MT584
2D Wireless Ring Scanner
User's Manual

Version 1.9

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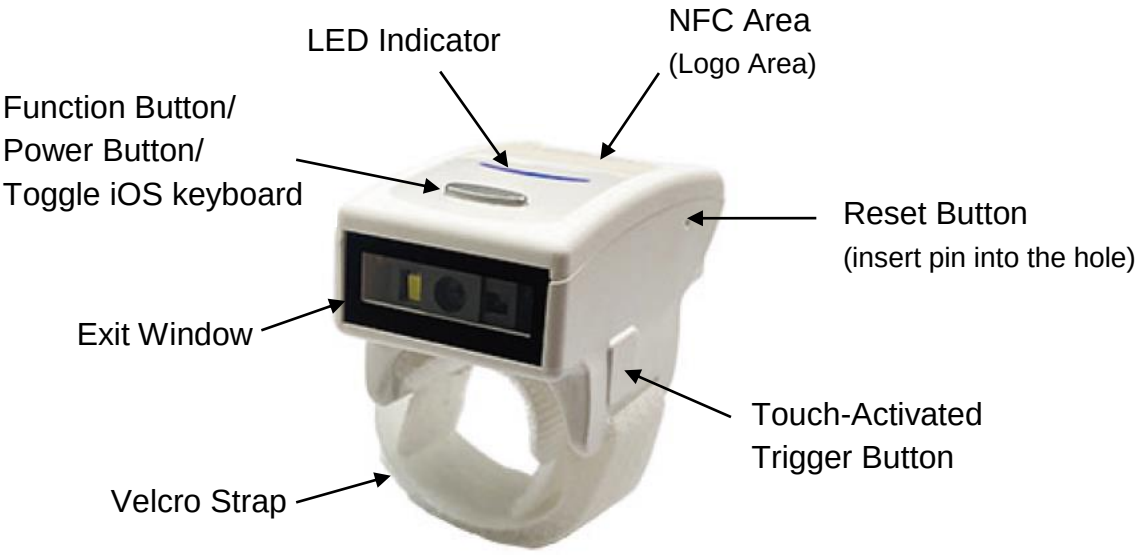
Chapter 1 Introduction

This user's manual is dedicated to MT584, a wearable 2D wireless ring scanner that enables hands-free scanning for mobile operators who work with smartphones or other mobile devices of iOS and Android platform. With built-in Bluetooth 5.0 technology and disinfectant-ready housing, MT584 provides 20-meter wireless data transmission and microbe-free scanning experience.



Specifications

Optic & Performance	
Light Source	White LED Visible red LED
Sensor	640 x 480
Resolution	5mil/ 0.125mm (1D) 10mil/ 0.25mm (2D)
Scan Angle	Horizontal 37° Vertical 27.5°
Pitch Angle	±60°
Skew Angle	±60°
Roll Angle	360°
Print Contrast Ratio	25%
Width of Field	141mm (13Mil Code39)
NFC Pairing	Supported
Memory	2MB (20,000 barcodes)

Typical D.O.F (Environment : 800 lux)	5 Mil Code 39 : 45 ~ 120mm
	13 Mil UPC/EAN : 55 ~ 285mm
	15 Mil QR Code : 25 ~ 230mm
	6.67 Mil PDF417 : 45 ~ 135mm
	10 Mil Data Matrix: 40 ~ 135mm
Physical Characteristics	
Dimension	W27.6 x L46.2 x H26.8 mm
Weight	20g
Color	Black / White
Material	PC+ABS
Cable	Type C(M) to USB A(M) Cable, 1.5M
Trigger	Touch Switches (Trigger Buttons) Function/Power Button
Indicator	LED, Buzzer
Electrical	
Operation Voltage	3.7 VDC ± 5%
Working Current	< 210mA
Standby Current	< 25mA
Battery	3.7V, 240mAh, Li-Polymer Battery
Number of Scan (per full charge)	4000 scans (1 scan/ 5 secs, Bluetooth connected)
Connectivity	
Radio	Bluetooth 5.0 dual mode (Class 2)
Range	66 ft/ 20m (line of sight)
Interface/ Profile	BT HID BT SPP USB HID USB VCP Memory
User Environment	
Operating Temperature	-10 ~ 50˚C
Storage Temperature	-20 ~ 60˚C
Humidity	0% ~ 95%RH (Non-condensing)
Drop Durability	1.5M
Sealing	IP42
Ambient Light	70,000 Lux (Sunlight)
1D Symbologies	UPC-A/ UPC-E0/ UPC-E1, EAN-8/ EAN-13, Code128, Code39, Code93, Codabar, Interleaved 2 of 5, Industrial 2 of 5, Matrix 2 of 5, Standard 2 of 5, China Post 25,

	Code11, MSI Plessey, Plessey, GS1 Databar, GS1 Databar Limited, GS1 Databar Expanded
2D Symbologies	QR Code, Micro QR Code, PDF417, MicroPDF417, Data Matrix, Aztec, MaxiCode, Han Xin, Code 16K
Regulatory	
ESD	Functional after 4KV contact, 8KV air discharge
EMC/RF	TELEC
Safety Approval	EN/IEC62471 (Exempt Group)
Environmental	WEEE, RoHS 2.0
Medical Compliance (White version only)	JIS Z 2801

Beeper Indication

Beeper	**Status**
Single beep	Good read
Single short beep	The scanner reads a Code39 ASCII during multi-step configuration
Two beeps	Wireless connection
	The scanner successfully reads a configuration barcode
Three beeps	Wireless disconnection
Three short beeps	The scanner reads a barcode while disconnected
	The scanner reads an unexpected barcode during multi-step configuration. (Please scan "**Abort**" and start over)
	Memory Full
Four beeps (Hi-Lo-Hi-Lo)	Out of range / Poor connection
Five beeps	Low power

LED Indication

LED	Status
Off	Power off / Standby / Connected
Flashing blue	Disconnected / Discoverable
One green flash	Good read
Flashing red	Low power
Solid red	Charging

Chapter 2 General Settings

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

Factory Default

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

Factory Default

Check Version

To check firmware version, please scan below configuration barcode.

Check Version

Button Preference

Scan one of below barcodes to determine which touch-sensing button to enable according to your habit:

.F064$

Right Button Only
(For Left-handed User)

.F065$

Left Button Only *
(For Right-handed User)

.F066$

Both Button

Good Read Indicator

Beep Tone

.F012$

Off

.F022$

Beep Low (2.0KHz)

.F018$

Beep Medium (2.7KHz)

.F019$

Beep High (4.0KHz)*

Beep Mode

Normal*

Warning Beep Only

Mute

Data Format

UTF-8 to Unicode Conversion

Disable UTF-8 to Unicode*

Enable UTF-8 to Unicode (Word)

Country Code Page

West European Latin*

Japanese, Shift-JIS (Notepad / Excel)

Japanese, Shift-JIS (Word)

Note: Code pages define the mapping of character codes to characters. To display the proper characters for the barcode being scanned, please select the appropriate code page. For Shift-JIS to output properly, please make sure to disable UTF-8 to Unicode Conversion.

HT/CR/ESC Converts to TAB/ENTER/ESCAPE

Off*

On

Note:

1. By default, HT [$I], CR [$M] and ESC [%A] is transmitted as <0x09>, <0x0D> and <0x1B> respectively.
2. When enabled, HT [$I], CR [$M] and ESC [%A] is transmitted as <TAB>, <ENTER> and <ESCAPE> on keyboard respectively.

Function Code Conversion

Off

On*

Note:

Once disabled, the scanner will output the original encoded data of the barcodes in Appendix – Function/Navigation/Modifier Keys.

Control Code Output Method

Ctrl Mode*

Alt Mode

Disable Output

Note:

Control code (0x01 ~ 0x1F) can be sent by two methods:

1 **Ctrl Mode:**

A barcode of "A<HT>F" (0x41/0x09/0x46) is scanned, the output sequence is:

a. Enter "A" – Press A key
b. Enter "Ctrl + I" – Since 0x09 corresponds to "Ctrl + I", virtual keyboard will press and hold Ctrl key, press I key, and release Ctrl key and I key
c. Enter "F" – Press F key

Since "Ctrl+I" is shortcut for italicizing text in some software applications, the result of above output sequence can be a regular A plus an italic F.

(2) Alt Mode:

For <HT>, the output sequence of virtual keyboard is:

Enter "Alt + 0 + 0 + 0 + 9" – Virtual keyboard will press and hold Alt key, press "0", "0", "0" and "9" on numeric keypad respectively, and release Alt key.

Control Code Table

ASCII	Hex	Dec	Ctrl Mode	Alt Mode
NUL	00	0	Ctrl+Shift+2	Alt+0+0+0+0
SOH	01	1	Ctrl+a	Alt+0+0+0+1
STX	02	2	Ctrl+b	Alt+0+0+0+2
ETX	03	3	Ctrl+c	Alt+0+0+0+3
EOT	04	4	Ctrl+d	Alt+0+0+0+4
ENQ	05	5	Ctrl+e	Alt+0+0+0+5
ACK	06	6	Ctrl+f	Alt+0+0+0+6
BEL	07	7	Ctrl+g	Alt+0+0+0+7
BS	08	8	Ctrl+h	Alt+0+0+0+8
HT	09	9	Ctrl+i	Alt+0+0+0+9
LF	0A	10	Ctrl+j	Alt+0+0+1+0
VT	0B	11	Ctrl+k	Alt+0+0+1+1
FF	0C	12	Ctrl+l	Alt+0+0+1+2
CR	0D	13	Ctrl+m	Alt+0+0+1+3
SO	0E	14	Ctrl+n	Alt+0+0+1+4
SI	0F	15	Ctrl+o	Alt+0+0+1+5
DLE	10	16	Ctrl+p	Alt+0+0+1+6
DC1	11	17	Ctrl+q	Alt+0+0+1+7
DC2	12	18	Ctrl+r	Alt+0+0+1+8
DC3	13	19	Ctrl+s	Alt+0+0+1+9
DC4	14	20	Ctrl+t	Alt+0+0+2+0
NAK	15	21	Ctrl+u	Alt+0+0+2+1
SYN	16	22	Ctrl+v	Alt+0+0+2+2
ETB	17	23	Ctrl+w	Alt+0+0+2+3
CAN	18	24	Ctrl+x	Alt+0+0+2+4
EM	19	25	Ctrl+y	Alt+0+0+2+5
SUB	1A	26	Ctrl+z	Alt+0+0+2+6
ESC	1B	27	Ctrl+[	Alt+0+0+2+7
FS	1C	28	Ctrl+\	Alt+0+0+2+8
GS	1D	29	Ctrl+]	Alt+0+0+2+9
RS	1E	30	Ctrl+Shift+6	Alt+0+0+3+0
US	1F	31	Ctrl+Shift+-	Alt+0+0+3+1

Numeric Key

Numeric Key

Alphanumeric Key*

Note:

1. By default, the alphanumeric key is used for 17ransmitting digits. Scan NUMERIC KEY if you want to use the keys on the numeric keypad.
2. If you select NUMERIC KEY, the Num Lock status of the physical keyboard should be ON.

Capslock Mode

Capslock Off*

Capslock On

Capslock Free

Note:

When barcode scanner is set to Capslock Free mode, no matter keyboard Capslock LED indicator is ON or OFF, output will be always the same as the Original barcode. In other words, what you see is what output is.

Keyboard Layout

.C010$

English (US)*

.C018$

English (UK)

.C027$

Danish

.C013$

Spanish

.C021$

Hungarian (QWERTZ)

.C024$

Hungarian (QWERTY)

.C025$

Canadian French

.C028$

Dutch

.C014$

Italian

.C012$

French

.C011$

German

.C016$

Swiss German

.C023$

.C026$

Swiss French

.C022$

Swedish

.C017$

Czech (QWERTZ)

Czech (QWERTY)

.C029$

Norwegian

.C030$

Belgian

.C031$

Portuguese

.C032$

Slovak

.C033$

Brazilian (QWERTY)

.C034$

Canadian (Traditional)

.C009$

Japanese

.C015$

Alt Code

Intercharacter Delay

The configurable range is from 0 to 255ms. The larger the number, the longer the delay.

Set Intercharacter Delay
(Default = 4ms)

Example: Set Intercharacter Delay to 8ms
Step1: Scan Set Intercharacter Delay
Step2: Scan "**0**" "**0**" "**8**" in Appendix – Numbers
Step3: Scan Set Intercharacter Delay

Interblock Delay

The configurable range is from 0 to 2550ms. The larger the number, the longer the delay.

Set Interblock Delay
(Default = 0ms)

Example: Set Interblock Delay to 20ms
Step1: Scan Set Interblock Delay
Step2: Scan "**0**" "**0**" "**2**" in Appendix – Numbers
Step3: Scan Set Interblock Delay

BCC (Binary Check Character)

On

Off*

Note:
Once enabled, a checksum will be added to the end of each data to conduct Xor calculation. For Bluetooth SPP & USB VCP, the BCC is 1 byte. For Bluetooth HID & USB HID, the BCC are 2 bytes.

Example:
The barcode data is "TEST" with terminator <CR><LF>

1 BT SPP & USB VCP:
Data Format = <T> + <E> + <S> + <T> + <CR> + <LF> + <BCC>.
BCC = 54h ^ 45h ^ 53h ^ 54h ^ 0Dh ^ 0Ah = 11h
2. BT HID & USB HID:
Data Format = <T> + <E> + <S> + <T> + <Enter> + <BCC>
BCC = 54h ^ 45h ^ 53h ^ 54h ^ E7h = F1h
However, since control character cannot be displayed in Bluetooth & USB HID, BCC will be converted into 2 bytes of characters.
As a result, the data will be: TEST + <Enter> + F + 1

GS Character Replacement

Enable GS Character Replacement

Disable GS Character Replacement*

Define Replacement Character

Note:

1. When enabled, the <GS> character in all barcodes will be replaced by the one defined by the user.
2. To define replacement character, please refer to below:

Example: Set Replacement Character as "X"
Step1: Scan "**Define Replacement Character**"
Step2: Scan "**X**" in Appendix – Upper Case Alphabets
Step3: Scan "**Define Replacement Character**"

Surround GS1 Application Identifiers (AI's) with Parentheses

Surround AI's with Parenthese

Not Surround AI's with Parenthese*

Note:
When enabled, each application identifier (AI) in GS1 DataBar, Code 128, GS1 Composite, QR Code, Data Matrix or Aztec will be enclosed in parentheses in output data.

Imaging Settings

Inverse Barcode

Disable Inverse Barcode*

Enable Inverse Barcode

Chapter 3 Interface

BT HID

Getting Connected

1. Press the function button on the top to power up the scanner.
2. Scan "**Disconnect**", the scanner will emit two beeps.

Disconnect

3. Scan "**BT HID**", the scanner will emit two beeps.

BT HID

4. Select "Wireless Scanner" from discovered device list.
5. If Bluetooth application prompts you to enter a pincode, please follow the steps in **Pincode Setup** section.
6. The scanner will emit two beeps as indication that the Bluetooth connection has established successfully.
7. While conneted with the scanner as physical keyboard, the touch keyboard on iOS/Android device might disappear. To resolve this issue please do the following:
   (1) For iOS device, simply press the function button on the top once.
   (2) For Android device, go to "Settings" > "Language & Input", tap on "Default keyboard" and turn off "Physical keyboard" or turn on "On-screen keyboard".

Pincode Setup

If Bluetooth application prompts you to enter a pincode, please follow the steps:

1. Scan "**Pincode Start**"

Pincode Start

2. Scan numeric barcodes below according to the pincode generated by the Bluetooth application.

0

1

2

3

4

5

6

7

8

9

3. Scan "**Enter**"

Enter

4. Scan "**Pincode Stop**"

Pincode Stop

BT SPP

Getting Connected

1. Press the function button on the top to power up the scanner.
2. Scan "**Disconnect**", the scanner will emit two beeps.

Disconnect

3. Scan "**BT SPP**", the scanner will emit two beeps..

BT SPP

4. Select "Wireless Scanner" from discovered device list.
5. If Bluetooth application prompts you to enter a pincode, enter "1234" from the host.
6. Enter serial communication software on your host and open the port occupied by the scanner.
7. The scanner will emit two beeps as indication that the Bluetooth connection has established successfully.

Set SPP Pincode

By default, the pincode under BT SPP profile for the scanner is "1234". It is configurable up to 8 numbers.

Set SPP Pincode

Example: Set SPP Pincode to 0000.
Step1: Scan "**Set SPP Pincode**"
Step2: Scan "**0**" "**0**" "**0**" "**0**" in Appendix – Numbers
Step3: Scan "**Set SPP Pincode**"

General Bluetooth Settings

Power Off Timeout

The power off timeout is 3 minutes & 0 second by default. They are configurable from a minimum of 10 seconds (00:10) to a maximum of 60 minutes and 59 seconds (60:59)

Set Minute
(Default = 03)

Set Second
(Default = 00)

Example: Set Power Off Timeout to 5 minnutes and 30 seconds.
Step1: Scan "**Set Minute**"
Step2: Scan "**0**" "**5**" in Appendix – Numbers
Step3: Scan "**Set Minute**"
Step4: Scan "**Set Second**"
Step5: Scan "**3**" "**0**" in Appendix – Numbers
Step6: Scan "**Set Second**"

To disable Power Off Timeout (make scanner always on), scan below barcode:

Disable Timeout

Shut Down

To shut down the scanner immediately, pelase scan below configuration barcode.

Shut Down

iOS Touch Keyboard

To toggle iOS touch keyboard, please scan below configuration barcode.

Toggle iOS Touch Keyboard

Alternatively, you may simply press the function button.

Secure Simple Pairing (SSP)

Secure Simple Pairing (SSP), enabled by default, allows the scanner to establish connection with host device without entering pincode. When SSP is disabled, a pincode will be requested by the host device, which by default is "1234" for BT SPP profile and a random number generated by the host device for BT HID profile.

Enable SSP*

Disable SSP

Set Bluetooth Device ID

Bluetooth device name is configurable up to 16 alphanumeric characters:

Set Bluetooth Device ID

Example: Set XYZ123 as Bluetooth Device ID
Step 1: Scan "**Set Bluetooth Device ID**"
Step 2: Scan "**X**" "**Y**" "**Z**" "**1**" "**2**" "**3**" in Appendix – Upper Case Alphabets & Numbers
Step 3: Scan "**Set Bluetooth Device ID**"

To reset Bluetooth Device ID to "Wireless Scanner", scan below barcode:

Reset Bluetooth Device ID

To add the last 6 digits of MAC address to Bluetooth Device ID ("Wireless-xxxxxx"), scan below barcode:

Add MAC Address to Bluetooth Device ID

Check Bluetooth Firmware Version

To check scanner's Bluetooth firmware version, please connect to a host device via BT HID or BT SPP and scan below configuration barcode.

Check Bluetooth Firmware Version

Check Device MAC Address

To check scanner's MAC address, please connect to a host device via BT HID or BT SPP and scan below configuration barcode.

Check Device MAC Address

Check Host MAC Address

To check scanner's MAC address, please connect to a host device and scan below configuration barcode.

Check Host MAC Address

Check Battery Life

To check scanner's battery life, please connect to a host device and scan below configuration barcode.

Check Battery Life

ScanLink

ScanLink is a connection method that turns the scanner into a master device, which initiates the Bluetooth connection with the target host device (now a slave device). This, as a result, saves user the trouble of going through numerous setup procedures on the host device to establish connection.

Simply generate ScanLink barcode for the target slave device in below rule:

For BT HID profile, please encode:
HID<MAC Address> in Code39 without checksum or QR Code.

For BT SPP profile, please encode:
SPP<MAC Address> in Code39 without checksum or QR Code.

Example: Target Slave Device MAC Address = 00:15:83:52:2C:3B, Profile = BT HID
Encode **HID001583522C3B** in Code39 without checksum or QR Code.

NFC Pairing

The scanner can be paired with NFC-compatible Android device with just a tap. Please follow below steps:

1. Enable NFC and Bluetooth on the Android device, and make sure the screen is unlocked and turned on.
2. Press the function button on the top to power up the scanner.
3. Scan "**Disconnect**", the scanner will emit two beeps.

.E031$

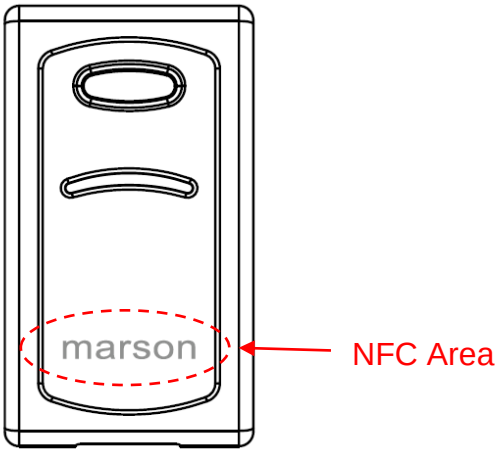
Disconnect

4. Scan "**BT HID**", the scanner will emit two beeps.

.E043$

BT HID

5. Tap the NFC area on the Android device against the NFC area (the logo area) at the top of the scanner.



6. A Bluetooth pairing request dialog will pop up (sometimes in the drop-down notification). Please tap "Pair".
7. The scanner will emit two beeps as indication that the Bluetooth connection has established successfully.

Memory Mode

Memory Mode

After scanning the above barcode, the scanner will be able to collect barcode data off-line. The barcode data will be stored in the format of:

<Date>, <Time>, <Barcode Data> <CR>

To retrieve stored data, please connect the scanner to the host with USB cable, access removable storage device "**MiniScan**" from which you may open or copy the file "**BARCODE.txt**" to your computer.

To exit Memory Mode, simply scan any interface barcode (e.g. "**BT HID**", "**BT SPP**", "**USB HID**", "**USB VCP**") other than memory mode.

Delete Last Record

To delete last memory data, please scan below barcode or press function button once when the scanner is in memory mode.

Delete Last Record

Clear All Record

To delete all memory data, please connect the scanner to the host with USB cable, access removable storage device "**MiniScan**", and delete the file "**BARCODE.txt**". The scanner will emit two beeps as indication that the file has been successfully deleted.

Data Format

The default Data Format in memory mode is **<Date>**, **<Time>**, **<Barcode Data>**.

Data Format

Below are configurable items and their setup codes:

Code	Item
2	Date
3	Time
4	Barcode Data

Example: Set Data Format as <Barcode Data>, <Date>, <Time>
Step1: Scan "**Data Format**"
Step2: Scan "**4**" "**3**" "**2**" respectively in Appendix – Numbers
Step3: Scan "**Data Format**"

Field Separator

The field separator in memory mode is comma (,) by default. It can be replaced by any alphanumeric characters.

Field Separator

Example: Set Field Separator as Semicolon (;)
Step1: Scan "**Field Separator**"
Step2: Scan " **;** " in Appendix – Symbols
Step3: Scan "**Field Separator**"

Date Format

The default Date Format is **DD/MM/YYYY** (Code = 09)

Date Format

Below are available Date Format and their setup codes:

Code	Date Format	Code	Date Format
01	DD-MM-YYYY	09	DD/MM/YYYY
02	MM-DD-YYYY	10	MM/DD/YYYY
03	DD-MM-YY	11	DD/MM/YY
04	MM-DD-YY	12	MM/DD/YY
05	YYYY-MM-DD	13	YYYY/MM/DD
06	YY-MM-DD	14	YY/MM/DD
07	DD-MM	15	DD/MM
08	MM-DD	16	MM/DD

Example: Set Date Format as MM/DD/YY (Code = 12)
Step1: Scan "**Date Format**"
Step2: Scan "**1**" "**2**" respectively in Appendix – Numbers
Step3: Scan "**Date Format**"

Time Format

The default Time Format is HH:MM:SS (Code = 01)

Time Format

Below are available Time Format and their setup codes:

Code	Time Format
01	HH:MM:SS
02	HH:MM

Example: Set Time Format as HH:MM (Code = 02)

Step1: Scan "**Time Format**"

Step2: Scan "**0**" "**2**" respectively in Appendix – Numbers

Step3: Scan "**Time Format**"

Date & Time Setup

.R006$

Set Date

.R007$

Set Time

Example: Set date as 2022-07-27, set time as 08:10:30 am (HH:MM:SS)

Step1: Scan "**Set Date**"

Step2: Scan "**2**" "**2**" "**0**" "**7**" "**2**" "**7**" in Appendix – Numbers

Step3: Scan "**Set Date**"

Step4: Scan "**Set Time**"

Step5: Scan "**0**" "**8**" "**1**" "**0**" "**3**" "**0**" in Appendix – Numbers

Step6: Scan "**Set Time**"

USB HID

Scanning below configuration barcode will configure the scanner to USB HID interface, in which the scanner becomes an HID keyboard device.

USB HID

USB VCP

Scanning below configuration barcode will configure the scanner to USB VCP interface. The scanner will be able communicate with the host via USB Virtual COM. Normally virtual COM port can be recognized by the host. If it is not recognizable by the host, please download VCP driver from our website.

USB VCP

Chapter 4 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 Auto-Off timeout expires.

.F002$

Trigger Mode*

Toggle Mode

In Toggle Mode the LED will stay on once trigger is pressed once, and will turn off automatically when a barcode is read or LED Auto-Off timeout expires.

.F003$

Toggle Mode

Continuous Mode

In Continuous Mode the LED will stay on, reading barcodes continuously, and will turn off when:

1 a barcode is read (2) LED Auto-Off timeout expires (3) trigger is pressed (Trigger Control enabled)

.F005$

Continuous Mode

Auto-sensing Mode

In Auto-sensing Mode the LED will turn on when image change is detected within scanner's field of view, and will turn off when: (1) a barcode is read (2) LED Auto-Off timeout expires (3) trigger is pressed (Trigger Control enabled)

Auto-sensing Mode

Advanced Reading Mode Settings

LED Auto-Off Timeout

LED Auto-Off Timeout (applicable for all reading modes) is the maximum scanning duration. When LED Auto-Off Timeout expires, the scanning operation stops automatically. The configurable range is from 0.1 to 25.5 sec.

.F043$

LED Auto-off Timeout
(Default = 5 sec)

Example: Set LED Auto-Off Timeout to 10 sec
Step1: Scan LED Auto-Off Timeout
Step2: Scan "**2**" "**4**" in Appendix – Numbers
(01 = 0.1 sec, 02 = 0.2 sec, 03 = 0.3 sec, 04 = 0.4 sec, 05 = 0.5 sec, 06 = 1.0 sec, 07 = 1.5 sec, 08 = 2.0 sec, 09 = 2.5 sec, 10 = 3.0 sec, 11 = 3.5 sec, ...55 = 25.5 sec Default = 14 (5 sec))
Step3: Scan LED Auto-Off Timeout

Scan Interval

Scan Interval (applicable for Continuous Mode) is the period of time between two consecutive scans. The configurable range is from 0.1 to 25.5 sec.

.F041$

Scan Interval
(Default = 1 sec)

Example: Set Scan Interval to 10 sec
Step1: Scan Scan Interval
Step2: Scan "**2**" "**4**" in Appendix – Numbers

(01 = 0.1 sec, 02 = 0.2 sec, 03 = 0.3 sec, 04 = 0.4 sec, 05 = 0.5 sec, 06 = 1.0 sec,
07 = 1.5 sec, 08 = 2.0 sec, 09 = 2.5 sec, 10 = 3.0 sec, 11 = 3.5 sec, ...55 = 25.5 sec
Default = 06 (1 sec))
Step3: Scan Scan Interval

Identical Read Interval

Identical Read Interval (applicable for Continuous Mode, Auto-sensing Mode) defines the period of time between two consecutive scans on a barcode or two identical ones. This prevents repetitive input of an identical data. The configurable range is from 0.1 to 25.5 sec.

.F031$

Identical Read Interval
(Default = 1 sec)

Example: Set Identical Read Interval to 10 sec
Step1: Scan Identical Read Interval
Step2: Scan "**2**" "**4**" in Appendix – Numbers
(01 = 0.1 sec, 02 = 0.2 sec, 03 = 0.3 sec, 04 = 0.4 sec, 05 = 0.5 sec, 06 = 1.0 sec,
07 = 1.5 sec, 08 = 2.0 sec, 09 = 2.5 sec, 10 = 3.0 sec, 11 = 3.5 sec, ...55 = 25.5 sec
Default = 06 (1 sec))
Step3: Scan Identical Read Interval

Trigger Control

Trigger Control (applicable for Continuous Mode, Auto-sensing Mode) allows LED to be turned on/off by pressing trigger.

.F037$

Enable Trigger Control*

.F036$

Disable Trigger Control

Chapter 5 Data Format

By default data format is as follows:

<Preamble> <Code ID> <Barcode Length> <Barcode Data> <Postamble> <Terminator>

Code ID

When Factory ID is enabled, a Factory ID (see Appendix – Factory ID Table) will be added to the beginning of each barcode data. When Set ID is enabled, a user-defined ID (see Set ID) will be added to the beginning of each barcode data.

.A009$

Disable Code ID*

.A008$

Enable Factory ID

.A014$

Enable AIM ID

.A015$

Enable Set ID

Set ID

Set ID can be 0 ~ 2 alphanumerics for each symbology.

.P005$

Set ID – Code39

.P008$

Set ID – Full ASCII Code39

.P011$

Set ID – Code32

.P007$

Set ID – Codabar

.P006$

Set ID – Interleaved 2 of 5

.P021$

Set ID – Standard 2 of 5

.P017$

Set ID – Matrix 2 of 5

.P018$

Set ID – Industrial 2 of 5

.P009$

Set ID – Code11

.P012$

Set ID – China Postal Code

.P014$

Set ID – MSI Plessey

.P015$

Set ID – UK Plessey

.P001$

Set ID – EAN-13

.P004$

Set ID – UPC-A

.P002$

Set ID – EAN-8

.P003$

Set ID – UPC-E

Set ID – Code93

Set ID – Code128/GS1-128

Set ID – GS1 Databar

Set ID – GS1 Databar Limited

Set ID – GS1 Databar Expanded

Set ID – QR Code

Set ID – Micro QR Code

Set ID – PDF417

Set ID – MicroPDF417

Set ID – Data Matrix

Set ID – Aztec

Set ID – MaxiCode

Set ID – Hanxin

Set ID – Code 16K

Example: Set Code39 Set ID as XY
Step1: Scan "**Set ID – Code39**"
Step2: Scan "**X**" "**Y**" in Appendix – Upper Case Alphabets
Step3: Scan "**Set ID – Code39**"

Data Length

.D020$

Send Data Length Off*

.D019$

Send Data Length On

Preamble

Preamble can be up to 16 bytes of data.

.A012$

Set Preamble

Example: Set Preamble as XYZ123
Step 1: Scan "**Set Preamble**"
Step 2: Scan "**X**" "**Y**" "**Z**" "**1**" "**2**" "**3**" in Appendix – Upper Case Alphabets & Numbers
Step 3: Scan "**Set Preamble**"

Postamble

Postamble can be up to 16 bytes of data.

.A013$

Set Postamble

Example: Set Postamble as XYZ123
Step 1: Scan "**Set Postamble**"
Step 2: Scan "**X**" "**Y**" "**Z**" "**1**" "**2**" "**3**" in Appendix – Upper Case Alphabets & Numbers
Step 3: Scan "**Set Postamble**"

Clear Preamble/Postamble

.A011$

Clear Preamble/Postamble

Terminator

.D010$

None

.D011$

<LF>

.D012$

<CR>*

.D013$

<CR><LF>

<TAB>

<Space>

<ESC>

Note:

1. Default Terminator for BT HID or USB HID interface = <CR> (or Enter)
2. Default Terminator for BT SPP or USB VCP interface = <CR><LF>
3. <CR><LF> or <LF> is treated as Enter for BT HID or USB HID interface.

Chapter 6 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

Note: When all symbologies are disabled, configuration barcodes are still readable.

UPC-A

Enable/Disable UPC-A

Enable UPC-A*

Disable UPC-A

Check Digit

Send Check Digit*

Not Send Check Digit

UPC-A Expand to EAN-13

Enable UPC-A Expand to EAN-13

Disable UPC-A Expand to EAN-13*

Add On Supplement

Enable 5-digit Supplement

Disable 5-digit Supplement*

Enable 2-digit Supplement

Disable 2-digit Supplement*

Enable Addenda Required

Disable Addenda Required*

Note:
When Addenda Required is enabled, the scanner will only read an UPC-A barcode that has 2-digit or 5-digit addenda/supplement.

UPC-E

Enable/Disable UPC-E

Enable UPC-E*

Disable UPC-E

Check Digit

Send Check Digit*

Not Send Check Digit

Add On Supplement

Enable 5-digit Supplement

Disable 5-digit Supplement*

Enable 2-digit Supplement

Disable 2-digit Supplement*

Enable Addenda Required

Disable Addenda Required*

Note:
When Addenda Required is enabled, the scanner will only read an UPC-E barcode that has 2-digit or 5-digit addenda/supplement.

EAN-8

Enable/Disable EAN-8

Enable EAN-8*

Disable EAN-8

Check Digit

Not Send Check Digit

Send Check Digit*

Add On Supplement

Enable 5-digit Supplement

Disable 5-digit Supplement*

Enable 2-digit Supplement

Disable 2-digit Supplement*

Enable Addenda Required

Disable Addenda Required*

Note:
When Addenda Required is enabled, the scanner will only read an EAN-8 barcode that has 2-digit or 5-digit addenda/supplement.

EAN-13

Enable/Disable EAN-13

Enable EAN-13*

Disable EAN-13

Check Digit

Not Send Check Digit

Send Check Digit*

Add On Supplement

Enable 5-digit Supplement

Disable 5-digit Supplement*

Enable 2-digit Supplement

Disable 2-digit Supplement*

Enable Addenda Required

Disable Addenda Required*

Note:

When Addenda Required is enabled, the scanner will only read an EAN-13 barcode that has 2-digit or 5-digit addenda/supplement.

Code 39

Enable/Disable Code 39

Enable Code 39*

Disable Code 39

Verification

Disable CDV*

CDV & Send CD

CDV & Not Send CD

Start/Stop

Not Send Start/Stop*

Send Start/Stop

Full ASCII Code39

.G001$

Enable Full ASCII Code39*

.G002$

Disable Full ASCII Code39

Code39 Min/Max Length

.G006$

Set Min Length
(Default = 01)

.G007$

Set Max Length
(Default = 99)

Example: Set Min Length as 8, Max Length as 12 for Code39
Step1: Scan "**Set Min Length**"
Step2: Scan "**0**" "**8**" in Appendix – Numbers
Step3: Scan "**Set Min Length**"
Step4: Scan "**Set Max Length**"
Step5: Scan "**1**" "**2**" in Appendix – Numbers
Step6: Scan "**Set Max Length**"

Note: Configurable range for Min/Max Length is 01 ~ 99.

Code 32

Enable/Disable Code 32

Enable Code 32

Disable Code 32*

Leading/Tailing

Not Send Leading & Tailing

Send Leading Only

Send Tailing Only

Send Leading & Tailing*

Codabar (NW-7)

Enable/Disable Codabar

Enable Codabar*

Disable Codabar

Verification

Disable CDV*

CDV & Send CD

CDV & Not Send CD

Start/Stop

Send Start/Stop

Not Send Start/Stop*

Codabar Min/Max Length

Set Min Length
(Default = 01)

Set Max Length
(Default = 99)

Example: Set Min Length as 8, Max Length as 12 for Codabar
Step1: Scan "**Set Min Length**"
Step2: Scan "**0**" "**8**" in Appendix – Numbers
Step3: Scan "**Set Min Length**"
Step4: Scan "**Set Max Length**"
Step5: Scan "**1**" "**2**" in Appendix – Numbers
Step6: Scan "**Set Max Length**"

Note: Configurable range for Min/Max Length is 01 ~ 99.

Interleaved 2 of 5

Enable/Disable Interleaved 2 of 5

Enable Interleaved 2 of 5

Disable Interleaved 2 of 5*

Verification

Disable CDV*

CDV & Send CD

CDV & Not Send CD

Interleaved 2 of 5 Min/Max Length

Set Min Length
(Default = 04)

Set Max Length
(Default = 32)

Example: Set Min Length as 8, Max Length as 12 for Interleaved 2 of 5
Step1: Scan "**Set Min Length**"
Step2: Scan "**0**" "**8**" in Appendix – Numbers
Step3: Scan "**Set Min Length**"
Step4: Scan "**Set Max Length**"
Step5: Scan "**1**" "**2**" in Appendix – Numbers
Step6: Scan "**Set Max Length**"

Note: Configurable range for Min/Max Length is 01 ~ 99.

Standard 2 of 5 (IATA)

Enable/Disable Standard 2 of 5

Enable Standard 2 of 5

Disable Standard 2 of 5*

Verification

Disable CDV*

CDV & Send CD

CDV & Not Send CD

Standard 2 of 5 Min/Max Length

Set Min Length
(Default = 04)

Set Max Length
(Default = 32)

Example: Set Min Length as 8, Max Length as 12 for Standard 2 of 5
Step1: Scan "**Set Min Length**"
Step2: Scan "**0**" "**8**" in Appendix – Numbers
Step3: Scan "**Set Min Length**"
Step4: Scan "**Set Max Length**"
Step5: Scan "**1**" "**2**" in Appendix – Numbers
Step6: Scan "**Set Max Length**"

Note: Configurable range for Min/Max Length is 01 ~ 99.

Matrix 2 of 5

Enable/Disable Matrix 2 of 5

Enable Matrix 2 of 5

Disable Matrix 2 of 5*

Verification

Disable CDV*

CDV & Send CD

CDV & Not Send CD

Matrix 2 of 5 Min/Max Length

Set Min Length
(Default = 04)

Set Max Length
(Default = 32)

Example: Set Min Length as 8, Max Length as 12 for Matrix 2 of 5
Step1: Scan "**Set Min Length**"
Step2: Scan "**0**" "**8**" in Appendix – Numbers
Step3: Scan "**Set Min Length**"
Step4: Scan "**Set Max Length**"
Step5: Scan "**1**" "**2**" in Appendix – Numbers
Step6: Scan "**Set Max Length**"

Note: Configurable range for Min/Max Length is 01 ~ 99.

Industrial 2 of 5

Enable/Disable Industrial 2 of 5

Enable Industrial 2 of 5

Disable Industrial 2 of 5*

Verification

Disable CDV*

CDV & Send CD

CDV & Not Send CD

Industrial 2 of 5 Min/Max Length

Set Min Length
(Default = 04)

Set Max Length
(Default = 32)

Example: Set Min Length as 8, Max Length as 12 for Industrial 2 of 5
Step1: Scan "**Set Min Length**"
Step2: Scan "**0**" "**8**" in Appendix – Numbers
Step3: Scan "**Set Min Length**"
Step4: Scan "**Set Max Length**"
Step5: Scan "**1**" "**2**" in Appendix – Numbers
Step6: Scan "**Set Max Length**"

Note: Configurable range for Min/Max Length is 01 ~ 99.

Code 11

Enable/Disable Code 11

Enable Code 11

Disable Code 11*

Verification

Single Digit*

Double Digits

Check Digit

Send Check Digit

Not Send Check Digit*

Code 11 Min/Max Length

Set Min Length
(Default = 04)

Set Max Length
(Default = 32)

Example: Set Min Length as 8, Max Length as 12 for Code11
Step1: Scan "**Set Min Length**"
Step2: Scan "**0**" "**8**" in Appendix – Numbers
Step3: Scan "**Set Min Length**"
Step4: Scan "**Set Max Length**"
Step5: Scan "**1**" "**2**" in Appendix – Numbers
Step6: Scan "**Set Max Length**"

Note: Configurable range for Min/Max Length is 01 ~ 99.

China Postal Code

Enable/Disable China Postal Code

Enable China Postal Code

Disable China Postal Code*

Verification

Disable CDV*

CDV & Send CD

CDV & Not Send CD

China Postal Code Min/Max Length

Set Min Length
(Default = 04)

Set Max Length
(Default = 32)

Example: Set Min Length as 8, Max Length as 12 for China Postal Code
Step1: Scan "**Set Min Length**"
Step2: Scan "**0**" "**8**" in Appendix – Numbers
Step3: Scan "**Set Min Length**"
Step4: Scan "**Set Max Length**"
Step5: Scan "**1**" "**2**" in Appendix – Numbers
Step6: Scan "**Set Max Length**"

Note: Configurable range for Min/Max Length is 01 ~ 99.

.

MSI Plessey

Enable/Disable MSI Plessey

Enable MSI Plessey

Disable MSI Plessey*

Verification

Send Check Digit*

Not Send Check Digit

Single Check Digit MOD10*

Double Check Digits MOD10

MSI Plessey Min/Max Length

Set Min Length
(Default = 04)

Set Max Length
(Default = 32)

Example: Set Min Length as 8, Max Length as 12 for MSI Plessey
Step1: Scan "**Set Min Length**"
Step2: Scan "**0**" "**8**" in Appendix – Numbers
Step3: Scan "**Set Min Length**"
Step4: Scan "**Set Max Length**"
Step5: Scan "**1**" "**2**" in Appendix – Numbers
Step6: Scan "**Set Max Length**"

Note: Configurable range for Min/Max Length is 01 ~ 99.

UK Plessey

Enable/Disable UK Plessey

Enable UK Plessey

Disable UK Plessey*

Check Digit

Send Check Digit

Not Send Check Digit*

Code 93

Enable/Disable Code 93

Enable Code 93*

Disable Code 93

Code 93 Min/Max Length

Set Min Length
(Default = 01)

Set Max Length
(Default = 99)

Example: Set Min Length as 8, Max Length as 12 for Code93
Step1: Scan "**Set Min Length**"
Step2: Scan "**0**" "**8**" in Appendix – Numbers
Step3: Scan "**Set Min Length**"
Step4: Scan "**Set Max Length**"
Step5: Scan "**1**" "**2**" in Appendix – Numbers
Step6: Scan "**Set Max Length**"

Note: Configurable range for Min/Max Length is 01 ~ 99.

Code 128/GS1-128

Enable/Disable Code 128/GS1-128

Enable Code 128/GS1-128*

Disable Code 128/GS1-128

Code 128/GS1-128 Min/Max Length

Set Min Length
(Default = 01)

Set Max Length
(Default = 99)

Example: Set Min Length as 8, Max Length as 12 for Code128/GS1-128
Step1: Scan "**Set Min Length**"
Step2: Scan "**0**" "**8**" in Appendix – Numbers
Step3: Scan "**Set Min Length**"
Step4: Scan "**Set Max Length**"
Step5: Scan "**1**" "**2**" in Appendix – Numbers
Step6: Scan "**Set Max Length**"

Note: Configurable range for Min/Max Length is 01 ~ 99.

GS1 DataBar (RSS-14)

Enable/Disable GS1 DataBar

Enable GS1 DataBar

Disable GS1 DataBar*

GS1 DataBar Limited (RSS-Limited)

Enable/Disable GS1 DataBar Limited

Enable GS1 DataBar Limited

Disable GS1 DataBar Limited*

GS1 DataBar Expanded (RSS-Expanded)

Enable/Disable GS1 DataBar Expanded

Enable GS1 DataBar Expanded

Disable GS1 DataBar Expanded*

GS1 DataBar Expanded Min/Max Length

Set Min Length
(Default = 04)

Set Max Length
(Default = 32)

Example: Set Min Length as 8, Max Length as 12 for GS1 DataBar Expaneded
Step1: Scan "**Set Min Length**"
Step2: Scan "**0**" "**8**" in Appendix – Numbers
Step3: Scan "**Set Min Length**"
Step4: Scan "**Set Max Length**"
Step5: Scan "**1**" "**2**" in Appendix – Numbers
Step6: Scan "**Set Max Length**"

Note: Configurable range for Min/Max Length is 01 ~ 99.

GS1 Composite

Enable/Disable GS1 Composite

Enable GS1 Composite

Disable GS1 Composite*

QR Code

Enable/Disable QR Code

Enable QR Code*

Disable QR Code

Micro QR Code

Enable/Disable Micro QR Code

Enable Micro QR Code*

Disable Micro QR Code

Data Matrix

Enable/Disable Data Matrix

Enable Data Matrix*

Disable Data Matrix

PDF417

Enable/Disable PDF417

.G021$

Enable PDF417*

.G022$

Disable PDF417

MicroPDF417

Enable/Disable MicroPDF417

.G039$

Enable MicroPDF417*

.G040$

Disable MicroPDF417

Aztec

Enable/Disable Aztec

.G055$

Enable Aztec

.G056$

Disable Aztec*

MaxiCode

Enable/Disable MaxiCode

Enable MaxiCode

Disable MaxiCode*

Hanxin

Enable/Disable Hanxin

Enable Hanxin

Disable Hanxin*

Code 16K

Enable/Disable Code 16K

Enable Code 16K

Disable Code 16K*

Chapter 7 Appendix

Appendix – Numbers

0

1

2

3

4

5

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9

Appendix – Upper Case Alphabets


A


B


C


D


E


F


G


H


I


J


K


L


M


N


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Q

R

S

T

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W

X

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Z

Appendix – Lower Case Alphabets

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

Appendix – Control Codes

NUL

SOH

STX

ETX

EOT

ENQ

ACK

BEL

BS

HT

LF

VT

FF

CR

SO

SI

DLE

DC1

DC2

DC3

DC4

NAK

SYN

ETB

CAN

EM

SUB

ESC

FS

GS

RS

US

Appendix – Symbols

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/ Z

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%J

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SP

DEL

Appendix – Function Keys

F1

F2

F3

F4

F5

F6

F7

F8

F9

F10

F11

F12

Home

End

Enter (Numeric Key)

App

Appendix – Navigation Keys

Cursor Left

Cursor Right

Cursor Up

Cursor Down

Page Up

Page Down

Tab

Back Tab

Esc

Enter

BS

Ins

Del

Appendix – Modifier Keys

Alt (Left) make *1

Alt (Left) break

Alt (Right) make

Alt (Right) break

Shift (Left) make *2

Shift (Left) break

Shift (Right) make

Shift (Right) break

Win (Left) make

Win (Left) break

Win (Right) make

Win (Right) break

Ctrl (Left) make *3

Ctrl (Left) break

Ctrl (Right) make

Ctrl (Right) break

Note:
*1: When "Alt (Left) make" is programmed, please scan "Alt (Left) break" to resume barcode setting.
*2: When "Shift (Left) make" is programmed, please scan "Shift (Left) break" to resume barcode setting.
*3: When "Ctrl (Left) make" is programmed, please scan "Ctrl (Left) break" to resume barcode setting.

Appendix – Abort

If there is an error reading data barcode during multi-step configuration, you may cancel configuration by scanning below configuration barcode.

Abort

Appendix – Default Table

Function	Default	Remark
General Settings		
Barcode Configurability	ON	
Button Preference	Left Button Only (Right-handed User)	
Beep Tone	High (4.0KHz)	
Beep Mode	Normal	
Data Format		
UTF-8 to Unicode Conversion	OFF	
Country Code Page	West European Latin	
HT/CR/ESC Converts to TAB/ENTER/ESCAPE	OFF	
Function Code Conversion	ON	
Control Code Output Method	Ctrl Mode	
Numeric Key	OFF	
Capslock Mode	OFF	
Keyboard Layout	English (US)	
Intercharacter Delay	4ms	
Interblock Delay	0ms	
BCC (Binary Check Character)	OFF	
GS Character Replacement	OFF	
Define Replacement Character	N/A	
Surround AI's with Parentheses	OFF	
Image Settings		
Inverse Barcode	OFF	
Interface		
Set SPP Pincode	1234	
General Bluetooth Settings		
Power Off Timeout	03:00	
Secure Simple Pairing (SSP)	ON	
Set Bluetooth Device ID	Wireless Scanner	
Memory Mode		
Data Format	<Date>,<Time>,<Barcode Data>	
Field Separator	,	
Date Format	DD/MM/YYYY	
Time Format	HH:MM:SS	
Date & Time Setup	N/A	
Reading Mode		

Trigger Mode	Trigger Mode
Toggle Mode	N/A
Continuous Mode	N/A
Auto-sensing Mode	N/A
LED Auto-Off Timeout	5 sec
Scan Interval	1 sec
Identical Read Interval	1 sec
Trigger Control	ON
Data Format	
Code ID	Disable Code ID
Set ID	N/A
Data Length	OFF
Preamble	N/A
Postamble	N/A
Terminator	CR (BT HID / USB HID) CR+LF (BT SPP / USB VCP)
Symbologies	
General Settings	N/A
UPC-A	
Enable/Disable	ON
Check Digit	Send
UPC-A Expand to EAN-13	OFF
5-digit Supplement	OFF
2-digit Supplement	OFF
Addenda Required	OFF
UPC-E	
Enable/Disable	ON
Check Digit	Send
5-digit Supplement	OFF
2-digit Supplement	OFF
Addenda Required	OFF
EAN-8	
Enable/Disable	ON
Check Digit	Send
5-digit Supplement	OFF
2-digit Supplement	OFF
Addenda Required	OFF
EAN-13	
Enable/Disable	ON
Check Digit	Send

5-digit Supplement	OFF
2-digit Supplement	OFF
Addenda Required	OFF
Code 39	
Enable/Disable	ON
Verification	Disable CDV
Start/Stop	Not Send
Full ASCII Code39	ON
Min Length	01
Max Length	99
Code 32	
Enable/Disable	OFF
Leading/Tailing	Send Leading & Tailing
Codabar	
Enable/Disable	ON
Verification	Disable CDV
Start/Stop	Not Send
Min Length	01
Max Length	99
Interleaved 2 of 5	
Enable/Disable	OFF
Verification	Disable CDV
Min Length	04
Max Length	32
Standard 2 of 5 (IATA)	
Enable/Disable	OFF
Verification	Disable CDV
Min Length	04
Max Length	32
Matrix 2 of 5	
Enable/Disable	OFF
Verification	Disable CDV
Min Length	04
Max Length	32
Industrial 2 of 5	
Enable/Disable	OFF
Verification	Disable CDV
Min Length	04
Max Length	32
Code 11	

Enable/Disable	OFF
Verification	Single Digit
Check Digit	Not Send
Min Length	04
Max Length	32
China Postal Code	
Enable/Disable	OFF
Verification	Disable CDV
Min Length	04
Max Length	32
MSI Plessey	
Enable/Disable	OFF
Verification	Send Check Digit Single Check Digit MOD10
Min Length	04
Max Length	32
UK Plessey	
Enable/Disable	OFF
Check Digit	Not Send
Code 93	
Enable/Disable	ON
Min Length	01
Max Length	99
Code 128/GS1-128	
Enable/Disable	ON
Min Length	01
Max Length	99
GS1 DataBar (RSS-14)	
Enable/Disable	OFF
GS1 DataBar Limited (RSS-Limited)	
Enable/Disable	OFF
GS1 DataBar Expanded (RSS-Expanded)	
Enable/Disable	OFF
Min Length	04
Max Length	32
GS1 Composite	
Enable/Disable	OFF
QR Code	
Enable/Disable	ON

Micro QR Code	
Enable/Disable	ON
Data Matrix	
Enable/Disable	ON
PDF 417	
Enable/Disable	ON
Micro PDF 417	
Enable/Disable	ON
Aztec	
Enable/Disable	OFF
MaxiCode	
Enable/Disable	OFF
Hanxin	
Enable/Disable	OFF
Code 16K	
Enable/Disable	OFF

Appendix – Factory ID and AIM ID Table

#	Symbology	Factory ID	AIM ID	AIM ID Modifier
0	UPC-A	A	]Em	0,3
1	UPC-E	E	]Em	0,3
2	EAN-8	S	]Em	3,4
3	EAN-13	F	]Em	0,3
4	Code 128/GS1-128	K	]Cm	0,1
5	Code 39	M	]Am	0,1,3,4,5,7
6	Full ASCII Code39	D	]Am	0,1,3,4,5,7
7	Code32	B	]X0	
8	Code 93	L	]G0	
9	Code 11	J	]Hm	0,1,3
10	Codabar	N	]Fm	0,2,4
11	Interleaved 2 of 5	I	]Im	0,1,3
12	Matrix 2 of 5	Y	]X0	
13	Industrial 2 of 5	V	]S0	
14	Standard 2 of 5 (IATA)	R	]R0	
15	China Postal Code	H	]X0	
16	MSI Plessey	O	]Mm	0,1
17	UK Plessey	P	]P0	
18	GS1 DataBar	G	]e0	
19	PDF417	Z	]L0	
20	MicroPDF417	Z	]L0	
21	Data Matrix	X	]dm	0,1,2,3,4,5
22	QR Code	W	]Qm	0,1,2,3

23	Micro QR Code	w	]Q1	
24	Aztec	z	]zm	0,1
25	MaxiCode	Z	]Um	0,1
26	Han Xin	X	]X0	
27	Code 16K	16	]K0	

Appendix – ASCII Table

Note: ASCII 0~31 are non-printable characters, ASCII 32~127 are printable characters.

Hex	Dec	ASCII
00	00	NUL (Null char.)
01	01	SOH (Start of Header)
02	02	STX (Start of Text)
03	03	ETX (End of Text)
04	04	EOT (End of Transmission)
05	05	ENQ (Enquiry)
06	06	ACK (Acknowledgment)
07	07	BEL (Bell)
08	08	BS (Backspace)
09	09	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) (Device Control 1)
12	18	DC2 (Device Control 2)
13	19	DC3 (XOFF) (Device Control 3)
14	20	DC4 (Device Control 4)
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)

Version History

Rev	Date	Description	Issued
1.0	2022.07.13	Initial Release	Shaw
1.1	2022.07.25	Updated Button Preference	Shaw
1.2	2022.07.27	Updated BT SPP Updated Time Format Added NFC Pairing	Shaw
1.3	2022.09.08	Removed Scan Rate	Shaw
1.4	2022.11.11	Updated Control Code Output Method	Shaw
1.5	2023.02.17	FW: HM3-t-1.01.BTA.T1 Added Shift-JIS to Unicode Conversion	Shaw
1.6	2023.09.01	FW: HM3-t-1.01.BTA.T1 Updated UTF-8 to Unicdoe Conversion Added Country Code Page	Shaw
1.7	2023.11.21	FW: HM3-t-1.02.BTA.R1 / HM3-t-1.02.BTA.R1-IN Added AIM ID and AIM ID Table Added GS1 Composite Added GS1 AI Parentheses on GS1 Composite, Code 128, QR Code, Data Matrix and Aztec	Shaw
1.8	2023.11.24	Updated Control Code Table	Shaw
1.9	2024.01.15	Updated Code ID	Shaw