

# **MT8250P**

## **2D Handheld Scanner**

### **User's Manual**

## Table of Content

<b>CHAPTER 1 GENERAL SETTINGS.....</b>	<b>6</b>
BARCODE CONFIGURABILITY .....	6
FACTORY DEFAULT .....	6
CHECK VERSION .....	6
GOOD READ INDICATOR .....	7
<i>Beep Tone</i> .....	7
<i>Vibrator</i> .....	7
<i>Indicator LED</i> .....	7
DATA FORMAT .....	8
<i>UTF-8 to Unicode Conversion</i> .....	8
<i>Country Code Page</i> .....	8
<i>HT/CR/ESC Converts to TAB/ENTER/ESCAPE</i> .....	9
<i>Function Code Conversion</i> .....	9
<i>Control Code Output Method</i> .....	9
<i>Numeric Key</i> .....	11
<i>OPOS</i> .....	12
<i>Capital Lock Mode</i> .....	12
IMAGING SETTINGS .....	13
<i>Inverse Barcode</i> .....	13
<i>Centering</i> .....	13
<b>CHAPTER 2 INTERFACE.....</b>	<b>14</b>
USB HID.....	14
<i>Keyboard Layout</i> .....	14
<i>Intercharacter Delay</i> .....	16
<i>Interblock Delay</i> .....	16
USB VCP .....	17
RS232 .....	17
<i>Baud Rate</i> .....	17
<i>Data Bits &amp; Parity</i> .....	18
<i>Stop Bits</i> .....	19
<i>Handshaking</i> .....	19
<i>ACK/NAK</i> .....	20
<b>CHAPTER 3 READING MODE .....</b>	<b>20</b>
TRIGGER MODE .....	20
AUTO-SENSING MODE .....	20
<i>Auto-sensing Mode – Magnetic Switch</i> .....	20
<b>CHAPTER 4 DATA FORMAT .....</b>	<b>21</b>
CODE ID .....	21
SET ID .....	21

DATA LENGTH .....	23
PREAMBLE.....	23
POSTAMBLE.....	24
<i>Clear Preamble/Postamble</i> .....	24
TERMINATOR.....	24
<b>CHAPTER 5 SYMBOLOGIES .....</b>	<b>25</b>
GENERAL SETTINGS .....	25
UPC-A .....	26
<i>Enable/Disable UPC-A</i> .....	26
<i>Check Digit</i> .....	26
<i>UPC-A to EAN-13</i> .....	26
UPC-E0 .....	27
<i>Enable/Disable UPC-E0</i> .....	27
<i>Check Digit</i> .....	27
<i>UPC-E0 to UPC-A</i> .....	27
EAN-8.....	28
<i>Enable/Disable EAN-8</i> .....	28
<i>Check Digit</i> .....	28
EAN-13.....	29
<i>Enable/Disable EAN-13</i> .....	29
<i>Check Digit</i> .....	29
<i>ISBN</i> .....	29
<i>ISSN</i> .....	29
UPC/EAN SUPPLEMENT .....	30
CODE 128 .....	31
<i>Enable/Disable Code 128</i> .....	31
GS1-128(UCC/EAN 128).....	31
<i>Enable/Disable GS1-128</i> .....	31
CODE128/GS1-128 MIN/MAX LENGTH .....	32
CODE 39 .....	33
<i>Enable/Disable Code 39</i> .....	33
<i>Verification</i> .....	33
<i>Start/Stop</i> .....	33
<i>Full ASCII Code39</i> .....	34
<i>Code39 Min/Max Length</i> .....	34
CODE 32 .....	35
<i>Enable/Disable Code 32</i> .....	35
<i>Leading/Tailing</i> .....	35
CODE 93 .....	36
<i>Enable/Disable Code 93</i> .....	36
<i>Code 93 Min/Max Length</i> .....	36
CODE 11 .....	37

<i>Enable/Disable Code 11</i> .....	37
<i>Verification</i> .....	37
<i>Check Digit</i> .....	37
<i>Code 11 Min/Max Length</i> .....	38
CODABAR (NW-7).....	39
<i>Enable/Disable Codabar</i> .....	39
<i>Start/Stop</i> .....	39
<i>Codabar Min/Max Length</i> .....	39
INTERLEAVED 2 OF 5.....	40
<i>Enable/Disable Interleaved 2 of 5</i> .....	40
<i>Verification</i> .....	40
<i>Interleaved 2 of 5 Min/Max Length</i> .....	41
MATRIX 2 OF 5 .....	42
<i>Enable/Disable Matrix 2 of 5</i> .....	42
<i>Matrix2 of 5 Min/Max Length</i> .....	42
INDUSTRIAL 2 OF 5.....	43
<i>Enable/Disable Industrial 2 of 5</i> .....	43
<i>Industrial 2 of 5 Min/Max Length</i> .....	43
MSI PLESSEY.....	44
<i>Enable/Disable MSI Plessey</i> .....	44
<i>Verification</i> .....	44
<i>MSI Plessey Min/Max Length</i> .....	45
GS1 DATABAR (RSS-14) .....	46
<i>Enable/Disable GS1 DataBar</i> .....	46
GS1 DATABAR LIMITED (RSS-LIMITED).....	46
<i>Enable/Disable GS1 DataBar Limited</i> .....	46
GS1 DATABAR EXPANDED (RSS-EXPANDED).....	46
<i>Enable/Disable GS1 DataBar Expanded</i> .....	46
QR CODE.....	47
<i>Enable/Disable QR Code</i> .....	47
MICRO QR CODE.....	47
<i>Enable/Disable Micro QR Code</i> .....	47
DATA MATRIX.....	47
<i>Enable/Disable Data Matrix</i> .....	47
PDF417 .....	48
<i>Enable/Disable PDF417</i> .....	48
MICROPDF417 .....	48
<i>Enable/Disable MicroPDF417</i> .....	48
AZTEC.....	48
<i>Enable/Disable Aztec</i> .....	48
MAXICODE .....	49
<i>Enable/Disable MaxiCode</i> .....	49

<b>CHAPTER 6 APPENDIX .....</b>	<b>50</b>
APPENDIX – NUMBERS .....	50
APPENDIX – UPPER CASE ALPHABETS .....	51
APPENDIX – LOWER CASE ALPHABETS.....	53
APPENDIX – CONTROL CODES .....	55
APPENDIX – SYMBOLS .....	57
APPENDIX – FUNCTION KEYS .....	60
APPENDIX – NAVIGATION KEYS.....	61
APPENDIX – MODIFIER KEYS .....	62
APPENDIX – ABORT .....	63
APPENDIX – DEFAULT TABLE .....	64
APPENDIX – FACTORY ID .....	68
APPENDIX – ASCII TABLE .....	69
<b>VERSION HISTORY .....</b>	<b>73</b>

# Chapter 1 General Settings

## Barcode Configurability

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



\*.F012\$\*

Off



\*.F022\$\*

Beep Low (2.0KHz)



\*.F018\$\*

Beep Medium (2.7KHz)\*



\*.F019\$\*

Beep High (4.0KHz)

### Vibrator



\*.D035\$\*

Off\*



\*.D034\$\*

On

### Indicator LED



\*.F054\$\*

Off



\*.F055\$\*

On

## Data Format

### UTF-8 to Unicode Conversion



\*.C044\$\*

**Disable UTF-8 to Unicode\***



\*.C045\$\*

**Enable UTF-8 to Unicode  
(Word)**

### Country Code Page



\*.C070\$\*

**West European Latin\***



\*.C054\$\*

**Japanese, Shift-JIS  
(Notepad / Excel)**



\*.C055\$\*

**Japanese, Shift-JIS  
(Word)**



\*.C057\$\*

**Traditional Chinese, Big5  
(Notepad / Excel)**



\*.C056\$\*

**Traditional Chinese, Big5  
(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 and Big5 to output properly, please make sure to disable UTF-8 to Unicode Conversion.



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



\*.D026\$\*

Off\*



\*.D025\$\*

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



\*.C020\$\*

Off



\*.C019\$\*

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



\*.D028\$\*

Ctrl Mode\*



\*.D029\$\*

Alt Mode



\*.D027\$\*

### 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:

- Enter "A" – Press A key
- 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
- 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



\*.D017\$\*

**Numeric Key**



\*.D018\$\*

**Alphanumeric Key\***

Note:

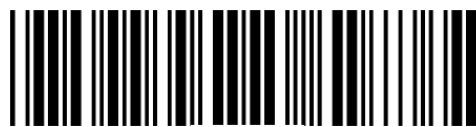
1. By default, the alphanumeric key is used for transmitting digits. Scan NUMERIC KEY if you want to use the keys on the numeric keypad.
2. If you select NUMERIC KEY, the Num Lock status of the physical keyboard should be ON.

## OPOS



\*.A031\$\*

**Off\***



\*.A030\$\*

**On**

Note:

To function properly with OPOS, the host PC must be installed with OPOS driver or demo program, which is available from our website.

## Capital Lock Mode



\*.A005\$\*

**Capslock Off\***



\*.A004\$\*

**Capslock On**



\*.A006\$\*

**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.

## Imaging Settings

### Inverse Barcode



\*.D021\$\*

**Disable Inverse Barcode\***



\*.D022\$\*

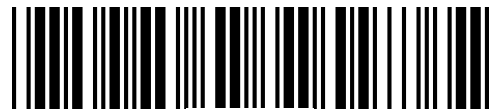
**Enable Inverse Barcode**

### Centering



\*.F073\$\*

**Disable Centering\***



\*.F074\$\*

**Enable Centering**

Note:

When enabled, the scanner only decodes the barcodes marked by aimer dot.

## Chapter 2 Interface

### USB HID



\*.C008\$\*

USB HID

### Keyboard Layout



\*.C010\$\*

English (US)\*



\*.C018\$\*

English (UK)



\*.C027\$\*

Danish



\*.C013\$\*

Spanish



\*.C021\$\*



\*.C024\$\*

## Hungarian (QWERTZ)



\*.C025\$\*

Canadian French



\*.C014\$\*

Italian



\*.C011\$\*

German



\*.C023\$\*

Swiss French



\*.C022\$\*

Czech (QWERTZ)



\*.C029\$\*

Norwegian



\*.C031\$\*

## Hungarian (QWERTY)



\*.C028\$\*

Dutch



\*.C012\$\*

French



\*.C016\$\*

Swiss German



\*.C026\$\*

Swedish



\*.C017\$\*

Czech (QWERTY)



\*.C030\$\*

Belgian



\*.C032\$\*

## Portuguese



\*.C033\$\*

**Brazilian (QWERTY)**

## Slovak



\*.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 = 0ms)

**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



\*.C006\$\*

USB VCP

## RS232



\*.C002\$\*

RS232

## Baud Rate



\*.E003\$\*

1200



\*.E004\$\*

2400



\*.E005\$\*

4800



\*.E006\$\*

9600\*



\*.E007\$\*

19200



\*.E022\$\*

38400



\*.E061\$\*

57600



\*.E063\$\*

115200

## Data Bits & Parity



\*.E009\$\*

8 Bits Even



\*.E010\$\*

8 Bits Odd



\*.E012\$\*

8 Bits Space



\*.E011\$\*

8 Bits Mark



\*.E008\$\*

8 Bits None\*



\*.E013\$\*

7 Bits Even



\*.E014\$\*

7 Bits Odd



\*.E021\$\*

7 Bits Space



\*.E015\$\*

7 Bits Mark

## Stop Bits



\*.E016\$\*

1 Stop Bit\*



\*.E017\$\*

2 Stop Bits

## Handshaking



\*.E018\$\*

None\*



\*.E019\$\*

RTS enable at Power On



\*.E020\$\*

RTS enable with Communication

## ACK/NAK



\*.E023\$\*

On



\*.E024\$\*

Off\*

## Chapter 3 Reading Mode

### Trigger Mode



\*.F002\$\*

Trigger Mode

### Auto-sensing Mode



\*.F007\$\*

Auto-sensing Mode\*

### Auto-sensing Mode – Magnetic Switch

When magnetic switch is on, the scanner automatically enters Auto-sensing Mode when placed on Auto Stand (w/ magnet), and resumes Trigger Mode when held on hand. When magnetic switch is off, the scanner will always stay in Auto-sensing Mode.



\*.F035\$\*



\*.F034\$\*

Off

On\*

## Chapter 4 Data Format

By default data format is as follows:

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

### Code ID



\*.A009\$\*

Disable Code ID\*



\*.A008\$\*

Enable Factory ID



\*.A015\$\*

Enable Set ID

### Set ID

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



\*.P005\$\*



\*.P007\$\*

**Set ID – Code39**



\*.P010\$\*

**Set ID – Code128**



\*.P002\$\*

**Set ID – EAN-8**



\*.P003\$\*

**Set ID – UPC-E0**



\*.P017\$\*

**Set ID – Matrix 2 of 5**



\*.P013\$\*

**Set ID – Code93**



\*.P014\$\*

**Set ID – MSI Plessey**



\*.P025\$\*

**Set ID – Codabar**



\*.P001\$\*

**Set ID – EAN-13**



\*.P004\$\*

**Set ID – UPC-A**



\*.P006\$\*

**Set ID – Interleaved 2 of 5**



\*.P018\$\*

**Set ID – Industrial 2 of 5**



\*.P009\$\*

**Set ID – Code11**



\*.P024\$\*

**Set ID – GS1 Databar**



\*.P029\$\*

### Set ID – PDF417



\*.P026\$\*

### Set ID – QR Code



\*.P033\$\*

### Set ID – Aztec

### Set ID – MicroPDF417



\*.P027\$\*

### Set ID – Data Matrix



\*.P030\$\*

### Set ID – MaxiCode

**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 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.



\*.A013\$\*

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



\*.A011\$\*

Clear Preamble/Postamble

## Terminator



\*.D010\$\*

None



\*.D011\$\*

<LF>





\*.D012\$\*

<CR>\*



\*.D013\$\*

<CR><LF>



\*.D014\$\*

<TAB>



\*.D015\$\*

<Space>



\*.D016\$\*

<ESC>

## Chapter 5 Symbolologies

### General Settings



\*.A002\$\*

Enable All Symbolologies



\*.A003\$\*

Disable All Symbolologies



\*.G036\$\*

Enable All 1D Symbolologies



\*.G035\$\*

Disable All 1D Symbolologies



\*.G038\$\*



\*.G037\$\*

## Enable All 2D Symbolologies

## Disable All 2D Symbolologies

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

## UPC-A

### Enable/Disable UPC-A



\*.H001\$\*

Enable UPC-A\*



\*.H002\$\*

Disable UPC-A

### Check Digit



\*.H005\$\*

Send Check Digit\*



\*.H006\$\*

Not Send Check Digit

### UPC-A to EAN-13



\*.H068\$\*

Enable UPC-A to EAN-13



\*.H067\$\*

Disable UPC-A to EAN-13\*

## UPC-E0

### Enable/Disable UPC-E0



\*.H007\$\*

Enable UPC-E0\*



\*.H008\$\*

Disable UPC-E0

### Check Digit



\*.H011\$\*

Send Check Digit\*



\*.H012\$\*

Not Send Check Digit

### UPC-E0 to UPC-A



\*.H053\$\*

Enable UPC-E0 to UPC-A



\*.H054\$\*

Disable UPC-E0 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\*

## EAN-13

### Enable/Disable EAN-13



\*.H013\$\*

Enable EAN-13\*



\*.H014\$\*

Disable EAN-13

### Check Digit



\*.H018\$\*

Not Send Check Digit



\*.H017\$\*

Send Check Digit\*

### ISBN



\*.H049\$\*

On



\*.H050\$\*

Off\*

### ISSN



\*.H051\$\*

On



\*.H052\$\*

Off\*

## UPC/EAN Supplement



\*.H091\$\*

Enable 2/5-digit Supplement



\*.H090\$\*

Disable 2/5-digit Supplement\*



\*.H092\$\*

Auto 2/5-digit Supplement

## Code 128

### Enable/Disable Code 128



\*.J010\$\*

Enable Code 128\*



\*.J011\$\*

Disable Code 128

## GS1-128(UCC/EAN 128)

### Enable/Disable GS1-128



\*.M001\$\*

Enable GS1-128\*



\*.M002\$\*

Disable GS1-128

## Code128/GS1-128 Min/Max Length



\*.J012\$\*

**Set Min Length**

(Default = 04)



\*.J013\$\*

**Set Max Length**

(Default = 50)

**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 ~ 50.



## Code 39

### Enable/Disable Code 39



\*.G008\$\*

Enable Code 39\*



\*.G009\$\*

Disable Code 39

### Verification



\*.G003\$\*

Disable CDV\*



\*.G004\$\*

CDV & Send CD



\*.G005\$\*

CDV & Not Send CD

### Start/Stop



\*.G015\$\*

Not Send Start/Stop\*



\*.G014\$\*

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 = 50)

### 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 ~ 50.

## Code 32

### Enable/Disable Code 32



\*.K010\$\*

**Enable Code 32**



\*.K011\$\*

**Disable Code 32\***

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

### Leading/Tailing



\*.K012\$\*

**Not Send Leading & Tailing**



\*.K013\$\*

**Send Leading Only**



\*.K014\$\*

**Send Tailing Only**



\*.K015\$\*

**Send Leading & Tailing\***

## Code 93

### Enable/Disable Code 93



\*.G010\$\*

**Enable Code 93\***



\*.G011\$\*

**Disable Code 93**

### Code 93 Min/Max Length



\*.G012\$\*

**Set Min Length**

(Default = 04)



\*.G013\$\*

**Set Max Length**

(Default = 50)

#### **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 ~ 50.

## Code 11

### Enable/Disable Code 11



\*.I010\$\*

**Enable Code 11**



\*.I011\$\*

**Disable Code 11\***

### Verification



\*.I012\$\*

**Disable CDV\***



\*.I042\$\*

**Single Digit**



\*.I043\$\*

**Double Digits**

### Check Digit



\*.I013\$\*

**Send Check Digit**



\*.I014\$\*

**Not Send Check Digit\***

## Code 11 Min/Max Length



\*.I015\$\*

**Set Min Length**

(Default = 04)



\*.I016\$\*

**Set Max Length**

(Default = 50)

**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 ~ 50.

## Codabar (NW-7)

### Enable/Disable Codabar



\*.1001\$\*

**Enable Codabar\***



\*.1002\$\*

**Disable Codabar**

### Start/Stop



\*.1003\$\*

**Send Start/Stop**



\*.1004\$\*

**Not Send Start/Stop\***

### Codabar Min/Max Length



\*.1008\$\*

**Set Min Length**

(Default = 04)



\*.1009\$\*

**Set Max Length**

(Default = 50)

#### 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 ~ 50.

## Interleaved 2 of 5

### Enable/Disable Interleaved 2 of 5



\*.J001\$\*

Enable Interleaved 2 of 5\*



\*.J002\$\*

Disable Interleaved 2 of 5

### Verification



\*.J003\$\*

Disable CDV\*



\*.J004\$\*

CDV & Send CD



\*.J005\$\*

CDV & Not Send CD



## Interleaved 2 of 5 Min/Max Length



\*.J006\$\*

**Set Min Length**

(Default = 05)



\*.J007\$\*

**Set Max Length**

(Default = 50)

**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 ~ 50.

## Matrix 2 of 5

### Enable/Disable Matrix 2 of 5



\*.M010\$\*

**Enable Matrix 2 of 5\***



\*.M011\$\*

**Disable Matrix 2 of 5**

### Matrix2 of 5 Min/Max Length



\*.M015\$\*

**Set Min Length**

(Default = 04)



\*.M016\$\*

**Set Max Length**

(Default = 24)

### 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 ~ 50.

## Industrial 2 of 5

### Enable/Disable Industrial 2 of 5



\*.N001\$\*

**Enable Industrial 2 of 5\***



\*.N002\$\*

**Disable Industrial 2 of 5**

### Industrial 2 of 5 Min/Max Length



\*.N006\$\*

**Set Min Length**  
(Default = 04)



\*.N007\$\*

**Set Max Length**  
(Default = 24)

### 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 ~ 50.

## MSI Plessey

### Enable/Disable MSI Plessey



\*.L001\$\*

Enable MSI Plessey



\*.L002\$\*

Disable MSI Plessey\*

### Verification



\*.L004\$\*

Send Check Digit\*



\*.L003\$\*

Not Send Check Digit



\*.L009\$\*

Single Check Digit MOD10\*



\*.L007\$\*

Double Check Digits MOD10



\*.L008\$\*

Double Check Digits MOD10/MOD11

## MSI Plessey Min/Max Length



\*.L005\$\*

**Set Min Length**

(Default = 04)



\*.L006\$\*

**Set Max Length**

(Default = 50)

**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 ~ 50.

## GS1 DataBar (RSS-14)

### Enable/Disable GS1 DataBar



\*.N032\$\*

Enable GS1 DataBar\*



\*.N033\$\*

Disable GS1 DataBar

## GS1 DataBar Limited (RSS-Limited)

### Enable/Disable GS1 DataBar Limited



\*.N010\$\*

Enable GS1 DataBar Limited\*



\*.N011\$\*

Disable GS1 DataBar Limited

## GS1 DataBar Expanded (RSS-Expanded)

### Enable/Disable GS1 DataBar Expanded



\*.N026\$\*

Enable GS1 DataBar Expanded\*



\*.N027\$\*

Disable GS1 DataBar Expanded

## QR Code

### Enable/Disable QR Code



\*.G025\$\*

**Enable QR Code\***



\*.G026\$\*

**Disable QR Code**

## Micro QR Code

### Enable/Disable Micro QR Code



\*.G027\$\*

**Enable Micro QR Code\***



\*.G028\$\*

**Disable Micro QR Code**

## Data Matrix

### Enable/Disable Data Matrix



\*.G031\$\*

**Enable Data Matrix\***



\*.G032\$\*

**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



\*.G043\$\*

**Enable MaxiCode**



\*.G044\$\*

**Disable MaxiCode\***

## Chapter 6 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





## Appendix – Symbols







**SP**



**DEL**

## Appendix – Function Keys

\$TA



F1

\$TB



F2

\$TC



F3

\$TD



F4

\$TE



F5

\$TF



F6

\$TG



F7

\$TH



F8

\$TI



F9

\$TJ



F10

\$TK



F11

\$TL



F12

\$TM



Home

\$TN



End

\$T+D



Enter (Numeric Key)

\$T+□



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

\$T%L



Alt (Left) make \*1

\$T%M



Alt (Left) break

\$T+E



Alt (Right) make

\$T+F



Alt (Right) break

\$T%N



Shift (Left) make \*2

\$T%□



Shift (Left) break

\$T+I



Shift (Right) make

\$T+J



Shift (Right) break

\$T+K



Win (Left) make

\$T+L



Win (Left) break

\$T+M



Win (Right) make

\$T+N



Win (Right) break

\$T%W



**Ctrl (Left) make \*3**

\$T+A



**Ctrl (Left) break**

\$T+G



**Ctrl (Right) make**

\$T+H



**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.



\*.P023\$\*

**Abort**

## Appendix – Default Table

Function	Default	Remark
<b>General Settings</b>		
Barcode Configurability	ON	
Beep Tone	Medium (2.7KHz)	
Vibrator	OFF	
Indicator LED	ON	
<b>Data Format</b>		
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	
Numeric Key	OFF	
Control Code Output Method	Ctrl Mode	
OPOS	OFF	
Capital Lock Mode	OFF	
<b>Image Settings</b>		
Inverse Barcode	OFF	
Centering	OFF	
<b>Interface</b>		
USB HID	N/A	
Keyboard Layout	English (US)	
Intercharacter Delay	0ms	
Interblock Delay	0ms	
USB VCP	N/A	
RS232	N/A	
Baud Rate	9600	
Data Bits & Parity	8 Bits None	
Stop Bits	1 Stop Bit	
Handshaking	None	
ACK/NAK	OFF	
<b>Reading Mode</b>		
Trigger Mode	N/A	
Auto-sensing Mode	Auto-sensing Mode	
Auto-sensing Mode – Magnetic Switch	ON	
<b>Data Format</b>		
Code ID	Disable	



Set ID	N/A
Data Length	OFF
Preamble	N/A
Postamble	N/A
Terminator	CR
<b>Symbologies</b>	
General Settings	N/A
<b>UPC-A</b>	
Enable/Disable	ON
Check Digit	Send
UPC-A to EAN-13	OFF
<b>UPC-E0</b>	
Enable/Disable	ON
Check Digit	Send
UPC-E0 to UPC-A	OFF
<b>EAN-8</b>	
Enable/Disable	ON
Check Digit	Send
<b>EAN-13</b>	
Enable/Disable	ON
Check Digit	Send
ISBN	OFF
ISSN	OFF
UPC/EAN Supplement	OFF
<b>Code 128</b>	
Enable/Disable	ON
<b>GS1-128</b>	
Enable/Disable	ON
Min Length	04
Max Length	50
<b>Code 39</b>	
Enable/Disable	ON
Verification	Disable CDV
Start/Stop	Not Send
Full ASCII Code39	ON
Min Length	01
Max Length	50
<b>Code 32</b>	
Enable/Disable	OFF
Leading/Tailing	Send Leading & Tailing

<b>Code 93</b>	
Enable/Disable	ON
Min Length	04
Max Length	50
<b>Code 11</b>	
Enable/Disable	OFF
Verification	Disable CDV
Check Digit	Not Send
Min Length	04
Max Length	50
<b>Codabar</b>	
Enable/Disable	ON
Start/Stop	Not Send
Min Length	04
Max Length	50
<b>Interleaved 2 of 5</b>	
Enable/Disable	ON
Verification	Disable CDV
Min Length	05
Max Length	50
<b>Matrix 2 of 5</b>	
Enable/Disable	ON
Min Length	04
Max Length	24
<b>Industrial 2 of 5</b>	
Enable/Disable	ON
Min Length	04
Max Length	24
<b>MSI Plessey</b>	
Enable/Disable	OFF
Verification	Send Check Digit, Single Check Digit MOD10
Min Length	04
Max Length	50
<b>GS1 DataBar (RSS-14)</b>	
Enable/Disable	ON
<b>GS1 DataBar Limited (RSS-Limited)</b>	
Enable/Disable	ON
<b>GS1 DataBar Expanded (RSS-Expanded)</b>	

Enable/Disable	ON
<b>QR Code</b>	
Enable/Disable	ON
<b>Micro QR Code</b>	
Enable/Disable	ON
<b>Data Matrix</b>	
Enable/Disable	ON
<b>PDF417</b>	
Enable/Disable	ON
<b>MicroPDF417</b>	
Enable/Disable	ON
<b>Aztec</b>	
Enable/Disable	ON
<b>MaxiCode</b>	
Enable/Disable	OFF

## Appendix – Factory ID

#	Symbology	Code ID	HEX
0	UPC-E0	E	45
1	UPC-A	A	41
2	EAN-8	S	53
3	EAN-13	F	46
4	Code 128/GS1-128/ISBT 128	K	4B
5	Code 39/Code32	M	4D
6	Code 93	L	4C
7	Code 11	J	4A
8	Codabar	N	4E
9	Interleaved 2 of 5	I	49
10	Matrix 2 of 5	Y	59
11	Industrial 2 of 5	V	56
12	GS1 DataBar	G	47
13	MSI Plessey	O	4F
14	PDF417	Z	5A
15	MicroPDF417	r	72
16	Data Matrix	X	58
17	QR Code/Micro QR Code	W	57
18	Aztec	z	7A
19	MaxiCode	u	75

## 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	2021.07.12	Initial Release	Shaw
1.1	2021.08.31	Revised configurable range for Min/Max length	Shaw
1.2	2022.07.05	Added Control Code Output Method Added MaxiCode Deleted BCC (Binary Check Character)	Shaw
1.3	2022.12.27	FW: HM3-r-1.03.G1 Added Shift-JIS to Unicode Conversion	Shaw
1.4	2023.07.22	FW: HM3-r-1.04.G1 Renamed "UTF-8/Shift-JIS to Unicode Conversion" to "Country Code Page" Added West European Latin and Traditional Chinese (Big5)	Shaw
1.5	2023.09.01	FW: HM3-r-1.04.G1 Added Shift-JIS to Unicode Conversion Updated Country Code Page	Shaw
1.6	2023.11.24	Updated Control Code Table	Shaw