



MT82Ag Scan Engine User's Manual



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1. Introduction

1.1 Manual Description

This user's manual mainly provides instruction on configuring MT82Ag. By scanning the configuration barcodes in this manual, you can change MT82Ag's interface, reading mode, data format and so on. The appendix lists the default configurations of MT82Ag. In most cases, user can use MT82Ag without further configuration.

1.2 Product Requirements

Model	Firmware Version	Interface
MT82Ag	V2.18.25.4 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 MT82Ag will be saved to your custom default, overwriting, if any, the previous one. Scan **Custom Default** to reset MT82Ag 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

MT82Ag 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 MT82Ag at the same time.

2.1 UART

Scanning below configuration barcode will set MT82Ag 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



9600*



14400



19200



38400



57600



115200

2.1.2 Parity

Three parity options are available:



None*



Odd



Even

2.2 USB HID

Scanning below configuration barcode will set MT82Ag to USB HID interface, in which MT82Ag 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 MT82Ag 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, MT82Ag 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, MT82Ag 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 Batch Mode

In batch mode, MT82Ag starts scanning barcode when trigger pin = low. If trigger stays low, the scanning continues, with each barcode scanned once. To restart a new batch reading, the host must reset trigger level first and then pull trigger low again.



Batch Mode

3.2 Trigger Mode

In trigger mode, MT82Ag starts scanning barcode when trigger pin = low. If trigger stays low within LED timeout, the scanning continues. When trigger level is reset or LED timeout expires, the scanning stops. To restart scanning, the host must reset trigger level first and then pull trigger low again.



Trigger Mode

3.2.1 Trigger Condition

When trigger condition = level, the trigger pin must always stay low during a scanning operation. When trigger condition = pulse, MT82Ag starts scanning whenever a low level pulse at trigger pin is detected, 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, MT82Ag automatically starts scanning barcode when image change is detected within its field of view. MT82Ag can still be triggered if trigger is pull low. When trigger level is reset or LED timeout expires, the scanning stops.



Auto-sensing Mode

3.3.1 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, MT82Ag 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

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



Enable Data Matrix



Enable QR Code

Disable Inverse PDF417



Disable Data Matrix



Disable 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
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



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 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

7.22 Aztec



Enable Aztec



Disable Aztec*

8. Configuration Barcode

8.1 Data 0~F



0



1



2



3



4



5



6



7



8



9



A



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		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	
Code128			
Enable/Disable		Enable	
Max Length		255	
Min Length		0	
EAN-8			
Enable/Disable		Enable	
Check Digit		Send	
2-digit Supplement		Disable	
5-digit Supplement		Disable	
EAN-13			



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



Enable/Disable	Disable	
Verification	Disable	
Check Digit	Not Send	
Max Length	255	
Min Length	0	
IATA 2/5		
Enable/Disable	Disable	
Verification	Disable	
Check Digit	Not Send	
Max Length	255	
Min Length	0	
Code39		
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	
Codabar		
Enable/Disable	Enable	
Verification	Disable	
Check Digit	Not Send	
Start & Stop	Not Send	
Start & Stop Type	ABCD/ABCD	
Max Length	255	
Min Length	0	
Code93		
Enable/Disable	Enable	
Max Length	255	
Min Length	0	
Code11		
Enable/Disable	Disable	
Max Length	255	
Min Length	0	



MSI Plessey		
Enable/Disable	Disable	
Max Length	255	
Min Length	0	
PDF417		
Enable/Disable	Enable	
QR Code		
Enable/Disable	Enable	
Micro QR Code		
Enable/Disable	Disable	
Data Matrix		
Enable/Disable	Enable	
Aztec		
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

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 100ms

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	2020.12.18	Secondary Revision	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

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