

# **MT8210, MT8220 2D Handheld Scanner User's Manual**

## Table of Content

<b>1. Introduction .....</b>	<b>9</b>
1.1 Manual Description .....	9
1.2 Product Requirements.....	9
1.3 Barcode Configurability .....	9
1.4 Factory Default .....	10
1.5 Custom Default.....	10
1.6 Check Version .....	10
<b>2. Interface .....</b>	<b>11</b>
2.1 RS232 .....	11
2.1.1 Baud Rate .....	11
2.1.2 Parity.....	12
2.2 USB HID .....	13
2.2.1 Intercharacter Delay .....	13
2.2.2 Polling Rate .....	14
2.2.3 Keyboard Layout.....	15
2.3 USB VCP .....	15
2.4 HID POS.....	16
<b>3. Reading Mode.....</b>	<b>17</b>
3.1 Batch Mode .....	17
3.2 Trigger Mode.....	17
3.2.1 Trigger Condition .....	17
3.2.2 LED Timeout.....	18
3.2.3 Identical Read Interval .....	18
3.3 Auto-sensing Mode .....	19
3.3.1 LED Timeout.....	20

---

3.3.2	Identical Read Interval .....	20
3.3.3	Image Stabilization Timeout.....	21
3.3.4	Auto-sensing Sensitivity.....	22
3.4	Continuous Mode .....	22
3.4.1	LED Timeout.....	22
3.4.2	Scan Interval.....	23
3.4.3	Identical Read Interval .....	23
<b>4.</b>	<b>Illumination and Aimer.....</b>	<b>25</b>
4.1	Illumination .....	25
4.2	Aimer.....	25
<b>5.</b>	<b>Indicator.....</b>	<b>26</b>
5.1	General Settings.....	26
5.2	Power Up Beep .....	26
5.3	Good Read Beep .....	26
5.3.1	Indicator Beep Type .....	26
5.3.2	Beep Volume .....	27
5.4	Configuration Barcode Beep .....	27
5.5	Good Read LED and duration.....	27
5.6	Not Good Read (NGR) Message.....	28
<b>6.</b>	<b>Data Format .....</b>	<b>29</b>
6.1	General Settings.....	29
6.2	Preamble + Code ID.....	29
6.3	Preamble .....	29
6.3.1	Enable/Disable/Set Preamble.....	29
6.4	Code ID.....	30
6.4.1	Enable/Disable/Reset Code ID.....	30

---

---

6.4.2 Set Code ID .....	30
6.5 Postamble.....	33
6.5.1 Enable/Disable Postamble .....	33
6.5.2 Set Postamble .....	33
6.6 Terminator .....	33
6.6.1 Enable/Disable Terminator.....	33
6.6.2 Set Terminator.....	34
6.7 Data .....	34
6.7.1 Data Output .....	34
6.7.2 Data Length .....	35
6.8 Encoding Format .....	35
6.9 ECI mode.....	36
<b>7. Symbologies.....</b>	<b>36</b>
7.1 General Settings.....	36
7.2 Inverse Barcode .....	37
7.3 Code128 .....	37
7.3.1 Reset to Default .....	37
7.3.2 Enable/Disable Code128.....	38
7.3.3 Min/Max Length.....	38
7.4 EAN-8.....	39
7.4.1 Reset to Default .....	39
7.4.2 Enable/Disable EAN-8 .....	39
7.4.3 Check Digit.....	39
7.4.4 Supplement.....	39
7.5 EAN-13 .....	40
7.5.1 Reset to Default .....	40

---

7.5.2 Enable/Disable EAN-13 .....	40
7.5.3 Check Digit.....	40
7.5.4 Supplement.....	41
7.5.5 EAN-13 to ISBN .....	41
7.5.6 EAN-13 to ISSN .....	41
7.6 UPC-E0.....	41
7.6.1 Reset to Default .....	41
7.6.2 Enable/Disable UPC-E0 .....	42
7.6.3 Check Digit.....	42
7.6.4 System Number .....	42
7.7 UPC-E1.....	43
7.7.1 Reset to Default .....	43
7.7.2 Enable/Disable UPC-E1 .....	43
7.7.3 Check Digit.....	43
7.7.4 System Number .....	43
7.7.5 Supplement.....	44
7.8 UPC-A.....	44
7.8.1 Reset to Default .....	44
7.8.2 Enable/Disable UPC-A.....	44
7.8.3 UPC-A to EAN-13 .....	45
7.8.4 Check Digit.....	45
7.8.5 System Number .....	45
7.8.6 Supplement.....	45
7.9 Interleaved 2/5.....	46
7.9.1 Reset to Default .....	46
7.9.2 Enable/Disable Interleaved 2/5.....	46

---

7.9.3 Min/Max Length.....	46
7.9.4 Verification .....	47
7.10 Matrix 2/5.....	47
7.10.1 Reset to Default .....	47
7.10.2 Enable/Disable Matrix 2/5 .....	48
7.10.3 Min/Max Length .....	48
7.10.4 Verification .....	49
7.11 Industrial 2/5 .....	49
7.11.1 Reset to Default .....	49
7.11.2 Enable/Disable Industrial 2/5 .....	49
7.11.3 Min/Max Length .....	50
7.11.4 Verification .....	50
7.12 IATA 2/5.....	51
7.12.1 Reset to Default .....	51
7.12.2 Enable/Disable IATA 2/5 .....	51
7.12.3 Min/Max Length .....	51
7.12.4 Verification .....	52
7.13 Code39 .....	52
7.13.1 Reset to Default .....	52
7.13.2 Enable/Disable Code39.....	53
7.13.3 Send Start & Stop.....	53
7.13.4 Min/Max Length .....	53
7.13.5 Verification .....	54
7.13.6 Enable/Disable Code32.....	54
7.13.7 Full ASCII Code39.....	54
7.14 Codabar.....	55

---

7.14.1 Reset to Default .....	55
7.14.2 Enable/Disable Codabar.....	55
7.14.3 Min/Max Length .....	55
7.14.4 Verification .....	56
7.14.5 Send Start & Stop.....	56
7.15 Code93 .....	57
7.15.1 Reset to Default .....	57
7.15.2 Enable/Disable Code93.....	57
7.15.3 Min/Max Length .....	57
7.16 Code11 .....	58
7.16.1 Reset to Default .....	58
7.16.2 Enable/Disable Code11 .....	58
7.16.3 Min/Max Length .....	59
7.17 MSI Plessey.....	59
7.17.1 Reset to Default .....	59
7.17.2 Enable/Disable MSI Plessey.....	60
7.17.3 Min/Max Length .....	60
7.18 GS1 DataBar .....	61
7.19 GS1 DataBar Limited .....	61
7.20 GS1 DataBar Expanded .....	61
7.21 Plessey .....	61
7.21.1 Reset to Default .....	61
7.21.2 Enable/Disable Plessey.....	62
7.21.3 Min/Max Length .....	62
7.21.4 Check Digit .....	63
7.22 PDF417 .....	63

---

7.23 MicroPDF417 .....	63
7.24 QR Code .....	63
7.25 Micro QR Code.....	64
7.26 Data Matrix.....	64
7.27 Aztec.....	64
<b>8. Configuration Barcode .....</b>	<b>65</b>
8.1 Data 0~F.....	65
8.2 Save & Abort.....	66
<b>Appendix.....</b>	<b>67</b>
Appendix A - Default Table .....	67
Appendix B - Code ID .....	72
Appendix C - ASCII Table .....	73
Appendix D - Configuration Method.....	77
LED Timeout.....	77
Image Stabilization Timeout.....	77
Identical Read Interval .....	77
Auto-sensing Threshold.....	77
Scan Interval.....	77
Preamble/Postamble.....	78
Terminator.....	78
Code ID .....	78
NGR (Not Good Read) Message .....	78
Min/Max Length.....	78
Intercharacter Delay .....	79
Good Read LED Duration.....	79
<b>Version History.....</b>	<b>80</b>



## 1. Introduction

### 1.1 Manual Description

This user's manual mainly provides instruction on configuring MT8210/MT8220. By scanning the configuration barcodes in this manual, you can change MT8210/MT8220's interface, reading mode, data format and so on. The appendix lists the default configurations of MT8210/MT8220. In most cases, user can use MT8210/MT8220 without further configuration.

### 1.2 Product Requirements

Model	Firmware Version	Interface
MT8210 MT8220	V2.18.25.4 or up	RS232
		USB HID
		USB VCP
		HID POS

### 1.3 Barcode Configurability

Scanning below configuration barcodes will allow/prohibit user to change settings by scanning configuration barcodes in this manual.



**Enable Barcode Configurability\***



**Disable Barcode Configurability**

Scanning below configuration barcodes will allow/prohibit configuration barcode data output.



**Enable Config Barcode Data Output**



**Disable Config Barcode Data Output\***

## 1.4 Factory Default

Scanning below configuration barcode will reset all parameters to factory default settings (the ones with \* asterisk mark)



**Factory Default**

## 1.5 Custom Default

You can create your own custom default. Scan **Save Custom Default** configuration barcode below and all the current settings of MT8210/MT8220 will be saved to your custom default, overwriting, if any, the previous one. Scan **Custom Default** to reset MT8210/MT8220 to the custom default settings.



**Save Custom Default**



**Custom Default**

## 1.6 Check Version

To check firmware version, please scan below configuration barcode.



**Check Version**

## 2. Interface

MT8210/MT8220 provides RS232 serial interface and multiple USB interfaces to communicate with the host. Through communication interface, it is possible to receive barcode data and send command to control MT8210/MT8220 at the same time.

### 2.1 RS232

Scanning below configuration barcode will set MT8210/MT8220 to RS232 interface.



**RS232**

Parameter	Default
Serial communication type	RS232
Baud Rate	9600
Parity	None
Data Bits	8
Stop Bits	1
Hardware Flow Control	None

#### 2.1.1 Baud Rate

The unit of Baud Rate is bps (bits per second); below are available options:



**1200**



**2400**



4800



14400



38400



115200



9600\*



19200



57600

### 2.1.2 Parity

Three parity options are available:



None\*



Odd



Even

## 2.2 USB HID

Scanning below configuration barcode will set MT8210/MT8220 to USB HID interface, in which MT8210/MT8220 becomes an HID keyboard device.



USB HID\*

### 2.2.1 Intercharacter Delay

Intercharacter delay is the time interval between the release of last key and the pressing of the next key. The configurable range is from 0 to 75ms; default is 2ms. Please refer to Appendix D for configuration method of **Set Intercharacter Delay**.



2ms\*



0ms



5ms



10ms



Set Intercharacter Delay

## 2.2.2 Polling Rate

The smaller the value, the faster MT8210/MT8220 sends characters to the host. If the host loses characters, please increase polling rate.



1ms\*



2ms



3ms



4ms



5ms



6ms



7ms



8ms



9ms



10ms

### 2.2.3 Keyboard Layout



English (USA)\*



Italian



Spanish



English (UK)



Portuguese



French



German



Turkish Q



Belgian



Brazilian

### 2.3 USB VCP

When configured to USB VCP interface, MT8210/MT8220 can communicate with the host via USB Virtual COM, which requires VCP driver to be installed.



USB VCP

## 2.4 HID POS

When configured to USB HID POS interface, MT8210/MT8220 can communicate with the host via USB HID, which requires no driver.



**HID POS**

vid: 0x26f1  
 pid: 0x8803

Host's command:

Byte	Content
0	Message ID (0x04)
1	Data length
2-61	Data (CMD)
62	0x00, 1 byte reserved
63	0x00 (no data behind) 0x01 (more data behind)

Scanner's response:

Byte	Content
0	Message ID (0x02)
1	Data length
2-57	Data (DATA)
58-62	0x00, 5 bytes reserved
63	0x00 (no data behind) 0x01 (more data behind)



### 3. Reading Mode

#### 3.1 Batch Mode

In batch mode, MT8210/MT8220 starts scanning barcode when trigger is pressed. If trigger keeps being pressed, the scanning continues, with each barcode scanned once. To restart a new batch reading, the trigger must be released and pressed again.



**Batch Mode**

#### 3.2 Trigger Mode

In trigger mode, MT8210/MT8220 starts scanning barcode when trigger is pressed. If trigger keeps being pressed within LED timeout, the scanning continues. When trigger is released or LED timeout expires, the scanning stops. To restart scanning, the trigger must be released and pressed again.



**Trigger Mode**

##### 3.2.1 Trigger Condition

When trigger condition = level, the trigger must always be pressed during a scanning operation. When trigger condition = pulse, MT8210/MT8220 starts scanning whenever the trigger is pressed, and will continue scanning until a barcode is scanned or a pre-set timeout is reached.



**Level\***

**Pulse**

### 3.2.2 LED Timeout

LED timeout is the maximum scanning duration. When LED timeout expires, the scanning operation stops automatically. The configurable range is from 1000 to 3600000ms; default is 3000ms. Please refer to Appendix D for configuration method of **Set LED Timeout**.



3000ms\*



5000ms



**Set LED Timeout**

### 3.2.3 Identical Read Interval

When identical read interval = 0ms, a barcode can be scanned only once. When identical read interval > 0ms, a barcode (or an identical one) can be re-scanned after the defined amount of interval expires. When identical read interval is enabled and identical read interval reset is disabled, a barcode (or an identical one) can be re-scanned only after the defined amount of interval expires. When identical read interval is enabled and identical read interval reset is enabled, a barcode (or an identical one) can be re-scanned only if it has not been scanned before the defined amount of interval expires.



**Disable Identical Read Interval\***



**Enable Identical Read Interval**



**Disable Identical Read Interval reset\***



**Enable Identical Read Interval reset**

The configurable range is from 0 to 65535ms; default is 1500ms. Please refer to Appendix D for configuration method of **Set Identical Read Interval**.



**0ms**



**1000ms**



**1500ms\***



**3000ms**



**5000ms**



**Set Identical Read Interval**

### 3.3 Auto-sensing Mode

In auto-sensing mode, MT8210/MT8220 automatically starts scanning barcode when image change is detected within its field of view. MT8210/MT8220 can still be triggered if trigger is pressed. When trigger is released or LED timeout expires, the scanning stops.



**Auto-sensing Mode**

### 3.3.1 LED Timeout

LED timeout is the maximum scanning duration. When LED timeout expires, the scanning operation stops automatically. The configurable range is from 1000 to 3600000ms; default is 3000ms. Please refer to Appendix D for configuration method of **Set LED Timeout**.



3000ms\*



5000ms



Set LED Timeout

### 3.3.2 Identical Read Interval

When identical read interval = 0ms, a barcode can be scanned only once. When identical read interval > 0ms, a barcode (or an identical one) can be re-scanned after the defined amount of interval expires. When identical read interval is enabled and identical read interval reset is disabled, a barcode (or an identical one) can be re-scanned only after the defined amount of interval expires. When identical read interval is enabled and identical read interval reset is enabled, a barcode (or an identical one) can be re-scanned only if it has not been scanned before the defined amount of interval expires.



Disable Identical Read Interval\*



Enable Identical Read Interval



**Disable Identical Read Interval reset\*    Enable Identical Read Interval reset**

The configurable range is from 0 to 65535ms; default is 1500ms. Please refer to Appendix D for configuration method of **Set Identical Read Interval**.



0ms



1000ms



1500ms\*



3000ms



5000ms



**Set Identical Read Interval**

### 3.3.3 Image Stabilization Timeout

The configurable range is from 0 to 1600ms; default is 60ms. Please refer to Appendix D for configuration method of **Set Image Stabilization Timeout**.



60ms\*



500ms



1000ms



**Set Image Stabilization Timeout**

### 3.3.4 Auto-sensing Sensitivity



Medium



Low



High\*



Ultra High



**Set Auto-sensing Threshold**

The higher auto-sensing threshold is, the lower the sensitivity. The configurable range is from 1 to 50; default is 10. Please refer to Appendix D for configuration method of **Set Auto-sensing Threshold**.

### 3.4 Continuous Mode

In continuous mode, MT8210/MT8220 keeps scanning barcodes continuously.



**Continuous Mode**

#### 3.4.1 LED Timeout

LED timeout is the maximum scanning duration. When LED timeout expires, the scanning operation stops automatically. The configurable range is from 1000 to 3600000ms; default is 3000ms. Please refer to Appendix D for configuration method of **Set LED Timeout**.



3000ms\*



5000ms



Set LED Timeout

### 3.4.2 Scan Interval

Scan interval is the period of time between two consecutive scans. The configurable range is from 0 to 65535ms; default is 1000ms. Please refer to Appendix D for configuration method of **Set Scan Interval**.



500ms



1000ms\*



2000ms



5000ms



0ms



Set Scan Interval

### 3.4.3 Identical Read Interval

When identical read interval = 0ms, a barcode can be scanned only once. When identical read interval > 0ms, a barcode (or an identical one) can be re-scanned after the defined amount of interval expires. When identical read

interval is enabled and identical read interval reset is disabled, a barcode (or an identical one) can be re-scanned only after the defined amount of interval expires. When identical read interval is enabled and identical read interval reset is enabled, a barcode (or an identical one) can be re-scanned only if it has not been scanned before the defined amount of interval expires.



**Disable Identical Read Interval\***



**Enable Identical Read Interval**



**Disable Identical Read Interval reset\***



**Enable Identical Read Interval reset**

The configurable range is from 0 to 65535ms; default is 1500ms. Please refer to Appendix D for configuration method of **Set Identical Read Interval**.



**0ms**



**1000ms**



**1500ms\***



**3000ms**



**5000ms**



**Set Identical Read Interval**



## 4. Illumination and Aimer

### 4.1 Illumination



Normal\*



Always Off



Always On

### 4.2 Aimer



Normal\*



Always Off



Always On

## 5. Indicator

### 5.1 General Settings



Mute



Unmute\*

### 5.2 Power Up Beep



On\*



Off

### 5.3 Good Read Beep



On\*



Off

#### 5.3.1 Indicator Beep Type



Type 1



Type 2



Type 3\*

5.3.2 Beep Volume



High\*



Medium



Low

5.4 Configuration Barcode Beep



On\*



Off

5.5 Good Read LED and duration



On\*



Off



100ms



200ms\*



**500ms**



**Set Good Read LED duration**

The configurable range is from 0 to 3600000ms; default is 200ms. Please refer to Appendix D for configuration method of **Set Good Read LED duration**.

## 5.6 Not Good Read (NGR) Message



**On**



**Off\***



**Set NGR Message**

The NGR message can be 0 to 7 bytes of data, ranging from 00 to FF. Please refer to Appendix D for configuration method of **Set NGR Message**.

## 6. Data Format

Full data format can be either one of following:

[Code ID] + [Preamble] + [DATA] + [Postamble] + [Terminator]

[Preamble] + [Code ID] + [DATA] + [Postamble] + [Terminator]

By default Code ID, Preamble and Postamble are disabled; terminator is 0x0D (Carriage Return). If full data format is disabled, only DATA will be displayed.

DATA can be further divided into [Start] + [Center] + [End] if the length of Start/End is defined.

### 6.1 General Settings



Enable Full Data Format\*



Disable Full Data Format

### 6.2 Preamble + Code ID



Code ID + Preamble



Preamble + Code ID\*

### 6.3 Preamble

#### 6.3.1 Enable/Disable/Set Preamble



Enable Preamble



Disable Preamble\*



### Set Preamble

Preamble can be 0 to 16 bytes of data, ranging from 00 to FF. Please refer to Appendix D for configuration method of **Set Preamble**.

Example: to set Preamble as "CODE"

1. Convert "CODE" into Hex equivalent as 43, 4F, 44, 45
2. Scan **Set Preamble**
3. Scan **4, 3, 4, F, 4, 4, 4, 5** respectively from **8.1 Data 0~F**
4. Scan **Save Configuration** from **8.2 Save & Abort**

## 6.4 Code ID

### 6.4.1 Enable/Disable/Reset Code ID



Enable Code ID



Disable Code ID\*



Reset All Code ID to Default

### 6.4.2 Set Code ID

Example: to set PDF417 Code ID as 'p'

1. Convert 'p' to Hex equivalent as 70
2. Scan **Set PDF417 Code ID**
3. Scan **7, 0** respectively from **8.1 Data 0~F**
4. Scan **Save Configuration** from **8.2 Save & Abort**



**Set PDF417 Code ID**



**Set Code128 Code ID**



**Set QR Code ID**



**Set Data Matrix Code ID**



**Set EAN-8 Code ID**



**Set EAN-13 Code ID**



**Set UPC-E0 Code ID**



**Set UPC-E1 Code ID**



**Set UPC-A Code ID**



**Set IATA 2/5 Code ID**



**Set Code39 Code ID**



**Set Code93 Code ID**



**Set Interleaved 2/5 Code ID**



**Set Codabar Code ID**



**Set Industrial 2/5 Code ID**



**Set Matrix 2/5 Code ID**



**Set Code11 Code ID**



**Set MSI Plessey Code ID**



**Set Micro QR Code ID**



**Set Code32 Code ID**



**Set ISBN Code ID**



**Set ISSN Code ID**



**Set Plessey Code ID**



**Set GS1 DataBar Code ID**



**Set GS1 DataBar Limited Code ID**



**Set GS1 DataBar Expanded Code ID**



**Set MicroPDF417 Code ID**



## 6.5 Postamble

### 6.5.1 Enable/Disable Postamble



Enable Postamble



Disable Postamble\*

### 6.5.2 Set Postamble



Set Postamble

Postamble can be 0 to 16 bytes of data, ranging from 00 to FF. Please refer to Appendix D for configuration method of **Set Postamble**.

Example: to set Preamble as "CODE"

1. Convert "CODE" into Hex equivalent as 43, 4F, 44, 45
2. Scan **Set Postamble**
3. Scan **4, 3, 4, F, 4, 4, 4, 5** respectively from **8.1 Data 0~F**
4. Scan **Save Configuration** from **8.2 Save & Abort**

## 6.6 Terminator

### 6.6.1 Enable/Disable Terminator



**Enable Terminator\***

**Disable Terminator**

## 6.6.2 Set Terminator



**Terminator = 0x0D\***



**Terminator = 0x0D 0x0A**



**Set Terminator**

Terminator can be 0 to 7 bytes of data, ranging from 00 to FF. Please refer to Appendix D for configuration method of **Set Terminator**.

Example: to set Terminator as 0x0D

1. Scan **Set Terminator**
2. Scan **0, D** respectively from **8.1 Data 0~F**
3. Scan **Save Configuration** from **8.2 Save & Abort**

## 6.7 Data

### 6.7.1 Data Output

DATA consists of three parts: [Start] + [Center] + [End]



**Send DATA\***



**Send Start Only**



Send End Only

Send Center Only

## 6.7.2 Data Length



**Set Start Length**



**Set End Length**

Start/End Length can be 0 to 255 digits, converted into 00 to FF during configuration. Please refer to Appendix D for configuration method of **Set Start/End Length**.

Example: to set Start Length as 2

1. Convert 2 to Hex equivalent as 02
2. Scan **Set Start**
3. Scan **0, 2** respectively from **8.1 Data 0~F**
4. Scan **Save Configuration** from **8.2 Save & Abort**

## 6.8 Encoding Format

Below configuration barcodes allow you to choose input data encoding format:



**UTF8**



**BIG5**



**AUTO - BIG5 or UTF8**

Below configuration barcodes allow you to choose output data encoding format:



**UNICODE**  
(Word)



**BIG5**  
(Notepad, Excel)

## 6.9 ECI mode



**Enable ECI Mode\***



**Disable ECI Mode**

## 7. Symbologies

### 7.1 General Settings



**Enable All Symbologies**



**Disable All Symbologies**



**Enable All 1D Symbologies**



**Disable All 1D Symbologies**



**Enable All 2D Symbologies**



**Disable All 2D Symbologies**

## 7.2 Inverse Barcode



Enable All Inverse Barcodes



Disable All Inverse Barcodes\*



Enable All 1D Inverse Barcodes



Disable All 1D Inverse Barcodes\*



Enable Inverse PDF417



Disable Inverse PDF417



Enable Inverse Data Matrix



Disable Inverse Data Matrix



Enable Inverse QR Code



Disable Inverse QR Code

## 7.3 Code128

### 7.3.1 Reset to Default



---

**Reset Code128 to Default**

**7.3.2 Enable/Disable Code128**



**Enable Code128\***



**Disable Code128**

**7.3.3 Min/Max Length**



**Min Length = 00\***



**Min Length = 04**



**Max Length = 32**



**Max Length = 255\***



**Set Min Length**



**Set Max Length**

Min/Max Length can be 0 to 255 digits, converted into 00 to FF during configuration. Please refer to Appendix D for configuration method of **Set Min/Max Length**.

## 7.4 EAN-8

### 7.4.1 Reset to Default



Reset EAN-8 to Default

### 7.4.2 Enable/Disable EAN-8



Enable EAN-8\*



Disable EAN-8

### 7.4.3 Check Digit



Send Check Digit\*



Not Send Check Digit

### 7.4.4 Supplement



Disable 2-digit Supplement\*



Enable 2-digit Supplement



**Disable 5-digit Supplement\***



**Enable 5-digit Supplement**

## 7.5 EAN-13

### 7.5.1 Reset to Default



**Reset EAN-13 to Default**

### 7.5.2 Enable/Disable EAN-13



**Enable EAN-13\***



**Disable EAN-13**

### 7.5.3 Check Digit



**Send Check Digit\***



**Not Send Check Digit**



## 7.5.4 Supplement



Disable 2-digit Supplement\*



Enable 2-digit Supplement



Disable 5-digit Supplement\*



Enable 5-digit Supplement

## 7.5.5 EAN-13 to ISBN



Disable EAN-13 to ISBN\*



Enable EAN-13 to ISBN

## 7.5.6 EAN-13 to ISSN



Disable EAN-13 to ISSN\*



Enable EAN-13 to ISSN

## 7.6 UPC-E0

### 7.6.1 Reset to Default



**Reset UPC-E0 to Default**

### 7.6.2 Enable/Disable UPC-E0



**Enable UPC-E0\***



**Disable UPC-E0**

### 7.6.3 Check Digit



**Send Check Digit\***



**Not Send Check Digit**

### 7.6.4 System Number



**Send System Number\***



**Not Send System Number**

## 7.7 UPC-E1

### 7.7.1 Reset to Default



Reset UPC-E1 to Default

### 7.7.2 Enable/Disable UPC-E1



Enable UPC-E1\*



Disable UPC-E1

### 7.7.3 Check Digit



Send Check Digit\*



Not Send Check Digit

### 7.7.4 System Number



Send System Number\*



Not Send System Number

## 7.7.5 Supplement



**Disable 2-digit Supplement\***



**Enable 2-digit Supplement**



**Disable 5-digit Supplement\***



**Enable 5-digit Supplement**

## 7.8 UPC-A

### 7.8.1 Reset to Default



**Reset UPC-A to Default**

### 7.8.2 Enable/Disable UPC-A



**Enable UPC-A\***



**Disable UPC-A**

### 7.8.3 UPC-A to EAN-13



Disable UPC-A to EAN-13\*



Enable UPC-A to EAN-13

### 7.8.4 Check Digit



Send Check Digit\*



Not Send Check Digit

### 7.8.5 System Number



Send System Number\*



Not Send System Number

### 7.8.6 Supplement



Disable 2-digit Supplement\*



Enable 2-digit Supplement



**Disable 5-digit Supplement\***



**Enable 5-digit Supplement**

## 7.9 Interleaved 2/5

### 7.9.1 Reset to Default



**Reset Interleaved 2/5 to Default**

### 7.9.2 Enable/Disable Interleaved 2/5



**Enable Interleaved 2/5\***



**Disable Interleaved 2/5**

### 7.9.3 Min/Max Length



**Min Length = 00\***



**Min Length = 04**



**Max Length = 32**



**Max Length = 255\***



**Set Min Length**



**Set Max Length**

Min/Max Length can be 0 to 255 digits, converted into 00 to FF during configuration. Please refer to Appendix D for configuration method of **Set Min/Max Length**.

### 7.9.4 Verification



**Disable Verification\***



**Enable Verification  
Not Send Check Digit**



**Enable Verification  
Send Check Digit**

## 7.10 Matrix 2/5

### 7.10.1 Reset to Default



**Reset Matrix 2/5 to Default**

### 7.10.2 Enable/Disable Matrix 2/5



**Enable Matrix 2/5**



**Disable Matrix 2/5\***

### 7.10.3 Min/Max Length



**Min Length = 00\***



**Min Length = 04**



**Max Length = 32**



**Max Length = 255\***



**Set Min Length**



**Set Max Length**

Min/Max Length can be 0 to 255 digits, converted into 00 to FF during configuration. Please refer to Appendix D for configuration method of **Set Min/Max Length**.



## 7.10.4 Verification



Disable Verification\*



Enable Verification  
Not Send Check Digit



Enable Verification  
Send Check Digit

## 7.11 Industrial 2/5

### 7.11.1 Reset to Default



Reset Industrial 2/5 to Default

### 7.11.2 Enable/Disable Industrial 2/5



Enable Industrial 2/5



Disable Industrial 2/5\*

### 7.11.3 Min/Max Length



Min Length = 00\*



Min Length = 04



Max Length = 32



Max Length = 255\*



Set Min Length



Set Max Length

Min/Max Length can be 0 to 255 digits, converted into 00 to FF during configuration. Please refer to Appendix D for configuration method of **Set Min/Max Length**.

### 7.11.4 Verification



Disable Verification\*



Enable Verification



Enable Verification

**Not Send Check Digit**

**Send Check Digit**

## 7.12 IATA 2/5

### 7.12.1 Reset to Default



**Reset IATA 2/5 to Default**

### 7.12.2 Enable/Disable IATA 2/5



**Enable IATA 2/5**



**Disable IATA 2/5\***

### 7.12.3 Min/Max Length



**Min Length = 00\***



**Min Length = 04**



**Max Length = 32**



**Max Length = 255\***



**Set Min Length**



**Set Max Length**

Min/Max Length can be 0 to 255 digits, converted into 00 to FF during configuration. Please refer to Appendix D for configuration method of **Set Min/Max Length**.

### 7.12.4 Verification



**Disable Verification\***



**Enable Verification  
Not Send Check Digit**



**Enable Verification  
Send Check Digit**

### 7.13 Code39

#### 7.13.1 Reset to Default



**Reset Code39 to Default**

### 7.13.2 Enable/Disable Code39



Enable Code39\*



Disable Code39

### 7.13.3 Send Start & Stop



Send Start & Stop



Not Send Start & Stop

### 7.13.4 Min/Max Length



Min Length = 00\*



Min Length = 04



Max Length = 32



Max Length = 255\*



Set Min Length



Set Max Length

Min/Max Length can be 0 to 255 digits, converted into 00 to FF during configuration. Please refer to Appendix D for configuration method of **Set Min/Max Length**.

### 7.13.5 Verification



Disable Verification\*



Enable Verification  
Not Send Check Digit



Enable Verification  
Send Check Digit

### 7.13.6 Enable/Disable Code32



Disable Code32\*



Enable Code32

### 7.13.7 Full ASCII Code39



Enable Full ASCII Code39



Disable Full ASCII Code39\*

## 7.14 Codabar

### 7.14.1 Reset to Default



Reset Codabar to Default

### 7.14.2 Enable/Disable Codabar



Enable Codabar\*



Disable Codabar

### 7.14.3 Min/Max Length



Min Length = 00\*



Min Length = 04



Max Length = 32



Max Length = 255\*



**Set Min Length**

**Set Max Length**

Min/Max Length can be 0 to 255 digits, converted into 00 to FF during configuration. Please refer to Appendix D for configuration method of **Set Min/Max Length**.

**7.14.4 Verification**



**Disable Verification\***



**Mod10 Verification  
Send Check Digit**



**Mod10 Verification  
Not Send Check Digit**



**Mod16 Verification  
Send Check Digit**



**Mod16 Verification  
Not Send Check Digit**

**7.14.5 Send Start & Stop**



**Not Send Start & Stop\***





Start & Stop = ABCD/ABCD\*



Start & Stop = ABCD/TN\*E



Start & Stop = abcd/abcd



Start & Stop = abcd/tn\*e

## 7.15 Code93

### 7.15.1 Reset to Default



Reset Code93 to Default

### 7.15.2 Enable/Disable Code93



Enable Code93\*



Disable Code93

### 7.15.3 Min/Max Length



Min Length = 00\*



Min Length = 04



Max Length = 32



Max Length = 255\*



Set Min Length



Set Max Length

Min/Max Length can be 0 to 255 digits, converted into 00 to FF during configuration. Please refer to Appendix D for configuration method of **Set Min/Max Length**.

## 7.16 Code11

### 7.16.1 Reset to Default



Reset Code11 to Default

### 7.16.2 Enable/Disable Code11



Enable Code11



Disable Code11\*

### 7.16.3 Min/Max Length



Min Length = 00\*



Min Length = 04



Max Length = 32



Max Length = 255\*



Set Min Length



Set Max Length

Min/Max Length can be 0 to 255 digits, converted into 00 to FF during configuration. Please refer to Appendix D for configuration method of **Set Min/Max Length**.

## 7.17 MSI Plessey

### 7.17.1 Reset to Default



**Reset MSI Plessey to Default**

### 7.17.2 Enable/Disable MSI Plessey



**Enable MSI Plessey**



**Disable MSI Plessey\***

### 7.17.3 Min/Max Length



**Min Length = 00\***



**Min Length = 04**



**Max Length = 32**



**Max Length = 255\***



**Set Min Length**



**Set Max Length**

Min/Max Length can be 0 to 255 digits, converted into 00 to FF during configuration. Please refer to Appendix D for configuration method of **Set Min/Max Length**.

## 7.18 GS1 DataBar



Enable GS1 DataBar



Disable GS1 DataBar\*

## 7.19 GS1 DataBar Limited



Enable GS1 DataBar Limited



Disable GS1 DataBar Limited\*

## 7.20 GS1 DataBar Expanded



Enable GS1 DataBar Expanded



Disable GS1 DataBar Expanded\*

## 7.21 Plessey

### 7.21.1 Reset to Default



**Reset Plessey to Default**

### 7.21.2 Enable/Disable Plessey



**Enable Plessey**



**Disable Plessey\***

### 7.21.3 Min/Max Length



**Min Length = 00\***



**Min Length = 04**



**Max Length = 32**



**Max Length = 255\***



**Set Min Length**



**Set Max Length**

Min/Max Length can be 0 to 255 digits, converted into 00 to FF during configuration. Please refer to Appendix D for configuration method of **Set Min/Max Length**.

### 7.21.4 Check Digit



Send Check Digit



Not Send Check Digit\*

### 7.22 PDF417



Enable PDF417\*



Disable PDF417

### 7.23 MicroPDF417



Enable MicroPDF417



Disable MicroPDF417\*

### 7.24 QR Code



Enable QR Code\*



Disable QR Code

## 7.25 Micro QR Code



Enable Micro QR Code



Disable Micro QR Code\*

## 7.26 Data Matrix



Enable Data Matrix\*



Disable Data Matrix

## 7.27 Aztec



Enable Aztec



Disable Aztec\*



## 8. Configuration Barcode

### 8.1 Data 0~F



0



2



4



6



8



A



1



3



5



7



9



B



C



D



E



F

## 8.2 Save & Abort

If there is an error reading data barcode during configuration, you may cancel 1/all data by scanning below configuration barcodes.

For example, barcode data '1', '2', '3' have been scanned respectively during configuration. If you want to cancel '3', scan **Abort 1 Data**. If you want to cancel '123', scan **Abort All Data**. Alternatively you may scan **Abort Configuration** to cancel the whole configuration process.



**Save Configuration**



**Abort 1 Data**



**Abort All Data**



**Abort Configuration**

## Appendix

### Appendix A - Default Table

Function		Default	Remark
Barcode Configurability		Enable	
Config Barcode Data Output		Disable	
Interface		USB HID	
RS232	Baud Rate	9600	
	Parity	None	
	Data Bits	8	
	Stop Bit	1	
	Flow Control	None	
USB HID	Keyboard Layout	English (USA)	
	Intercharacter Delay	2ms	
	Polling Rate	1ms	
Reading Mode		Trigger Mode	
Trigger Mode	LED Timeout	3000ms	Range: 1000~3600000ms
	Trigger Condition	Level	
	Identical Read Interval	Disable	
	Identical Read Interval Reset	Disable	
	Set Identical Read Interval	1500ms	
Auto-sensing Mode	LED Timeout	3000ms	Range: 1000~3600000ms
	Image Stabilization Timeout	60ms	Range: 0~1600ms
	Identical Read Interval	Disable	
	Identical Read Interval Reset	Disable	
	Set Identical Read Interval	1500ms	Range: 0~65535ms
	Auto-sensing Threshold	10	Range: 1~50
Continuous Mode	LED Timeout	3000ms	Range: 1000~3600000ms
	Scan Interval	1000ms	Range: 0~65535ms

	Identical Read Interval	Disable	
	Identical Read Interval Reset	Disable	
	Set Identical Read Interval	1500ms	Range: 0~65535ms
Illumination		Normal	
Aimer		Normal	
Power Up Beep		Enable	
Good Read	Beep	Enable	
	Indicator Beep Type	Type 3	
	Beep Volume	High	
Configuration Barcode Beep		Enable	
Good Read LED		Enable	
NGR	On/Off	Off	
	Message	None	
Preamble + Code ID		Preamble + Code ID	
Preamble		Disable	
Set Preamble		None	
Code ID		Disable	
Postamble		Disable	
Set Postamble		None	
Terminator		Enable	
Set Terminator		0x0D	
Data Output		Send Data	
Data Length		0	Range: 0~255
Encoding Format		GBK	
ECI Mode		Enable	
<b>Code128</b>			
Enable/Disable		Enable	
Max Length		255	
Min Length		0	
<b>EAN-8</b>			
Enable/Disable		Enable	
Check Digit		Send	
2-digit Supplement		Disable	
5-digit Supplement		Disable	

<b>EAN-13</b>		
Enable/Disable	Enable	
Check Digit	Send	
2-digit Supplement	Disable	
5-digit Supplement	Disable	
EAN13 to ISBN	Disable	
EAN13 to ISSN	Disable	
<b>UPC-E0</b>		
Enable/Disable	Enable	
Check Digit	Send	
System Number	Send	
<b>UPC-E1</b>		
Enable/Disable	Enable	
Check Digit	Send	
System Number	Send	
2-digit Supplement	Disable	
5-digit Supplement	Disable	
<b>UPC-A</b>		
Enable/Disable	Enable	
UPCA to EAN13	Disable	
Check Digit	Send	
2-digit Supplement	Disable	
5-digit Supplement	Disable	
System Number	Send	
<b>Interleaved 2/5</b>		
Enable/Disable	Enable	
Verification	Disable	
Check Digit	Not Send	
Max Length	255	
Min Length	0	
<b>Matrix 2/5</b>		
Enable/Disable	Disable	
Verification	Disable	
Check Digit	Not Send	
Max Length	255	
Min Length	0	

<b>Industrial 2/5</b>		
Enable/Disable	Disable	
Verification	Disable	
Check Digit	Not Send	
Max Length	255	
Min Length	0	
<b>IATA 2/5</b>		
Enable/Disable	Disable	
Verification	Disable	
Check Digit	Not Send	
Max Length	255	
Min Length	0	
<b>Code39</b>		
Enable/Disable	Enable	
Verification	Disable	
Check Digit	Not Send	
Start & Stop	Not Send	
Full ASCII Code39	Disable	
Code32	Disable	
Max Length	255	
Min Length	0	
<b>Codabar</b>		
Enable/Disable	Enable	
Verification	Disable	
Check Digit	Not Send	
Start & Stop	Not Send	
Start & Stop Type	ABCD/ABCD	
Max Length	255	
Min Length	0	
<b>Code93</b>		
Enable/Disable	Enable	
Max Length	255	
Min Length	0	
<b>Code11</b>		
Enable/Disable	Disable	
Max Length	255	

Min Length	0	
<b>MSI Plessey</b>		
Enable/Disable	Disable	
Max Length	255	
Min Length	0	
<b>GS1 DataBar</b>		
Enable/Disable	Disable	
<b>GS1 DataBar Limited</b>		
Enable/Disable	Disable	
<b>GS1 DataBar Expanded</b>		
Enable/Disable	Disable	
<b>Plessey</b>		
Enable/Disable	Disable	
Max Length	255	
Min Length	0	
Check Digit	Not Send	
<b>PDF417</b>		
Enable/Disable	Enable	
<b>MicroPDF417</b>		
Enable/Disable	Disable	
<b>QR Code</b>		
Enable/Disable	Enable	
<b>Micro QR Code</b>		
Enable/Disable	Disable	
<b>Data Matrix</b>		
Enable/Disable	Enable	
<b>Aztec</b>		
Enable/Disable	Disable	

## Appendix B - Code ID

Symbology	Code ID
Code128	j
EAN-8	d
EAN-13	d
UPC-E0	c
UPC-E1	c
UPC-A	c
Interleaved 2/5	e
Matrix 2/5	v
Industrial 2/5	D
IATA 2/5	s
Code39	b
Codabar	a
Code93	i
PDF417	r
QR Code	Q
Data Matrix	u
Code 11	H
MSI Plessey	J
Micro QR Code	Q
Code32	b
ISBN	d
ISSN	d
Aztec	z
GS1 DataBar	R
GS1 DataBar Limited	R
GS1 DataBar Expanded	R
Plessey	p
MicroPDF417	s



## Appendix C - ASCII Table

Hex	Dec	ASCII
00	0	NUL (Null char.)
01	1	SOH (Start of Header)
02	2	STX (Start of Text)
03	3	ETX (End of Text)
04	4	EOT (End of Transmission)
05	5	ENQ (Enquiry)
06	6	ACK (Acknowledgment)
07	7	BEL (Bell)
08	8	BS (Backspace)
09	9	HT (Horizontal Tab)
0a	10	LF (Line Feed)
0b	11	VT (Vertical Tab)
0c	12	FF (Form Feed)
0d	13	CR (Carriage Return)
0e	14	SO (Shift Out)
0f	15	SI (Shift In)
10	16	DLE (Data Link Escape)
11	17	DC1 (XON)(DeviceControl1)
12	18	DC2 (DeviceControl2)
13	19	DC3 (XOFF)(DeviceControl3)
14	20	DC4 (DeviceControl4)
15	21	NAK (Negative Acknowledgment)
16	22	SYN (Synchronous Idle)
17	23	ETB (End of Trans. Block)
18	24	CAN (Cancel)
19	25	EM (End of Medium)
1a	26	SUB (Substitute)
1b	27	ESC (Escape)
1c	28	FS (File Separator)
1d	29	GS (Group Separator)
1e	30	RS (Request to Send)
1f	31	US (Unit Separator)
20	32	SP (Space)

21	33	! (Exclamation Mark)
22	34	" (Double Quote)
23	35	# (Number Sign)
24	36	\$ (Dollar Sign)
25	37	% (Percent)
26	38	& (Ampersand)
27	39	` (Single Quote)
28	40	( (Right/Closing Parenthesis)
29	41	) (Right/Closing Parenthesis)
2a	42	* (Asterisk)
2b	43	+ (Plus)
2c	44	, (Comma)
2d	45	- (Minus/Dash)
2e	46	. (Dot)
2f	47	/ (Forward Slash)
30	48	0
31	49	1
32	50	2
33	51	3
34	52	4
35	53	5
36	54	6
37	55	7
38	56	8
39	57	9
3a	58	: (Colon)
3b	59	; (Semi-colon)
3c	60	< (Less Than)
3d	61	= (Equal Sign)
3e	62	> (Greater Than)
3f	63	? (Question Mark)
40	64	@ (AT Symbol)
41	65	A
42	66	B
43	67	C
44	68	D

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

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

## Appendix D - Configuration Method

### LED Timeout

Example: to set LED Timeout as 1500ms

1. Scan **Set LED Timeout**
2. Scan **1, 5, 0, 0** respectively from **8.1 Data 0~F**
3. Scan **Save Configuration** from **8.2 Save & Abort**

### Image Stabilization Timeout

Example: to set Image Stabilization Timeout as 500ms

1. Scan **Set Image Stabilization Timeout**
2. Scan **5, 0, 0** respectively from **8.1 Data 0~F**
3. Scan **Save Configuration** from **8.2 Save & Abort**

### Identical Read Interval

Example: to set Identical Read Interval as 1000ms

1. Scan **Set Identical Read Interval**
2. Scan **1, 0, 0, 0** respectively from **8.1 Data 0~F**
3. Scan **Save Configuration** from **8.2 Save & Abort**

### Auto-sensing Threshold

Example: to set Auto-sensing Threshold as 4

1. Scan **Set Auto-sensing Threshold**
2. Scan **4** from **8.1 Data 0~F**
3. Scan **Save Configuration** from **8.2 Save & Abort**

### Scan Interval

Example: to set Scan Interval as 500ms

1. Scan **Set Scan Interval**
2. Scan **5, 0, 0** respectively from **8.1 Data 0~F**
3. Scan **Save Configuration** from **8.2 Save & Abort**

## Preamble/Postamble

Example: to set Preamble/Postamble as "CODE"

1. Convert "CODE" into Hex equivalent as 43, 4F, 44, 45
2. Scan **Set Preamble**
3. Scan **4, 3, 4, F, 4, 4, 4, 5** respectively from **8.1 Data 0~F**
4. Scan **Save Configuration** from **8.2 Save & Abort**

## Terminator

Example: to set Terminator as 0x0D

1. Scan **Set Terminator**
2. Scan **0, D** respectively from **8.1 Data 0~F**
3. Scan **Save Configuration** from **8.2 Save & Abort**

## Code ID

Example: to set PDF417 Code ID as 'p'

1. Convert 'p' to Hex equivalent as 70
2. Scan **Set PDF417 Code ID**
3. Scan **7, 0** respectively from **8.1 Data 0~F**
4. Scan **Save Configuration** from **8.2 Save & Abort**

## NGR (Not Good Read) Message

Example: to set NGR Message as '!ERR'

1. Convert '!ERR' to Hex equivalent as 21, 45, 52, 52
2. Scan **Set NGR Message**
3. Scan **2, 1, 4, 5, 5, 2, 5, 2** respectively from **8.1 Data 0~F**
4. Scan **Save Configuration** from **8.2 Save & Abort**

## Min/Max Length

Example: to set Min Length as 8 and set Max Length as 12

1. Scan **Set Min Length**
2. Scan **8** from **8.1 Data 0~F**
3. Scan **Save Configuration** from **8.2 Save & Abort**

4. Scan **Set Max Length**
5. Scan **1, 2** respectively from **8.1 Data 0~F**
6. Scan **Save Configuration** from **8.2 Save & Abort**

### **Intercharacter Delay**

Example: to set Intercharacter Delay as 15ms

1. Scan **Set Intercharacter Delay**
2. Scan **1, 5** respectively from **8.1 Data 0~F**
3. Scan **Save Configuration** from **8.2 Save & Abort**

### **Good Read LED Duration**

Example: to set Intercharacter Delay as 200ms

1. Scan **Good Read LED Duration**
2. Scan **2, 0, 0** respectively from **8.1 Data 0~F**
3. Scan **Save Configuration** from **8.2 Save & Abort**

## **Version History**

Rev	Date	Description	Issued
1.0	2020.10.12	Initial Release	Shaw
1.1	2020.10.14	Updated Product Name, Trigger Description	Shaw
1.2	2021.02.04	Revised Preamble/Postamble	Shaw
1.3	2021.03.11	Added BIG5	Shaw
1.4	2021.04.07	Added Aztec	Shaw
1.5	2022.07.07	Added Aztec Code ID Updated Inverse Barcode	Shaw
1.6	2022.10.23	Added Plessey, GS1 DataBar, MicroPDF417	Shaw
1.7	2023.05.11	Updated Appendix D	Shaw
1.8	2023.11.01	Added MT8220 as model number	Shaw

## **Marson Technology Co., Ltd.**

9F., 108-3, Minquan Rd., Xindian Dist., New Taipei City, Taiwan

TEL: 886-2-2218-1633

FAX: 886-2-2218-6638

E-mail: [info@marson.com.tw](mailto:info@marson.com.tw)

Web: [www.marson.com.tw](http://www.marson.com.tw)