MT8210B
2D Wireless Scanner
User's Manual

Version 2.9

DATE: 2022/10/25

Table of Content

Chapter 1 Introduction

This user's manual is dedicated to MT8210B, a 2D wireless handheld scanner that provides freedom of mobility for user to transmit data to the host from up to 10 meters (33 feet) away. The charging cradle that comes with the scanner can also serve as a wireless transponder that instantly enables your host device with wireless communication using USB HID interface without the need of any driver. Supported by a 1620mAh battery, MT8210B helps user operate around the clock with less downtime ensuring mobile productivity during the entire busy shift.

Product Requirements

Model	Version
MT8210B	SW: LW-3.16A Jul 16 2021 15:18:04 Boot:LW-3.00F

Specifications

Optic & Performance	
Light Source	White LED Visible red LED
Sensor	640 x 480
Resolution	5mil / 0.125mm
Scan Angle	Horizontal 37° Vertical 28°
Pitch Angle	±55°
Skew Angle	±55°
Roll Angle	360°
Print Contrast Ratio	10%
Width of Field	131mm (13Mil Code39)
Memory	20,000 EAN-13 barcode
Guaranteed D.O.F (Environment: 800 lux)	5 Mil Code 39 : 45 ~ 90mm
	13 Mil UPC/EAN : 40 ~ 245mm
	15 Mil QR Code : 30 ~ 160mm
	6.67 Mil PDF417 : 40 ~ 80mm
	10 Mil Data Matrix : 25 ~ 95mm
Physical Characteristics	
Dimension	L166 x W71 x H84 mm (Scanner) D82 x H84mm (Cradle)
Weight	148g (Scanner) 238g (Cradle)
Color	White
Material	ABS
Cable	Option 1: Micro(M) to USB A(M) Cable, 1.5M Option 2: Micro(M) to D-sub9(F) Cable, 2.1M
Trigger	Scan Button
Indicator	LED, Buzzer, Vibrator
Electrical	
Operation Voltage	3.7 VDC ± 5%
Working Current	< 210mA
Standby Current	< 60mA
Charging Voltage/Current	5V, 1.5~2A
Battery	3.7V, 1620mAh, Li-Polymer Battery
Number of Scan (per full charge)	20,000 scans or 27 hours (1 scan/ 5 secs, Bluetooth connected)
Connectivity	

Radio	Bluetooth 4.2 & 3.0 (Class 2)
Range	33 ft/ 10m (line of sight)
Interface/ Profile	**Scanner:** BT HID / BT SPP / Cradle Mode / Memory Mode **Cradle:** USB HID / RS232 (Factory configured)
User Environment	
Operating Temperature	0 ~ 40˚C
Storage Temperature	-10 ~ 60˚C
Humidity	0% ~ 95%RH (Non-condensing)
Drop Durability	1.2M
Sealing	IP42
Ambient Light	100,000 Lux (Sunlight)
1D Symbologies	UPC-A/UPC-E, EAN-8/EAN-13, Codabar, Matrix 2 of 5, Code 93, Code 128, Code 39, Interleaved 2 of 5, MSI, GS1 DataBar, Plessey
2D Symbologies	QR Code, Micro QR Code, Data Matrix, PDF417, MicroPDF417, Aztec
Regulatory	
ESD	Functional after 4KV contact, 8KV air discharge
EMC/RF	TBA
Safety Approval	TBA
Environmental	WEEE, RoHS 2.0

Beeper Indication

Beeper	Status
Single short beep	Wireless connection
	Good read
Single long beep	Power down
Two beeps	Wireless disconnection
Two beeps (high-low)	Succesful configuration
Two beeps (low-high)	Good read (Memory Mode)
Three short beeps	Reads a barcode while disconnected
Three beeps (low-medium-high)	Succesful configuration
One short beep & one long beep (low-high)	Power up
One short beep & one long beep (high-low)	Power off
Seven beeps (shuts down thereafter)	Low power (Battery life < 5%)

LED Indication

LED	Status
Flashing blue & green	Discoverable in BT HID
Flashing blue	Discoverable in BT SPP
Solid blue	Connected
1 green flash	Good read / Power up
2 green flashes	Disconnected
Solid red	Charging

Chapter 2 General Settings

Factory Default

Scanning below configuration barcode will reset all parameters to factory default settings (the ones with * asterisk mark). Please note that scanning the left Factory Default (Chapter 2) will reset all General Settings to default, and scanning the right Factory Default (Chapter 3~4) will reset all Reading Mode and Symbologies settings to default.

Factory Default (Chapter 2)

Factory Default (Chapter 3 ~ 4)

Check Version

To check firmware version, please scan below configuration barcode.

Check Version

Check Battery Life

To check battery life, please scan below configuration barcode.

Check Battery Life

Bluetooth Profile

Cradle Mode (USB Version)

Cradle Mode allows barcode data to be transmitted to host device via the built-in Bluetooth transponder in charging cradle with a cable, providing wireless connectivity to the host deivce that does not have built-in Bluetooth adapter. Follow below steps:

1. Plug the charging cradle to host device with an USB cable.
2. Power up the scanner
3. Scan **USB HID Cradle Mode** (recommended) or **USB VCP Cradle Mode**
4. The scanner will emit one short beep with LED indicator turning solid blue after successfully connecting to charging cradle. If the charging cradle fails to connect to the scanner, scan **Disconnect** (see Disconnect section in page 14), unplug the cable from charging cradle and plug it back. The charging cradle will be able to connect to the nearest scanner when the cable is plugged.
5. To swap charging cradle, please follow step 1 ~ 3, and then scan **Disconnect** (see Disconnect section in page 14), unplug the cable from the charging cradle you want to disconnect, and plug the cable to the charging cradle you want to connect. The charging cradle will be able to connect to the nearest scanner when the cable is plugged.

USB HID Cradle Mode*

USB VCP Cradle Mode

Cradle Mode (RS232 Version)

Cradle Mode allows barcode data to be transmitted to host device via the built-in Bluetooth transponder in charging cradle with a cable, providing wireless connectivity to the host deivce that does not have built-in Bluetooth adapter. Follow below steps:

1. Plug the charging cradle to host device with an RS232 cable.
2. Power up the scanner
3. Scan **RS232 Cradle Mode**
4. The scanner will emit one short beep with LED indicator turning solid blue after successfully connecting to charging cradle. If the charging cradle fails to connect to the scanner, scan **Disconnect** (see Disconnect section in page 14), unplug the cable from charging cradle and plug it back. The charging cradle will be able to connect to the nearest scanner when the cable is plugged.
5. To swap charging cradle, please follow step 1 ~ 3, and then scan **Disconnect** (see Disconnect section in page 14), unplug the cable from the charging cradle you want to disconnect, and plug the cable to the charging cradle you want to connect. The charging cradle will be able to connect to the nearest scanner when the cable is plugged.

RS232
Cradle Mode

BT HID

BT HID is compatible with iOS, Android and Windows and requires applications that accept keyboard data. After scanning BT HID, press and hold the trigger until two beeps & blue/green LED flashing to make the scanner discoverable. Folllow below steps:

1. Power up the scanner
2. Scan **BT HID**
3. Press and hold the trigger until beeps with LED indicator flashing blue and green. Alternatively you may scan **Disconnect** (see Disconnect section in the next page)
4. Pair with "BarCode Scanner HID" from the discovered device list.
5. The scanner will emit one short beep with LED indicator turning solid blue after successfully connecting to host device.

BT HID

BT SPP

BT SPP is compatible with Android and Windows. A serial communication software is required for this profile. Follow below steps:

1. Power up the scanner
2. Scan **BT SPP**, the scanner will emit two beeps with LED indicator flashing blue
3. Pair with "BarCode Scanner spp" from the discovered device list. If the host is unable to find the scanner in the discovered device list, scan **Disconnect** (see Disconnect in the next page)
4. Enter serial communication software (TeraTerm, PuTTY, etc…) and open the serial port occupied by the scanner.
5. The scanner will emit one short beep with LED indicator turning solid blue after successfully connecting to host device.

BT SPP

Disconnect

Scanning **Disconnect** allows the scanner to disconnect from the host, or become discoverable, which helps the host to find the scanner in the discovered device list (in BT SPP, BT HID mode) or prompts the charging cradle to connect to the scanner (in Cradle Mode).

Disconnect

iOS Touch Keyboard

To toggle iOS touch keyboard, please scan **Toggle iOS Touch Keyboard** below.

Toggle iOS Touch Keyboard

Alternatively, by enabling iOS Hotkey (enabled by default), you may simply double-click the trigger to toggle iOS touch keyboard.

Enable iOS Hotkey*

Disable iOS Hotkey

Memory Mode

Memory Mode enables the scanner to store barcode data (20,000 EAN-13 barcode) and transmit it in batch to the host device when needed. Memory Mode can be used among all the Bluetooth profiles (Cradle Mode, BT HID, BT SPP). Follow below steps:

1. Scan **Enter Memory Mode**
2. Scan desired barcodes.
3. Make sure the scanner is connected to the host device through Cradle Mode, BT HID or BT SPP.
4. Scan **Upload Memory Data** to transmit all stored barcode data
5. Scan **Erase Memory Data** if you want to clear all memory data
6. Scan **Exit Memory Mode** if you want to resume online operation

Enter Memory Mode

Exit Memory Mode

Upload Memory Data

Check Memory Data Counts

Erase Memory Data

Sleep Timeout

Sleep Timeout = 30 seconds

Sleep Timeout = 1 minute

Sleep Timeout = 2 minutes

Sleep Timeout = 5 minutes*

Sleep Timeout = 10 minutes

Sleep Timeout = 30 minutes

Sleep Timeout = Never (Scanner Always On)

Sleep Timeout = Immediate

Bluetooth Device ID

Scan **Set Bluetooth Device ID** first, and then scan a barcode that contains your desired Bluetooth Device ID. The maximum length of custom Bluetooth Device ID is 16 digits. The complete Bluetooth Device ID is <Custom Bluetooth Device ID>+<Profile>, for example, if your custom Bluetooth Device ID is 'Scanner', in BT HID profile the complete ID will be ScannerHID; in BT SPP profile the complete ID will be ScannerSPP.

Set Bluetooth Device ID

Check Bluetooth Device ID

Good Read Indicator

Buzzer

Low Volume

Medium Volume

High Volume*

Vibrator

Vibrator On*

Vibrator Off

Data Format

Upper / Lower Case

All Lower Case

All Upper Case

Invert Case

As Is*

Keyboard Layout

English (US)*

English (UK)

German

German (iOS keyboard)

French

French (Belgian)

French (Canadian)

Spanish

Spanish (Mexican)

Italian

Italian (142)

Japanese

Universal

Portuguese

Portuguese (Brazilian)

Russian

Czech

Turkish Q

Turkish F

Swedish / Finnish

Danish

Norwegian

Croatian

Swiss (German)

Swiss (French)

Dutch

Hungarian

Polish

Argentine

Slovak

Data Transmission Speed

Data Transmission Speed only applies to BT HID interface.

Data Transmission Speed = High

Data Transmission Speed = Medium*

Data Transmission Speed = Low

Data Transmission Speed = Ultra Low

Encoding Format

To output double-byte character (i.g. Chinese) using UTF8 output format, please make sure that the application accepting barcode data supports UTF8 display and that the scanner operates in serial interface (USB VCP Cradle Mode / RS232 Cradle Mode / BT SPP)

Output format = GBK*

Output format = UTF8
(Serial interface only)

Terminator

Terminator = CR*

Terminator = LF

Terminator = Tab

Terminator = None

Terminator = CR + LF

GS Replacement

GS Replacement enables the scanner to replace GS <0x1D> in barcode data by a specific character.

Set GS Replacement

Clear GS Replacement

To set GS Replacement, please follow below steps:

1. Scan **Set GS Replacement**
2. Scan a configuration barcode representing the replacement character from **Chapter 5 Configuration Barcode** – **Displayable Character** or **Control Character**
3. Scan one of the Character Set 0 ~ 4 in **Chapter 5 Configuration Barcode** – **Control Character** if the replacement character chosen in step 2 is from **Control Character**. If the replacement character is from **Displayable Character**, please skip this step.

To cancel GS Replacement, simply scan **Clear GS Replacement**.

Preamble / Postamble

Up to 32 bytes of characters can be set as Preamble / Postamble.

Set Preamble

Set Postamble

Exit Setup

To set Preamble / Postamble, please follow below steps:

1. Scan **Set Preamble** or **Set Postamble**
2. Scan configuration barcode(s) representing the Preamble / Postamble from **Chapter 5 Configuration Barcode** – **Displayable Character** or **Control Character**
3. Scan one of the Character Set 0 ~ 4 in **Chapter 5 Configuration Barcode** – **Control Character** if the character(s) chosen in step 2 is from **Control Character**. If the character(s) chosen in step 2 is from **Displayable Character**, please skip this step.

To cancel Preamble / Postamble, please follow below steps:

1. Scan **Set Preamble** or **Set Postamble**
2. Scan **Exit Setup**

Chapter 3 Reading Mode

Trigger Mode

In Trigger Mode the LED will stay on once trigger is pressed and held, and will turn off automatically once a barcode is read or LED timeout expires.

Trigger Mode*

Auto-sensing Mode

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

Auto-sensing Mode

Auto-sensing Sensitivity

Medium

Low

High*

Ultra High

Illumination and Aimer

Illumination

Normal*

Always Off

Always On

Aimer

Normal*

Always Off

Always On

Chapter 4 Symbologies

General Settings

Enable All Symbologies

Disable All Symbologies

Enable All 1D Symbologies

Disable All 1D Symbologies

Enable All 2D Symbologies

Disable All 2D Symbologies

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*

Code128

Reset to Default

Reset Code128 to Default

Enable/Disable Code128

Enable Code128*

Disable Code128

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 C for configuration method of **Set Min/Max Length**.

EAN-8

Reset to Default

Reset EAN-8 to Default

Enable/Disable EAN-8

Enable EAN-8*

Disable EAN-8

Check Digit

Send Check Digit*

Not Send Check Digit

Supplement

Disable 2-digit Supplement*

Enable 2-digit Supplement

Disable 5-digit Supplement*

Enable 5-digit Supplement

EAN-13

Reset to Default

Reset EAN-13 to Default

Enable/Disable EAN-13

Enable EAN-13*

Disable EAN-13

Check Digit

Send Check Digit*

Not Send Check Digit

Supplement

Disable 2-digit Supplement*

Enable 2-digit Supplement

Disable 5-digit Supplement*

Enable 5-digit Supplement

EAN-13 to ISBN

Disable EAN-13 to ISBN*

Enable EAN-13 to ISBN

EAN-13 to ISSN

Disable EAN-13 to ISSN*

Enable EAN-13 to ISSN

UPC-E0

Reset to Default

Reset UPC-E0 to Default

Enable/Disable UPC-E0

Enable UPC-E0*

Disable UPC-E0

Check Digit

Send Check Digit*

Not Send Check Digit

System Number

Send System Number*

Not Send System Number

UPC-E1

Reset to Default

Reset UPC-E1 to Default

Enable/Disable UPC-E1

Enable UPC-E1*

Disable UPC-E1

Check Digit

Send Check Digit*

Not Send Check Digit

System Number

Send System Number*

Not Send System Number

Supplement

Disable 2-digit Supplement*

Enable 2-digit Supplement

Disable 5-digit Supplement*

Enable 5-digit Supplement

UPC-A

Reset to Default

Reset UPC-A to Default

Enable/Disable UPC-A

Enable UPC-A*

Disable UPC-A

UPC-A to EAN-13

Disable UPC-A to EAN-13*

Enable UPC-A to EAN-13

Check Digit

Send Check Digit*

Not Send Check Digit

System Number

Send System Number*

Not Send System Number

Supplement

Disable 2-digit Supplement*

Enable 2-digit Supplement

Disable 5-digit Supplement*

Enable 5-digit Supplement

Interleaved 2/5

Reset to Default

Reset Interleaved 2/5 to Default

Enable/Disable Interleaved 2/5

Enable Interleaved 2/5*

Disable Interleaved 2/5

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 C for configuration method of **Set Min/Max Length**.

Verification

Disable Verification*

Enable Verification
Not Send Check Digit

Enable Verification
Send Check Digit

Matrix 2/5

Reset to Default

Reset Matrix 2/5 to Default

Enable/Disable Matrix 2/5

Enable Matrix 2/5

Disable Matrix 2/5*

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 C for configuration method of **Set Min/Max Length**.

Verification

Disable Verification*

Enable Verification
Not Send Check Digit

Enable Verification
Send Check Digit

Industrial 2/5

Reset to Default

Reset Industrial 2/5 to Default

Enable/Disable Industrial 2/5

Enable Industrial 2/5

Disable Industrial 2/5*

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 C for configuration method of **Set Min/Max Length**.

Verification

Disable Verification*

Enable Verification
Not Send Check Digit

Enable Verification
Send Check Digit

IATA 2/5

Reset to Default

Reset IATA 2/5 to Default

Enable/Disable IATA 2/5

Enable IATA 2/5

Disable IATA 2/5*

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 C for configuration method of **Set Min/Max Length**.

Verification

Disable Verification*

Enable Verification
Not Send Check Digit

Enable Verification
Send Check Digit

Code39

Reset to Default

Reset Code39 to Default

Enable/Disable Code39

Enable Code39*

Disable Code39

Send Start & Stop

Send Start & Stop

Not Send Start & Stop

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 C for configuration method of **Set Min/Max Length**.

Verification

Disable Verification*

Enable Verification
Not Send Check Digit

Enable Verification
Send Check Digit

Enable/Disable Code32

Disable Code32*

Enable Code32

Full ASCII Code39

Enable Full ASCII Code39

Disable Full ASCII Code39*

Codabar

Reset to Default

Reset Codabar to Default

Enable/Disable Codabar

Enable Codabar*

Disable Codabar

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 C for configuration method of **Set Min/Max Length**.

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

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

Code93

Reset to Default

Reset Code93 to Default

Enable/Disable Code93

Enable Code93*

Disable Code93

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 C for configuration method of **Set Min/Max Length**.

Code11

Reset to Default

Reset Code11 to Default

Enable/Disable Code11

Enable Code11

Disable Code11*

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 C for configuration method of **Set Min/Max Length**.

MSI Plessey

Reset to Default

Reset MSI Plessey to Default

Enable/Disable MSI Plessey

Enable MSI Plessey

Disable MSI Plessey*

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 C for configuration method of **Set Min/Max Length**.

GS1 DataBar

Enable GS1 DataBar

Disable GS1 DataBar*

GS1 DataBar Limited

Enable GS1 DataBar Limited

Disable GS1 DataBar Limited*

GS1 DataBar Expanded

Enable GS1 DataBar Expanded

Disable GS1 DataBar Expanded*

Plessey

Reset to Default

Reset Plessey to Default

Enable/Disable Plessey

Enable Plessey

Disable Plessey*

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**.

Check Digit

Send Check Digit

Not Send Check Digit*

PDF417

Enable PDF417*

Disable PDF417

7.23 MicroPDF417

Enable MicroPDF417

Disable MicroPDF417*

QR Code

Enable QR Code*

Disable QR Code

Micro QR Code

Enable Micro QR Code

Disable Micro QR Code*

Data Matrix

Enable Data Matrix*

Disable Data Matrix

Aztec

Enable Aztec

Disable Aztec*

Chapter 5 Configuration Barcode

Data 0~F

Below configuration barcodes are only applicable for **Min / Max Length** configuration.

0

1

1

3

4

5

6

7

8

9

A

B

C

D

E

F

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

Displayable Character

Below configuration barcodes are only applicable for **GS Replacement** and **Preamble / Postamble** configuration.

Character	Configuration barcode	Character	Configuration barcode	Character	Configuration barcode
-		SP Space		!	
“		#		$	
%		&		`	
(		)		*	
+		,			
.		/		0	

1		2		3	
4		5		6	
7		8		9	
:		;		<	
=		>		?	
@		A		B	
C		D		E	

F		G		H	
I		J		K	
L		M		N	
O		P		Q	
R		S		T	
U		V		W	
X		Y		Z	

[		\		]	
^		_		‘	
a		b		c	
d		e		f	
g		h		i	
j		k		l	
m		n		o	

p		q		r	
s		t		u	
v		w		x	
y		z		{	
|		}		~	
DEL		Ç		ç	

Control Character

Below configuration barcodes are only applicable for **GS Replacement** and **Preamble / Postamble** configuration.

Four types of Character Set are available. Each set has different definition for each configuration barcode. Default is Character Set 0.

Character Set 0*

Character Set 1

Character Set 2

Character Set 3

Character Set 4

Dec	ASCII	Char Set 0	Char Set 1	Char Set 2	Char Set 3	Char Set 4	Configuration Barcode
1	SOH	NULL	Home	Ctrl+A	Alt+001	Enter (Numeric Keypad)	
2	STX	Ctrl+B	End	Ctrl+B	Alt+002	Cap Lock	

3	ETX	Ctrl+C	Up Arrow	Ctrl+C	Alt+003	Right Arrow	
4	EOT	NULL	Down Arrow	Ctrl+D	Alt+004	Up Arrow	
5	ENQ	NULL	Left Arrow	Ctrl+E	Alt+005	NULL	
6	ACK	NULL	Right Arrow	Ctrl+F	Alt+006	NULL	
7	BEL	NULL	Shift+ Tab	Ctrl+G	Alt+007	Enter	
8	BS	Back Space	Back Space	Back Space	Alt+008	Left Arrow	
9	HT	Tab	Tab	Tab	Alt+009	Tab	
10	LF	Enter	Enter	Ctrl+P	Alt+010	Down Arrow	
11	VT	NULL	NULL	Ctrl+Q	Alt+011	Tab	
12	FF	NULL	NULL	Ctrl+R	Alt+012	delete	

13	CR	Enter	Enter	Enter	Alt+013	Enter	
14	S0	F1	Page Up	Ctrl+N	Alt+014	Insert	
15	S1	F2	Page Down	Ctrl+O	Alt+015	Esc	
16	DLE	F3	F11	Ctrl+P	Alt+016	F11	
17	DC1	F4	NULL	Ctrl+Q	Alt+017	Home	
18	DC2	F5	NULL	Ctrl+R	Alt+018	Print Screen	
19	DC3	F6	NULL	Ctrl+S	Alt+019	Back Space	
20	DC4	F7	NULL	Ctrl+T	Alt+020	Shift tab	
21	NAK	F8	F12	Ctrl+U	Alt+021	F12	
22	SYN	F9	F1	Ctrl+V	Alt+022	F1	

23	TB	F10	F2	Ctrl+W	Alt+023	F2	
24	CAN	F11	F3	Ctrl+X	Alt+024	F3	
25	EM	F12	F4	Ctrl+Y	Alt+025	F4	
26	SUB	NULL	F5	Ctrl+Z	Alt+026	F5	
27	Esc	Esc	F6	Ctrl+[	Alt+027	F6	
28	FS	ALT+028	F7	Ctrl+\	Alt+028	F7	
29	GS	ALT+029	F8	Ctrl+]	Alt+029	F8	
30	RS	NULL	F9	Ctrl+^	Alt+030	F9	
31	US	NULL	F10	Ctrl+_	Alt+031	F10	

Appendix

Appendix A – Default Table

Function	Default	Remark
Bluetooth Profile	USB HID Cradle Mode	
iOS Touch Keyboard	Enable	
Memory Mode	N/A	
Sleep Timeout	5 minutes	
Bluetooth Device ID	BarCode Scanner	
Good Read Indicator		
Buzzer	High Volume	
Vibrator	On	
Data Format		
Upper / Lower Case	As Is	
Keyboard Layout	English (US)	
Data Transmission Speed	Medium	
Encoding Format	Output Format = GBK	
Terminator	CR	
GS Replacement	N/A	
Preamble / Postamble	N/A	
Reading Mode		
Trigger Mode	Trigger Mode	
Auto-sensing Mode		
Auto-sensing Sensitivity	High	
Illumination and Aimer		
Illumination	Normal	
Aimer	Normal	
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	
GS1 DataBar		
Enable/Disable	Disable	
GS1 DataBar Limited		
Enable/Disable	Disable	
GS1 DataBar Expanded		
Enable/Disable	Disable	
Plessey		

Enable/Disable	Disable	
Max Length	255	
Min Length	0	
Check Digit	Not Send	
PDF417		
Enable/Disable	Enable	
MicroPDF417		
Enable/Disable	Disable	
QR Code		
Enable/Disable	Enable	
Micro QR Code		
Enable/Disable	Disable	
Data Matrix		
Enable/Disable	Enable	
Aztec		
Enable/Disable	Disable	

Appendix B – 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 C – Configuration Method

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 **Data 0~F (Chapter 5)**
3. Scan **Save Configuration** from **Save & Abort (Chapter 5)**
4. Scan **Set Max Length**
5. Scan **1**, **2** respectively from **Data 0~F (Chapter 5)**
6. Scan **Save Configuration** from **Save & Abort (Chapter 5)**

GS Replacement

1. Scan **Set GS Replacement**
2. Scan **a** configuration barcode representing the replacement character from **Chapter 5 Configuration Barcode – Displayable Character** or **Control Character**
3. Scan one of the Character Set 0 ~ 4 in **Chapter 5 Configuration Barcode – Control Character** if the replacement character chosen in step 2 is from **Control Character**. If the replacement character is from **Displayable Character**, please skip this step.

Preamble / Postamble

1. Scan **Set Preamble** or **Set Postamble**
2. Scan configuration barcode(s) representing the **Preamble** / **Postamble** from **Chapter 5 Configuration Barcode – Displayable Character** or **Control Character**
3. Scan one of the Character Set 0 ~ 4 in **Chapter 5 Configuration Barcode – Control Character** if the character(s) chosen in step 2 is from **Control Character**. If the character(s) chosen in step 2 is from **Displayable Character**, please skip this step.

Version History

Rev	Date	Description	Issued
1.0	2021.02.25	Preliminary Draft Release	Shaw
1.1	2021.02.26	Secondary Revision	Shaw
1.2	2021.06.21	Added Bluetooth Profile	Shaw
2.0	2021.08.17	Formal Edition 2.0	Shaw
2.1	2021.09.17	Updated Specification & Beeper Indication	Shaw
2.2	2021.09.27	Updated Specification, Bluetooth Profile, Memory Mode and Sleep Timeout. Added iOS Touch Keyboard and Code ID.	Shaw
2.3	2021.10.21	Added Disconnect	Shaw
2.4	2021.11.17	Added USB VCP & RS232 Cradle Mode	Shaw
2.5	2021.12.16	Updated wireless description, Beeper Indication Removed Code ID	Shaw
2.6	2021.12.23	Updated Beeper Indication, Encoding Format, Working Current Added GS Replacement, Preamble / Postamble	Shaw
2.7	2022.01.14	Updated BT HID, BT SPP	Shaw
2.8	2022.09.08	Removed Scan Rate	Shaw
2.9	2022.10.25	Updated Scan Angle Added Plessey, GS1 DataBar, MicroPDF417	Shaw