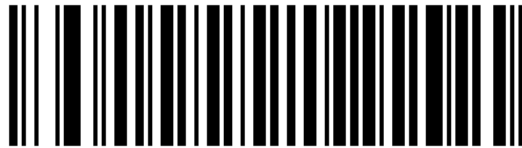


\* Disable US Postnet

## US Planet switch

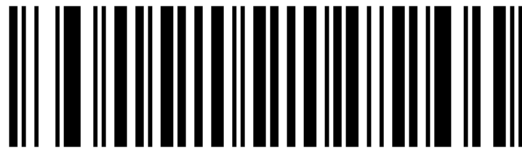


Enable US Planet



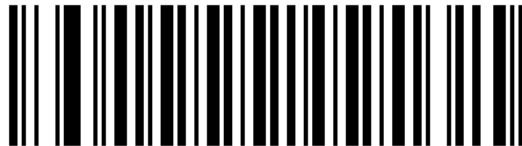
\* Disable US Planet

## US Postal Check Digit Transmission

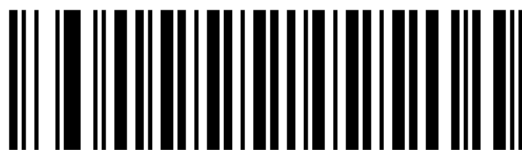


Do Not Transmit US Postal Check Digit

## UK Postal switch



Enable UK Postal



\* Disable UK Postal

## UK Postal Check Digit Transmission



\* Transmit UK Postal Check Digit



Do Not Transmit UK Postal Check Digit

### Japan Postal switch



Enable Japan Postal



\* Disable Japan Postal

### Australia Post switch



Enable Australia Post



\* Disable Australia Post

### Australia Post format



\* Autodiscriminate



Raw Format



Alphanumeric Encoding

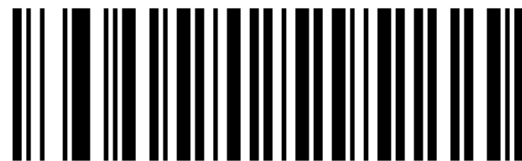


Numeric Encoding

#### Netherlands KIX Code Switch



Enable Netherlands KIX Code



\* Disable Netherlands KIX Code

#### USPS 4CB/One Code/Intelligent Mail switch

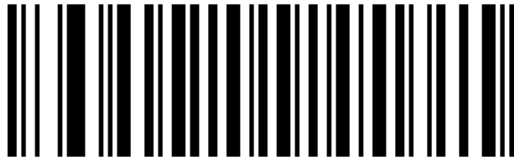


Enable USPS 4CB/One Code/Intelligent Mail



\* Disable USPS 4CB/One Code/Intelligent Mail

## UPU FICS Postal Switch



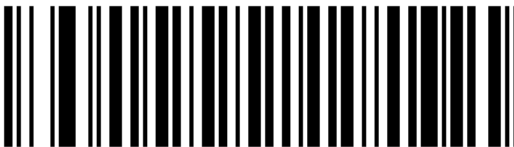
Enable UPU FICS Postal



\* Disable UPU FICS Postal

## GS1 DataBar

### GS1 DataBar switch



\* Enable GS1 DataBar



Disable GS1 DataBar

### GS1 DataBar Limited switch



Enable GS1 DataBar Limited



\* Disable GS1 DataBar Limited

### GS1 DataBar Limited Security Level



Security Level 1



Security Level 2



\* Security Level 3



Security Level 4

### GS1 DataBar Expanded switch

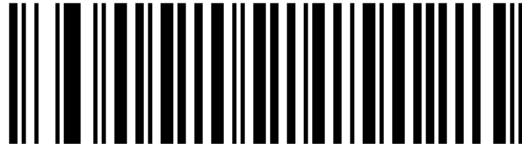


\* Enable GS1 DataBar Expanded

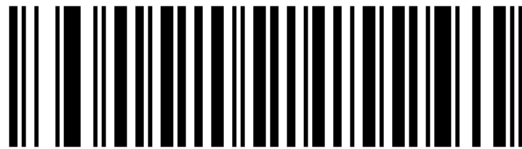


Disable GS1 DataBar Expanded

## GS1 DataBar to UPC/EAN



Enable Convert GS1 DataBar to UPC/EAN



\* Disable Convert GS1 DataBar to UPC/EAN

## Composite compound code

### CC-C switch



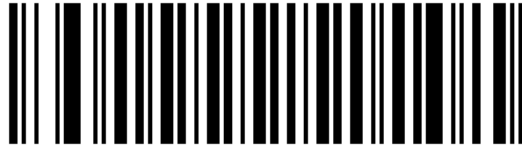
\* Disable CC-C

### CC-A/B switch



\* Disable CC-A/B

### TLC39 switch

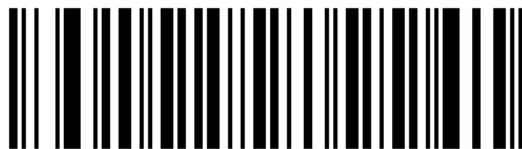


Enable TLC39



\* Disable TLC39

### Composite code beep prompt



Single Beep After Both are Decoded



\* Beep as Each Code Type is Decoded



Double Beep After Both are Decoded

### UCC/EAN composite code GS1-128 simulation



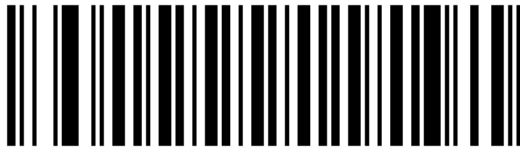
Enable GS1-128 Emulation Mode for UCC/EAN Composite Codes



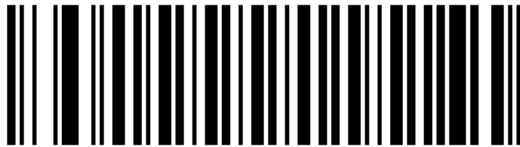
\* Disable GS1-128 Emulation Mode for UCC/EAN Composite Codes

## 2D barcode

### PDF417 Switch

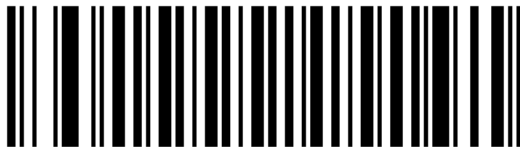


\* Enable PDF417



Disable PDF417

### MicroPDF417 switch



Enable MicroPDF417

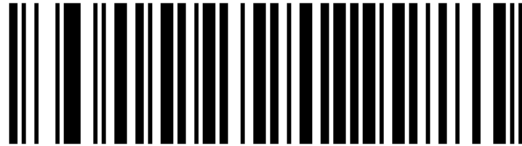


\* Disable MicroPDF417

### MicroPDF417 Code 128 Simulation



Enable Code 128 Emulation



\* Disable Code 128 Emulation

## Data Matrix Switch

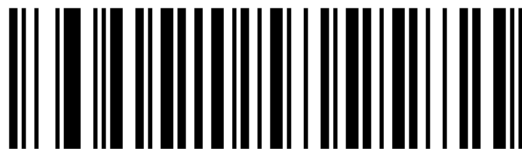


\* Enable Data Matrix



Disable Data Matrix

## Data Matrix reverse color reading



\* Regular



Inverse Only

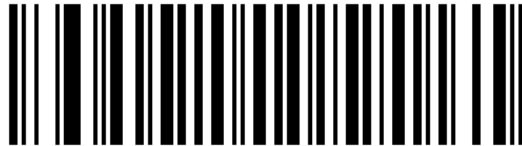


Inverse Autodetect

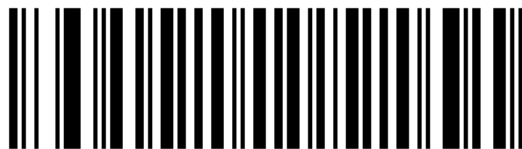
## Data Matrix Image Reading



Never

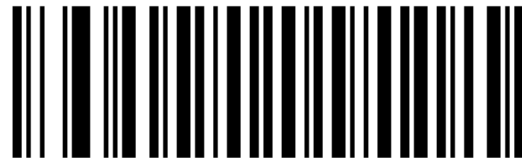


Always



\* Automatic

## Maxicode switch



Enable Maxicode

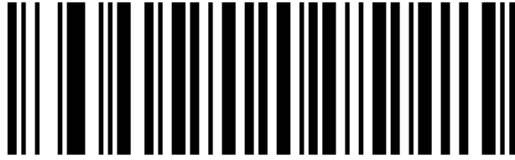


\* Disable Maxicode

## QR Code switch



\* Enable QR Code



Disable QR Code

### QR Code reverse color reading



\* Regular



Inverse Only



Inverse Autodetect

### MicroQR switch

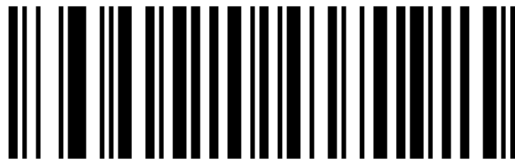


\* Enable MicroQR



Disable MicroQR

## Aztec switch



\* Enable Aztec



Disable Aztec

## Aztec reverse color reading



Regular



Inverse Only



\* Inverse Autodetect

## Redundancy Level

### Redundancy Level



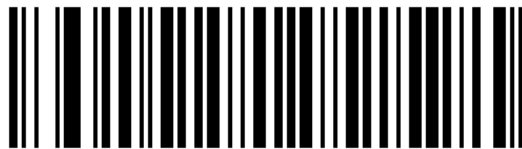
\* Redundancy Level 1



Redundancy Level 2



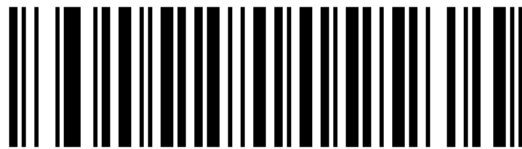
Redundancy Level 3



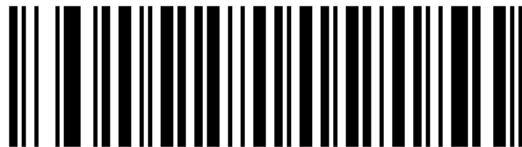
Redundancy Level 4

## Security Level

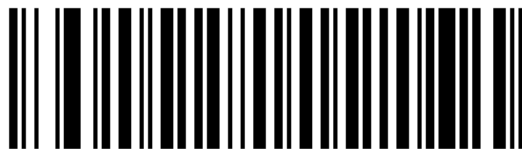
## Security Level



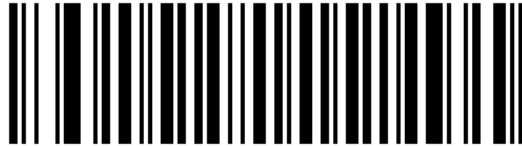
Security Level 0



\* Security Level 1



Security Level 2



Security Level 3

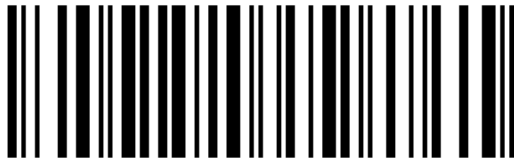
## Intercharacter Gap Size

### Intercharacter Gap Size

Used to adjust the character gap tolerance for `Code 39` and `Codabar` code systems. If barcode printing causes the character gap to exceed the standard range, a larger character gap can be selected to improve error tolerance.



\* Normal Intercharacter Gaps



Large Intercharacter Gaps

## Macro PDF features

### Macro PDF transfer/decoding mode



Buffer All Symbols / Transmit Macro PDF When Complete



Transmit Any Symbol in Set / No Particular Order



\* Passthrough All Symbols

## Macro PDF control header and escape characters



Enable Macro PDF Control Header Transmit



\* Disable Macro PDF Control Header Transmit



GLI Protocol



\* None

## Macro PDF buffer control



Flush Macro PDF Buffer



Abort Macro PDF Entry

## 11.6 Engine Character Table

### Table of suffixes, suffixes and character values

#### Prefix/suffix value table

The key points confirmed are as follows:

- Prefix/Suffix Values is set via 4 digits
- Number 1 is the button category
- The last 3 digits are decimal character values
- Detailed value table is located at Table E-1

Among some terminal default parameters, typical default values for suffixes and suffixes include:

- STX (1002)
- CR (1013)
- ETX (1003)

#### FN1 replacement value table

Used to set the replacement value for FN1 in EAN-128.

The confirmed rules are as follows:

- Default value: 7013, which is Enter

Setup steps:

1. Scan Set FN1 Substitution Value
2. Find the target key value in the ASCII character table of the current host interface
3. Enter the corresponding 4-digit value

When setting via host command, first set Key Category to 1, and then set the 3-digit key value.

## 11.7 Engine Setting Barcodes

### Reference setting code

#### Numeric Setup Codes

Used to enter numerical parameters such as length, timeout, brightness, address, etc. This section gives the digital setting codes from 0 to 9.



number 0



Number 1



Number 2



Number 3



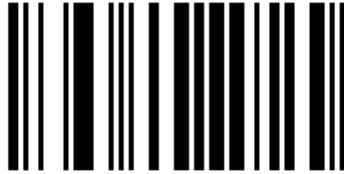
number 4



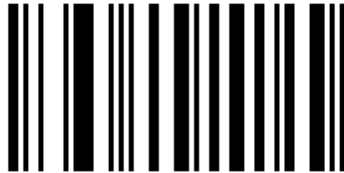
number 5



Number 6



number 7



number 8



number 9

### Cancel input

Used to undo the current input and start over when setting a value.



Cancel input

## 12 Appendix

### 12.1 Character Reference Table

#### ASCII Function Key Character Reference Table

##### 0FH

| HEX | CODE | *Config0  | Config3   | Con-<br>fig1 | Con-<br>fig4 | Config2 Win-<br>dows | Config5 Win-<br>dows |
|-----|------|-----------|-----------|--------------|--------------|----------------------|----------------------|
| 00H | NUL  | NUL       | NUL       | Ctrl+@       | Ctrl+@       | ALT+000              | ALT+000              |
| 01H | SOH  | NUL       | NUL       | Ctrl+A       | Ctrl+A       | ALT+001              | ALT+001              |
| 02H | STX  | NUL       | NUL       | Ctrl+B       | Ctrl+B       | ALT+002              | ALT+002              |
| 03H | ETX  | NUL       | NUL       | Ctrl+C       | Ctrl+C       | ALT+003              | ALT+003              |
| 04H | EOT  | NUL       | NUL       | Ctrl+D       | Ctrl+D       | ALT+004              | ALT+004              |
| 05H | ENQ  | NUL       | NUL       | Ctrl+E       | Ctrl+E       | ALT+005              | ALT+005              |
| 06H | ACK  | NUL       | NUL       | Ctrl+F       | Ctrl+F       | ALT+006              | ALT+006              |
| 07H | BEL  | NUL       | NUL       | Ctrl+G       | Ctrl+G       | ALT+007              | ALT+007              |
| 08H | BS   | Backspace | Backspace | Ctrl+H       | Ctrl+H       | ALT+008              | ALT+008              |
| 09H | HT   | TAB       | TAB       | TAB          | Ctrl+I       | ALT+009              | ALT+009              |
| 0AH | LF   | NUL       | Enter     | Ctrl+J       | Ctrl+J       | ALT+010              | ALT+010              |
| 0BH | VT   | TAB       | TAB       | Ctrl+K       | Ctrl+K       | ALT+011              | ALT+011              |
| 0CH | FF   | NUL       | NUL       | Ctrl+L       | Ctrl+L       | ALT+012              | ALT+012              |
| 0DH | CR   | Enter     | Enter     | Enter        | Ctrl+M       | Enter                | ALT+013              |
| 0EH | SO   | NUL       | NUL       | Ctrl+N       | Ctrl+N       | ALT+014              | ALT+014              |
| 0FH | SI   | NUL       | NUL       | Ctrl+O       | Ctrl+O       | ALT+015              | ALT+015              |

##### 1FH

| HEX | CODE | *Config0/3 | Config1/4 | Config2/5 Windows |
|-----|------|------------|-----------|-------------------|
| 10H | DLE  | NUL        | Ctrl+P    | ALT+016           |
| 11H | DC1  | NUL        | Ctrl+Q    | ALT+017           |
| 12H | DC2  | NUL        | Ctrl+R    | ALT+018           |
| 13H | DC3  | NUL        | Ctrl+S    | ALT+019           |
| 14H | DC4  | NUL        | Ctrl+T    | ALT+020           |
| 15H | NAK  | NUL        | Ctrl+U    | ALT+021           |
| 16H | SYN  | NUL        | Ctrl+V    | ALT+022           |
| 17H | ETB  | NUL        | Ctrl+W    | ALT+023           |
| 18H | CAN  | NUL        | Ctrl+X    | ALT+024           |
| 19H | EM   | NUL        | Ctrl+Y    | ALT+025           |
| 1AH | SUB  | NUL        | Ctrl+Z    | ALT+026           |
| 1BH | ESC  | ESC        | Ctrl+[    | ALT+027           |
| 1CH | FS   | NUL        | Ctrl+\    | ALT+028           |
| 1DH | GS   | NUL        | Ctrl+]    | ALT+029           |
| 1EH | RS   | NUL        | Ctrl+^    | ALT+030           |
| 1FH | US   | NUL        | Ctrl+-    | ALT+031           |

**Note**

On Mac systems, the Ctrl key corresponds to the Command key.

**ASCII Character Reference Table****5FH**

| HEX | ASCII | HEX | ASCII | HEX | ASCII | HEX | ASCII |
|-----|-------|-----|-------|-----|-------|-----|-------|
| 20H | Space | 30H | 0     | 40H | @     | 50H | P     |
| 21H | !     | 31H | 1     | 41H | A     | 51H | Q     |
| 22H | "     | 32H | 2     | 42H | B     | 52H | R     |
| 23H | #     | 33H | 3     | 43H | C     | 53H | S     |
| 24H | \$    | 34H | 4     | 44H | D     | 54H | T     |
| 25H | %     | 35H | 5     | 45H | E     | 55H | U     |
| 26H | &     | 36H | 6     | 46H | F     | 56H | V     |
| 27H | '     | 37H | 7     | 47H | G     | 57H | W     |
| 28H | (     | 38H | 8     | 48H | H     | 58H | X     |
| 29H | )     | 39H | 9     | 49H | I     | 59H | Y     |
| 2AH | *     | 3AH | :     | 4AH | J     | 5AH | Z     |
| 2BH | +     | 3BH | ;     | 4BH | K     | 5BH | [     |
| 2CH | ,     | 3CH | <     | 4CH | L     | 5CH | \     |
| 2DH | -     | 3DH | =     | 4DH | M     | 5DH | ]     |
| 2EH | .     | 3EH | >     | 4EH | N     | 5EH | ^     |
| 2FH | /     | 3FH | ?     | 4FH | O     | 5FH | _     |

**9DH**

| HEX | ASCII | HEX | ASCII | HEX | Fun Key | HEX | Fun Key      |
|-----|-------|-----|-------|-----|---------|-----|--------------|
| 60H | `     | 70H | p     | 80H | F1      | 90H | End          |
| 61H | a     | 71H | q     | 81H | F2      | 91H | Page Down    |
| 62H | b     | 72H | r     | 82H | F3      | 92H | Right Arrow  |
| 63H | c     | 73H | s     | 83H | F4      | 93H | Left Arrow   |
| 64H | d     | 74H | t     | 84H | F5      | 94H | Down Arrow   |
| 65H | e     | 75H | u     | 85H | F6      | 95H | Up Arrow     |
| 66H | f     | 76H | v     | 86H | F7      | 96H | Print Screen |
| 67H | g     | 77H | w     | 87H | F8      | 97H | *Ctrl        |
| 68H | h     | 78H | x     | 88H | F9      | 98H | *Shift       |
| 69H | i     | 79H | y     | 89H | F10     | 99H | *Left Alt    |
| 6AH | j     | 7AH | z     | 8AH | F11     | 9AH | *Right Alt   |
| 6BH | k     | 7BH | {     | 8BH | F12     | 9BH | 1s Delay     |
| 6CH | l     | 7CH |       | 8CH | Insert  | 9CH | *Win-GUI     |
| 6DH | m     | 7DH | }     | 8DH | Home    | 9DH | *Keystroke   |
| 6EH | n     | 7EH | ~     | 8EH | Page Up |     |              |
| 6FH | o     | 7FH | DEL   | 8FH | Delete  |     |              |

 **Note**

When Ctrl, Shift, Alt, GUI are set as prefix or suffix, they will be output in combination with the next character (not supported when set to ALT, TH keyboard). The character after Keystroke is directly output as the key value.