MT820
2D Wireless Scanner
User's Manual

Version 1.4

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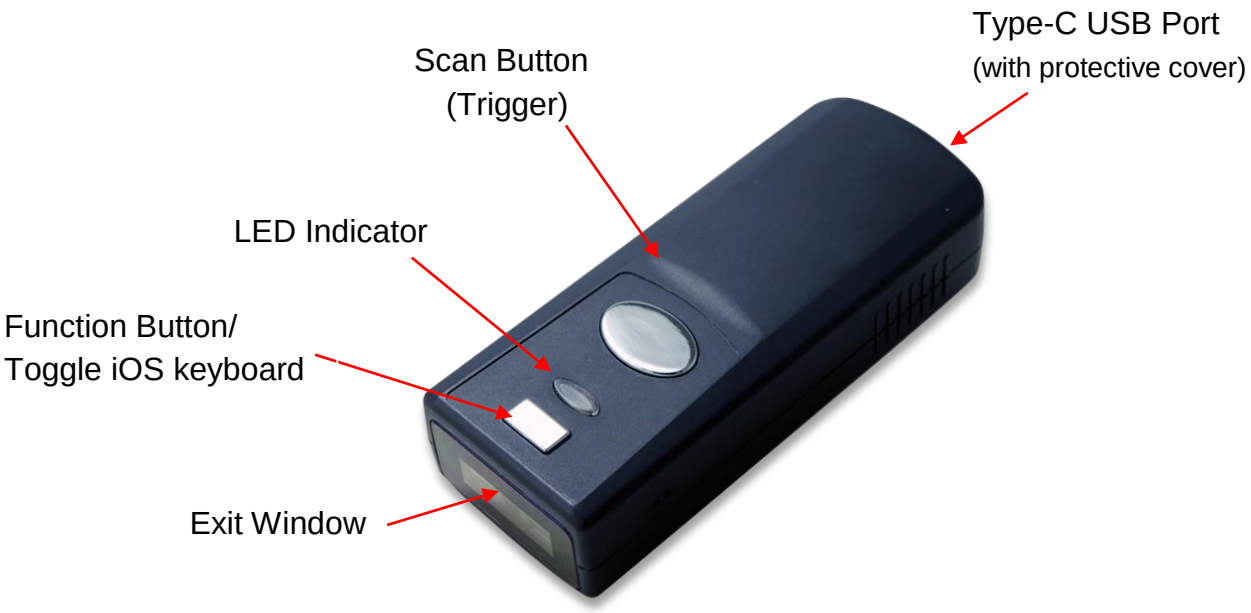
Chapter 1 Introduction

This user's manual is dedicated to MT820, a portable 2D scanner that can send data to the host up to 20 meters away. This economical, ergonomic pocket-sized wireless 2D barcode scanner is a high efficient companion for users who work with laptops, tablets, smart phones and other mobile devices with iOS®, Android® and Windows®.



Specifications

Optic & Performance	
Light Source	White LED Visible red LED
Sensor	640 x 480
Resolution	4mil/ 0.01mm (1D), 10mil/ 0.25mm (2D)
Scan Angle	Horizontal 43° Vertical 23°
Pitch Angle	±55°
Skew Angle	±55°
Roll Angle	360°
Print Contrast Ratio	10%
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 : 40 ~ 209mm
	13 Mil UPC/EAN : 44 ~ 362mm
	15 Mil QR Code : 33 ~ 260mm
	6.67 Mil PDF417 : 45 ~ 169mm
	10 Mil Data Matrix: 34 ~ 165mm
Physical Characteristics	
Dimension	W27.5 x L68.4 x H16.2 mm
Weight	28g
Color	MT820: Black MT820M: White
Material	PC+ABS
Cable	Type C(M) to USB A(M) Cable, 1.5M
Trigger	Scan Button, Function Button
Indicator	LED, Buzzer, Vibrator
Electrical	
Operation Voltage	3.7 VDC ± 5%
Working Current	< 240mA
Standby Current	< 50mA
Battery	3.7V, 400mAh, Li-Polymer Battery
Number of Scan (per full charge)	6000 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	100,000 Lux (Sunlight)
1D Symbologies	Code 128, EAN-13, EAN8-, UPC-E, UPC-A, ISBN, ISSN, Code 11, Interleaved 2 of 5, Code 39, Code 93, Code 32, Codabar,

	Matrix 2 of 5, Industrial 2 of 5, Standard 2 of 5, Plessey, MSI Plessey, GS1 Databar, Febraban, Composite
2D Symbologies	QR Code. Micro QR Code, PDF417, MicroPDF417, Data Matrix, Aztec, MaxiCode, HanXin, Dotcode
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 green	Disconnected / Discoverable
One green flash	Good read
Flashing red	Low power
Solid red	Charging

Chapter 2 General Settings

Barcode Configurability (Setup Code)

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

.B015$

Enable Barcode Configurability*

.B016$

Disable Barcode Configurability

Factory Default

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

.A001$

Factory Default

Check Version

To check firmware version, please scan below configuration barcode.

.A007$

Check Version

Good Read Indicator

Beep Tone

Off

Beep Low (2.0KHz)

Beep Medium (2.7KHz)

Beep High (4.0KHz)*

Beep Mode

Normal*

Warning Beep Only

Mute

Vibrator

Off*

On

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 "CtrI + 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 16ransmitting 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.

Auto Num Lock

Auto Num Lock Off

Auto Num Lock On*

Note:
When enabled, the scanner will automatically turn on Num Lock when in Alt Mode/Code Page/UTF-8 to Unicode output, if Num Lock is currently disabled.

Capital Lock 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.

Surround GS1 Application Identifiers (AI's) with Parentheses

Not Surround AI's with Parentheses*

Surround AI's with Parentheses

When enabled, all GS1 AI in barcode(GS1-128, GS1-DataMatrix, UDI…) will be surrounded with parentheses.

Imaging Settings

1D Inverse Barcode

Disable 1D Inverse Barcode*

Enable 1D Inverse Barcode

2D Inverse Barcode

Disable 2D Inverse Barcode*

Enable 2D 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. The scanner will emit two beeps as indication that the Bluetooth connection has established successfully.
6. 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".

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. Enter serial communication software on your host and open the port occupied by the scanner.
6. 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)

.B030$

Set Minute
(Default = 03)

.B029$

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:

.B021$

Disable Timeout

Shut Down

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

.E255$

Shut Down

iOS Touch Keyboard

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

.E044$

Toggle iOS Touch Keyboard

Alternatively, you may simply press the function button.

Set Bluetooth Device ID

Bluetooth device name is configurable up to 16 alphanumeric characters:

.B023$

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:

.B022$

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.

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>**.

.R011$

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.

.R010$

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.

.C008$

USB HID

Keyboard Layout

.C010$

English (US)*

.C018$

English (UK)

.C027$

Danish

.C013$

Spanish

.C021$

Hungarian (QWERTZ)

.C024$

Hungarian (QWERTY)

.C025$

Canadian French

.C028$

Dutch

.C014$

.C012$

Italian

French

.C011$

German

.C016$

Swiss German

.C023$

Swiss French

.C026$

Swedish

.C022$

Czech (QWERTZ)

.C017$

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.

.B009$

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.

.B007$

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

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.

.C006$

USB VCP

BCC (Binary Check Character)

.E029$

On

.E030$

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 HID and USB HID, BCC will be converted into 2 bytes of characters.
As a result, the data will be: TEST + <Enter> + F + 1

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, and will turn off automatically once a barcode is read or LED Auto-Off Timeout expires.

.F003$

Toggle Mode

Continuous Mode

In Continuous Mode the LED will stay on until LED Auto-Off timeout expires and then immediately turn on again.

.F005$

Continuous Mode

Batch Mode

In Batch Mode the LED will stay on when trigger is pressed and held, during which the scanner will read each unique barcode once. It cannot be read again until the next cycle.

.F078$

Batch Mode

Auto-sensing Mode

In Auto-sensing Mode the LED will turn off automatically after LED Auto-Off timeout expires. Any change detected in image will make LED turn on again.

.F007$

Auto-sensing Mode*

Trigger / Toggle / Auto-sensing Mode – LED Auto-Off Timeout

The configurable range is 0.1 ~ 125 sec. 3 digits must be programmed during the multi-step configuration. (001 = 0.1 sec, 002 = 0.2 sec, 003 = 0.3 sec, 004 = 0.4 sec, 005 = 0.5 sec, 0.6 = 1 sec, 007 = 1.5 sec, 008 = 2.0 sec, 009 = 2.5 sec, 010 = 3 sec, ... 254 = 125 sec, 255 = unlimited)

.F043$

LED Auto-Off Timoeut
(Default = 5 sec)

Example: Set LED Auto-Off Timeout as 3 sec

Step1: Scan "**LED Auto-Off Timeout**"
Step2: Scan "**0**" "**1**" "**0**" in Appendix – Numbers
Step3: Scan "**LED Auto-Off Timeout**"

Continuous Mode / Auto-sensing Mode – Identical Read Interval

A barcode (or an identical one) can be re-scanned only after the defined amount of Identical Read Interval expires.
The configurable range is 1 ~ 125 sec. 3 digits must be programmed during the multi-step configuration. (006 = 1 sec, 007 = 1.5 sec, 008 = 2.0 sec, 009 = 2.5 sec, 010 = 3 sec, ... 254 = 125 sec, 255 = unlimited)

Identical Read Interval
(Default = 1 sec)

Example: Set Identical Read Interval as 5 sec
Step1: Scan "**Identical Read Interval**"
Step2: Scan "**0**" "**1**" "**4**" in Appendix - Numbers
Step3: Scan "**Identical Read Interval**"

Chapter 5 Data Format

By default data format is as follows:

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

Code ID

Disable Code ID*

Enable Factory ID

Enable AIM ID

Enable Set ID

Set ID

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

Set ID – Code39

Set ID – Codabar

Set ID – Code128

Set ID – EAN-13

.P002$

Set ID – EAN-8

.P004$

Set ID – UPC-A

.P003$

Set ID – UPC-E

.P006$

Set ID – Interleaved 2 of 5

.P017$

Set ID – Matrix 2 of 5

.P018$

Set ID – Industrial 2 of 5

.P013$

Set ID – Code93

.P009$

Set ID – Code11

.P014$

Set ID – MSI Plessey

.P021$

Set ID – Standard 2 of 5

.P025$

Set ID – PDF417

.P029$

Set ID – MicroPDF417

.P026$

Set ID – QR Code

.P027$

Set ID – Data Matrix

Set ID – Aztec

Set ID – UK Plessey

Set ID – GS1 DataBar

Set ID – MaxiCode

Set ID – HanXin

Set ID – DotCode

Set ID – Composite

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

Send Data Length Off*

Send Data Length On

Preamble

Preamble can be up to 16 bytes of data.

Set Preamble

Example: Set XYZ123 as Preamble
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.

Set Postamble

Example: Set XYZ123 as Postamble
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

Clear Preamble/Postamble

Terminator

None

<LF>

<CR>*

<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

Lead Digit (System Number)

Send Lead Digit*

Not Send Lead Digit

Supplement

5-digit Supplement On

5-digit Supplement Off*

2-digit Supplement On

2-digit Supplement Off*

UPC-A Expand to EAN-13

Enable UPC-A Expand to EAN-13

Disable UPC-A Expand to EAN-13*

UPC-E

Enable/Disable UPC-E

Enable UPC-E*

Disable UPC-E

UPC-E System Number

UPC-E0 Off & UPC-E1 Off

UPC-E0 On Only*

UPC-E1 On Only

UPC-E0 On & UPC-E1 On

Check Digit

Send Check Digit*

Not Send Check Digit

Lead Digit (System Number)

Send Lead Digit*

Not Send Lead Digit

Supplement

.H037$

5-digit Supplement On

.H038$

5-digit Supplement Off*

.H039$

2-digit Supplement On

.H040$

2-digit Supplement Off*

UPC-E Expand to UPC-A

.H053$

Enable UPC-E Expand to UPC-A

.H054$

Disable UPC-E Expand to UPC-A*

EAN-8

Enable/Disable EAN-8

.H019$

Enable EAN-8*

.H020$

Disable EAN-8

Check Digit

.H024$

Not Send Check Digit

.H023$

Send Check Digit*

Supplement

.H029$

5-digit Supplement On

.H030$

5-digit Supplement Off*

.H031$

2-digit Supplement On

.H032$

2-digit Supplement Off*

EAN-8 Expand to EAN-13 (Zero Extension)

.H076$

Enable EAN-8 Expand to EAN-13

.H075$

Disable EAN-8 Expand to EAN-13*

EAN-13

Enable/Disable EAN-13

Enable EAN-13*

Disable EAN-13

Check Digit

Not Send Check Digit

Send Check Digit*

Supplement

5-digit Supplement On

5-digit Supplement Off*

2-digit Supplement On

2-digit Supplement Off*

ISBN

On

Off*

ISSN

On

Off*

Code 128

Enable/Disable Code 128

Enable Code 128*

Disable Code 128

Code 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 Code 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.

GS1-128(UCC/EAN 128)

Enable/Disable GS1-128

Enable GS1-128*

Disable GS1-128

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 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.

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*

Notw: Please make sure Code39 is enabled with verification disabled before enabling Code32.

Leading/Tailing

Not Send Leading & Tailing

Send Leading Only

Send Tailing Only

Send Leading & Tailing*

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 11

Enable/Disable Code 11

Enable Code 11

Disable Code 11*

Verification

Disable CDV*

CDV & Send CD

CDV & Not Send CD

Check Digit

1 Digit*

2 Digits

Code 11 Min/Max Length

Set Min Length
(Default = 01)

Set Max Length
(Default = 99)

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.

Codabar (NW-7)

Enable/Disable Codabar

Enable Codabar*

Disable Codabar

Verification

Disable CDV*

CDV & Send CD

CDV & Not Send CD

Start/Stop

Not Send Start/Stop

ST/SP: ABCD/ABCD*

ST/SP: abcd/abcd

ST/SP: ABCD/TN*E

ST/SP: abcd/tn*e

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*

.J004$

CDV & Send CD

.J005$

CDV & Not Send CD

Interleaved 2 of 5 Min/Max Length

.J006$

Set Min Length
(Default = 01)

.J007$

Set Max Length
(Default = 99)

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.

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 = 01)

Set Max Length
(Default = 99)

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 = 01)

Set Max Length
(Default = 99)

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.

Standard 2 of 5 (IATA)

Enable/Disable Standard 2 of 5

Enable Industrial 2 of 5

Disable Industrial 2 of 5*

Verification

Disable CDV*

CDV & Send CD

CDV & Not Send CD

Standard 2 of 5 Min/Max Length

Set Min Length
(Default = 01)

Set Max Length
(Default = 99)

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.

MSI Plessey

Enable/Disable MSI Plessey

Enable MSI Plessey

Disable MSI Plessey*

Verification

CDV & Send CD*

CDV & Not Send CD

Check Digit

Single Mod 10*

Double Mod 10

Mod 11 Plus Mod 10

MSI Plessey Min/Max Length

Set Min Length
(Default = 01)

Set Max Length
(Default = 99)

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*

Verification

CDV & Send CD

CDV & Not Send CD*

GS1 DataBar

Enable/Disable GS1 DataBar

Enable GS1 DataBar*

Disable GS1 DataBar

GS1 DataBar Limited

Enable/Disable GS1 DataBar Limited

Enable GS1 DataBar Limited*

Disable GS1 DataBar Limited

GS1 DataBar Expanded

Enable/Disable GS1 DataBar Expanded

Enable GS1 DataBar Expanded*

Disable GS1 DataBar Expanded

Composite

Enable/Disable Composite

Enable Composite

Disable 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

Enable PDF417*

Disable PDF417

MicroPDF417

Enable/Disable MicroPDF417

Enable MicroPDF417

Disable MicroPDF417*

Aztec

Enable/Disable Aztec

Enable Aztec

Disable Aztec*

MaxiCode

Enable/Disable MaxiCode

Enable MaxiCode

Disable MaxiCode*

HanXin

Enable/Disable HanXin

Enable HanXin

Disable HanXin*

DotCode

Enable/Disable DotCode

Enable DotCode

Disable DotCode*

Chapter 7 Appendix

Appendix – Numbers

0

1

2

3

4

5

6

7

8

9

Appendix – Upper 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 – 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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%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

$TP

Cursor Left

$TO

Cursor Right

$TQ

Cursor Up

$TR

Cursor Down

$TS

Page Up

$TT

Page Down

$TU

Tab

$TV

Back Tab

$TW

Esc

$TX

Enter

$TY

BS

$TZ

Ins

$T%K

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 (Setup Code)	ON	
Beep Tone	High (4.0KHz)	
Beep Mode	Normal	
Vibrator	ON	
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	
Auto Num Lock	ON	
Capital Lock Mode	OFF	
Surround GS1 Application Identifiers (AI's) with Parentheses	OFF	
Imaging Settings		
1D Inverse Barcode	OFF	
2D Inverse Barcode	OFF	
Interface		
Set SPP Pincode	1234	
General Bluetooth Settings		
Power Off Timeout	03:00	
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	
Keyboard Layout	English (US)	
Intercharacter Delay	4ms	
Interblock Delay	0ms	
BCC	OFF	
Reading Mode		

Trigger Mode	Trigger
Toggle Mode	N/A
Continuous Mode	N/A
Batch Mode	N/A
Auto-sensing Mode	N/A
Trigger / Toggle / Auto-sensing Mode – LED Auto-Off Timeout	5 sec
Countinuous Mode / Auto-sensing Mode – Identical Read Interval	1 sec
Data Format	
Code ID	Disable
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
Lead Digit (System Number)	Send
Supplement	OFF
UPC-A Expand to EAN-13	OFF
UPC-E	
Enable/Disable	ON
UPC-E System Number	UPC-E0 On Only
Check Digit	Send
Lead Digit (System Number)	Send
Supplement	OFF
UPC-E Expand to UPC-A	OFF
EAN-8	
Enable/Disable	ON
Check Digit	Send
Supplement	OFF
EAN-8 Expand to EAN-13 (Zero Extension)	OFF
EAN-13	
Enable/Disable	ON

Check Digit	Send
Supplement	OFF
ISBN	OFF
ISSN	OFF
Code 128	
Enable/Disable	ON
Min Length	01
Max Length	99
GS1-128(UCC/EAN 128)	
Enable/Disable	ON
Min Length	01
Max Length	99
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
Code 93	
Enable/Disable	ON
Min Length	01
Max Length	99
Code 11	
Enable/Disable	OFF
Verification	Disable CDV
Check Digit	1 Digit
Min Length	01
Max Length	99
Codabar	
Enable/Disable	ON
Verification	Disable CDV
Start/Stop	ST/SP: ABCD/ABCD
Min Length	01
Max Length	99
Interleaved 2 of 5	
Enable/Disable	ON

Verification	Disable CDV
Min Length	01
Max Length	99
Matrix 2 of 5	
Enable/Disable	OFF
Verification	Disable CDV
Min Length	01
Max Length	99
Industrial 2 of 5	
Enable/Disable	OFF
Verification	Disable CDV
Min Length	01
Max Length	99
Standard 2 of 5 (IATA)	
Enable/Disable	OFF
Verification	Disable CDV
Min Length	01
Max Length	99
MSI Plessey	
Enable/Disable	OFF
Verification	CDV & Send CD
Check Digit	Single Mod 10
Min Length	01
Max Length	99
UK Plessey	
Enable/Disable	OFF
Verification	CDV & Not Send CD
GS1 DataBar	
Enable/Disable	ON
GS1 DataBar Limited	
Enable/Disable	ON
GS1 DataBar Expanded	
Enable/Disable	ON
Composite	
Enable/Disable	OFF
QR Code	
Enable/Disable	ON
Micro QR Code	
Enable/Disable	OFF
Data Matrix	

Enable/Disable	ON
PDF417	
Enable/Disable	ON
MicroPDF417	
Enable/Disable	OFF
Aztec	
Enable/Disable	OFF
MaxiCode	
Enable/Disable	OFF
HanXin	
Enable/Disable	OFF
DotCode	
Enable/Disable	OFF

Appendix – Factory ID and AIM ID Table

#	Symbology	Factory ID	AIM ID	AIM ID Modifier (m)
0	UPC-E	E	]Em	0,3
1	UPC-A	A	]Em	0,3
2	EAN-8	S	]Em	3,4
3	EAN-13	F	]Em	0,3
4	ISBN/ISSN	F	]X0	
5	Code 128	K	]C0	
6	GS1-128	T	]C1	
7	AIM 128		]C2	
8	ISBT 128		]C4	
9	Code 39	M	]Am	0,1,3,4,5,7
10	Code 32	M	]A0	
11	Code 93	L	]G0	
12	Code 11	J	]Hm	0,1,3
13	Codabar	N	]Fm	0,2,4
14	Interleaved 2 of 5	I	]Im	0,1,3
15	Matrix 2 of 5	Y	]Xm	0,2,3
16	Industrial 2 of 5	V	]S0	
17	Standard 2 of 5 (IATA 2 of 5)	R	]S0	
18	MSI Plessey	O	]Mm	0,1
19	PDF417	Z	]L0	
20	MicroPDF417	r	]L0	
21	Data Matrix	X	]dm	0-6

22	QR Code/Micro QR	W	]Qm	0-6
23	Aztec	z	]zm	0,3
24	UK Plessey	P	]P0	
25	GS1 DataBar	G	]e0	
26	Composite	y	]X0	
27	MaxiCode	u	]Um	0,2
28	HanXin	X	]h0	
29	DotCode	j	]X0	

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	2023.06.07	FW: HM3-u-1.00.BTB Initial Release	Shaw
1.1	2023.09.12	Updated D.O.F	Shaw
1.2	2023.11.24	Updated Control Code Table	Shaw
1.3	2024.01.09	FW: HM3-u-1.01.BTB Updated UTF-8 to Unicode Conversion Added Country Code Page & Identical Read Interval	Shaw
1.4	2024.01.18	Added Auto Num Lock	Shaw