

# **MT682**

## **Scan Engine**

### **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 UART .....	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 Auto-sensing Mode .....	17
3.1.1 LED Timeout .....	17
3.1.2 Identical Read Interval .....	17
3.1.3 Image Stabilization Timeout .....	19
3.1.4 Auto-sensing Sensitivity .....	19
3.2 Continuous Mode .....	20
3.2.1 Scan Interval .....	20

---

3.2.2 Identical Read Interval .....	20
<b>4. Illumination.....</b>	<b>22</b>
4.1 Illumination .....	22
<b>5. Indicator.....</b>	<b>22</b>
5.1 General Settings.....	22
5.2 Power Up Beep .....	22
5.3 Good Read Beep.....	22
5.3.1 Indicator Beep Type.....	23
5.3.2 Beep Volume .....	23
5.4 Configuration Barcode Beep .....	23
5.5 Good Read LED and duration .....	24
<b>6. Data Format.....</b>	<b>25</b>
6.1 General Settings.....	25
6.2 Preamble + Code ID.....	25
6.3 Preamble .....	25
6.3.1 Enable/Disable/Set Preamble .....	25
6.4 Code ID .....	26
6.4.1 Enable/Disable/Reset Code ID .....	26
6.4.2 Set Code ID .....	26
6.5 Postamble .....	28
6.5.1 Enable/Disable Postamble.....	28
6.5.2 Set Postamble.....	28
6.6 Terminator .....	29
6.6.1 Enable/Disable Terminator .....	29
6.6.2 Set Terminator .....	29
6.7 Data.....	30

---

6.7.1 Data Output.....	30
6.7.2 Data Length .....	30
6.8 Encoding Format .....	31
<b>7. Symbologies.....</b>	<b>32</b>
7.1 General Settings.....	32
7.2 Inverse Barcode .....	32
7.3 Code128 .....	33
7.3.1 Reset to Default .....	33
7.3.2 Enable/Disable Code128 .....	33
7.3.3 Min/Max Length .....	33
7.4 EAN-8 .....	34
7.4.1 Reset to Default .....	34
7.4.2 Enable/Disable EAN-8 .....	34
7.4.3 Check Digit.....	35
7.4.4 Supplement.....	35
7.5 EAN-13 .....	35
7.5.1 Reset to Default .....	35
7.5.2 Enable/Disable EAN-13 .....	36
7.5.3 Check Digit.....	36
7.5.4 Supplement.....	36
7.5.5 EAN-13 to ISBN .....	37
7.5.6 EAN-13 to ISSN .....	37
7.6 UPC-E0 .....	37
7.6.1 Reset to Default .....	37
7.6.2 Enable/Disable UPC-E0.....	37
7.6.3 Check Digit.....	38

---

7.6.4 System Number .....	38
7.7 UPC-E1 .....	38
7.7.1 Reset to Default .....	38
7.7.2 Enable/Disable UPC-E1.....	38
7.7.3 Check Digit.....	39
7.7.4 System Number .....	39
7.7.5 Supplement.....	39
7.8 UPC-A .....	40
7.8.1 Reset to Default .....	40
7.8.2 Enable/Disable UPC-A.....	40
7.8.3 UPC-A to EAN-13 .....	40
7.8.4 Check Digit.....	40
7.8.5 System Number .....	41
7.8.6 Supplement.....	41
7.9 Interleaved 2/5.....	41
7.9.1 Reset to Default .....	41
7.9.2 Enable/Disable Interleaved 2/5 .....	42
7.9.3 Min/Max Length .....	42
7.9.4 Verification .....	42
7.10 Matrix 2/5.....	43
7.10.1 Reset to Default .....	43
7.10.2 Enable/Disable Matrix 2/5 .....	43
7.10.3 Min/Max Length .....	43
7.10.4 Verification .....	44
7.11 Industrial 2/5.....	45
7.11.1 Reset to Default .....	45

---

7.11.2 Enable/Disable Industrial 2/5 .....	45
7.11.3 Min/Max Length .....	45
7.11.4 Verification .....	46
7.12 IATA 2/5.....	46
7.12.1 Reset to Default .....	46
7.12.2 Enable/Disable IATA 2/5.....	46
7.12.3 Min/Max Length .....	47
7.12.4 Verification .....	47
7.13 Code39 .....	48
7.13.1 Reset to Default .....	48
7.13.2 Enable/Disable Code39 .....	48
7.13.3 Send Start & Stop .....	48
7.13.4 Min/Max Length .....	49
7.13.5 Verification .....	49
7.13.6 Enable/Disable Code32 .....	50
7.13.7 Full ASCII Code39 .....	50
7.14 Codabar.....	50
7.14.1 Reset to Default .....	50
7.14.2 Enable/Disable Codabar .....	50
7.14.3 Min/Max Length .....	51
7.14.4 Verification .....	51
7.14.5 Send Start & Stop .....	52
7.15 Code93 .....	52
7.15.1 Reset to Default .....	52
7.15.2 Enable/Disable Code93 .....	53
7.15.3 Min/Max Length .....	53

---

7.16 Code11 .....	54
7.16.1 Reset to Default .....	54
7.16.2 Enable/Disable Code11 .....	54
7.16.3 Min/Max Length .....	54
7.17 MSI Plessey.....	55
7.17.1 Reset to Default .....	55
7.17.2 Enable/Disable MSI Plessey .....	55
7.17.3 Min/Max Length .....	55
7.18 PDF417 .....	56
7.19 QR Code.....	56
7.20 Micro QR Code.....	56
7.21 Data Matrix .....	57
<b>8. Configuration Barcode.....</b>	<b>58</b>
8.1 Data 0~F.....	58
8.2 Save & Abort .....	59
<b>Appendix.....</b>	<b>60</b>
Appendix A - Default Table.....	60
Appendix B - Code ID.....	65
Appendix C - ASCII Table .....	66
Appendix D - Configuration Method .....	70
LED Timeout.....	70
Image Stabilization Timeout.....	70
Identical Read Interval .....	70
Auto-sensing Threshold .....	70
Scan Interval .....	70
Preamble/Postamble.....	71

---

---

Terminator.....	71
Code ID.....	71
Min/Max Length .....	71
Intercharacter Delay.....	71
Good Read LED Duration .....	72
<b>Version History.....</b>	<b>73</b>



## 1. Introduction

### 1.1 Manual Description

This user's manual mainly provides instruction on configuring MT682. By scanning the configuration barcodes in this manual, you can change MT682's interface, reading mode, data format and so on. The appendix lists the default configurations of MT682. In most cases, user can use MT682 without further configuration.

### 1.2 Product Requirements

Model	Firmware Version	Interface
MT682	V2.18.27.0 or up	UART
		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 MT682 will be saved to your custom default, overwriting, if any, the previous one. Scan **Custom Default** to reset MT682 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

MT682 provides UART 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 MT682 at the same time.

### 2.1 UART

Scanning below configuration barcode will set MT682 to UART interface, which is based on TTL level signals. For RS232 communication, a conversion circuit must be added externally.



UART

Parameter	Default
Serial communication type	UART (TTL-232)
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 MT682 to USB HID interface, in which MT682 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 MT682 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, MT682 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, MT682 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)

Scan engine'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 Auto-sensing Mode

In auto-sensing mode, MT682 automatically starts scanning barcode when image change is detected within its field of view. MT682 can still be triggered if trigger is pull low. When trigger level is reset or LED timeout expires, the scanning stops.



**Auto-sensing Mode**

##### 3.1.1 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**

##### 3.1.2 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**

### 3.1.3 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**

### 3.1.4 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**.

### 3.2 Continuous Mode

In continuous mode, MT682 keeps scanning barcodes continuously.



**Continuous Mode\***

#### 3.2.1 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**

#### 3.2.2 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**

## 4. Illumination

### 4.1 Illumination



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\*



100ms



500ms



Off



200ms\*



**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**.



## 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**

## **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)

## 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\*



Max Length = 32



Set Min Length



Min Length = 04



Max Length = 255\*



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  
Not Send Check Digit



Enable Verification  
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



Mod10 Verification

**Send Check Digit**



**Mod16 Verification  
Send Check Digit**

**Not 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



Set Min Length



Max Length = 255\*



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 PDF417



Enable PDF417\*



Disable PDF417

## 7.19 QR Code



Enable QR Code\*



Disable QR Code

## 7.20 Micro QR Code





**Enable Micro QR Code**



**Disable Micro QR Code\***

## 7.21 Data Matrix



**Enable Data Matrix\***



**Disable Data Matrix**

## 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	
UART	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		Continuous Mode	
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	Scan Interval	1000ms
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	
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>PDF417</b>		
Enable/Disable	Enable	
<b>QR Code</b>		
Enable/Disable	Enable	
<b>Micro QR Code</b>		

Enable/Disable	Disable	
<b>Data Matrix</b>		
Enable/Disable	Enable	



## 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

## 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**

## 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	2020.12.09	Initial Release	Shaw
1.1	2020.12.18	Secondary Revision	Shaw
1.2	2021.02.04	Revised Preamble/Postamble	Shaw
1.3	2021.03.11	Added BIG5	Shaw
1.4	2022.07.07	Updated Inverse Barcode	Shaw
1.5	2023.05.11	Updated Appendix D	Shaw

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