MT684

Serial Commands Manual

Version 1.6

DATE: 2023/05/10

Table of Content

1. Introduction

1.1 Manual Description

This user's manual describes serial command format and full list of commands that can be configured over serial communication.

1.2 Product Requirements

Model	Firmware Version	Interface
MT684	H:V1.40; QR_PCBA_APP:V1.4.91 ; 2022.07.28 or later version	UART
		USB VCP

2. Command Format

User can configure MT684 by sending serial commands from the host. Please make sure the communication protocols of MT684 match that of the host.

MT684's communication protocols are:

Parameter	Default
Baud Rate	9600
Parity	None
Data Bits	8
Stop Bits	1
Hardware Flow Control	None

2.1 Read Register

User can read up to 256 bytes of register.

Command format:

Send: [Head1] [Type] [Length] [Address] [Data] [CRC]

[Head1] = 0x7E 0x00 (2 bytes)

[Type] = 0x07 (1 byte)

[Length] = 0x01 (1 byte)

[Address] = 0x0000~0x00FF (2 bytes), the starting address of register to read

[Data] = 0x00~0xFF (1 byte), the number of bytes of register to read; 0x00 means 256 bytes.

[CRC] = CRC_CCITT checksum (2 bytes)

Calculation range: [Type] [Length] [Address] [Data]. The calculation method is CRC_CCITT, characteristic polynomial: X16+X12+X5+1. That is, the polynomial coefficient is 0x1021, and the initial value is all 0. For single byte, the highest bit is calculated first, and it is output directly without inversion. Reference code of C language is as follows:

```
unsigned int crc_cal_by_bit(unsigned char* ptr, unsigned int len)
{
unsigned int crc = 0;
while(len-- != 0)
{
for(unsigned char i = 0x80; i !=0; I /=2)
{
crc *= 2;
if((crc&0x10000) !=0) //After the last CRC is multiplied by 2, if the first digit is 1, then divide by 0x11021
crc ^= 0x11021;
if((*ptr&i) !=0) //If this bit is 1, then CRC = CRC of the previous bit + this bit/CRC_CCITT
crc ^= 0x1021;
}
ptr++;
}
return crc;
}
```

*Note: If CRC is not required, simply replace CRC_CCITT checksum by 0xAB 0xCD.

Respond: [Head2] [Type] [Length] [Data] [CRC]

(1) Read success

[Head2] = 0x02 0x00 (2 bytes)

[Type] = 0x00 (1 byte), read success

[Length] = the number of bytes of data; 0x00 means 256 bytes

[Data] = 0x00~0xFF (1 byte), register status

[CRC] = CRC_CCITT checksum

(2) CRC verification failure

No response

(3) Unknown command

No response

Example:

Read the first register from address 0x000A

(1) Read success, with 0x3E as response

Send: 0x7E 0x00 0x07 0x01 0x00 0x0A 0x01 0xEE 0x8A

Respond: 0x02 0x00 0x00 0x01 0x3E 0xE4 0xAC

(2) CRC verification failure

Send: 0x7E 0x00 0x07 0x01 0x00 0x0A 0x01 0x11 0x22

Respond: None

(3) When the delay in between two bytes of command is over 400ms, it is treated as unknown command

Send: 0x7E 0x00 0x07 0x01 0x00 0x0A 0x01

Respond: None

2.2 Write Register

User can write up to 256 bytes of register.

The register status will be reset after power-off. To store register status, please perform Write Flash.

Command format:

Send: [Head1] [Type] [Length] [Address] [Data] [CRC]

[Head1] = 0x7E 0x00 (2 bytes)

[Type] = 0x08 (1 byte)

[Length] = 0x00~0xFF (1 byte), the number of byte in [Data] field, and the number of consecutive writes; 0x00 means to 256 bytes.

[Address] = 0x0000~0xFFFF (2 bytes), the starting address of register to write

[Data] = 0x00~0xFF (1~256 bytes), the data to write register with. To write multiple registers, make sure to write from low bit to high bit.

[CRC] = CRC_CCITT checksum (2 bytes)

Calculation range: [Type] [Length] [Address] [Data]. The calculation method is CRC_CCITT, characteristic polynomial: X16+X12+X5+1. That is, the polynomial coefficient is 0x1021, and the initial value is all 0. For single byte, the highest bit is calculated first, and it is output directly without inversion. Reference code of C language is as follows:

```
unsigned int crc_cal_by_bit(unsigned char* ptr, unsigned int len)
{
unsigned int crc = 0;
while(len-- != 0)
{
for(unsigned char i = 0x80; i !=0; I /=2)
{
crc *= 2;
if((crc&0x10000) !=0) //After the last CRC is multiplied by 2, if the first digit is 1, then divide by 0x11021
crc ^= 0x11021;
if((*ptr&i) !=0) //If this bit is 1, then CRC = CRC of the previous bit + this bit/CRC_CCITT
crc ^= 0x1021;
}
ptr++;
```

```
}
return crc;
}
```

*Note: If CRC is not required, simply replace CRC_CCITT checksum by 0xAB 0xCD.

Respond: [Head2] [Type] [Length] [Data] [CRC]

(1) Write success

[Head2] = 0x02 0x00 (2 bytes)

[Type] = 0x00 (1 byte), write success

[Length] = 0x01 (1 byte)

[Data] = 0x00 (1 byte)

[CRC] = 0x33 0x31 (2 bytes), CRC_CCITT checksum

(2) CRC verification failure

No response

(3) Unknown command

No response

Example:

Write 0x3E to the register of address 0x000A

(1) Write success

Send: 0x7E 0x00 0x08 0x01 0x00 0x0A 0x3E 0x4C 0xCF

Respond: 0x02 0x00 0x00 0x01 0x00 0x33 0x31

(2) CRC verification failure

Send: 0x7E 0x00 0x08 0x01 0x00 0x0A 0x3E 0x11 0x22

Respond: None

(3) When the command length is insufficient, or the delay after sending 0x7E 0x00 is over 400ms, it is treated as unknown command

Send: 0x7E 0x00 0x08 0x01 0x00 0x0A 0x3E

Respond: None

2.3 Write Flash

To store all register status in flash memory, perform Write Flash.

*Note: It is unable to store single register status. All register status will be stored when performing Write Flash.

Command format:

Send: [Head1] [Type] [Length] [Address] [Data] [CRC]

[Head1] = 0x7E 0x00 (2 bytes)

[Type] = 0x09 (1 byte)

[Length] = 0x01 (1 byte)

[Address] = 0x0000 (2 bytes)

[Data] = 0x00 (1 byte)

[CRC] = 0xDE 0xC8 (2 bytes), CRC_CCITT checksum

Respond: [Head2] [Type] [Length] [Data] [CRC]

(1) Store success

[Head2] = 0x02 0x00 (2 bytes)

[Type] = 0x00 (1 byte), write success

[Length] = 0x01 (1 byte)

[Data] = 0x00 (1 byte)

[CRC] = 0x33 0x31 (2 bytes), CRC_CCITT checksum

(2) CRC verification failure

No response

(3) Unknown command

No response

2.4 Reset Register to Default

To reset all register status to default in flash memory, perform Reset Register to Default.

Command format:

Send: [Head1] [Type] [Length] [Address] [Data] [CRC]

[Head1] = 0x7E 0x00 (2 bytes)

[Type] = 0x09 (1 byte)

[Length] = 0x01 (1 byte)

[Address] = 0x0000 (2 bytes)

[Data] = 0xFF (1 byte)

[CRC] = CRC_CCITT checksum

Respond: [Head2] [Type] [Length] [Data] [CRC]

(1) Reset success

[Head2] = 0x02 0x00 (2 bytes)

[Type] = 0x00 (1 byte), write success

[Length] = 0x01 (1 byte)

[Data] = 0x00 (1 byte)

[CRC] = 0x33 0x31 (2 bytes), CRC_CCITT checksum

(2) CRC verification failure

No response

(3) Unknown command

No response

4. Command List

This chapter contains full list of address and register.

Address	0x0000
Register	Function
Bit7	0: Good Read LED – Off 1: Good Read LED – On*
Bit6	0: Mute 1: Unmute*
Bit5-4	00: Aimer – Always Off 01: Aimer – Flash* 10: Aimer – Always On 11: Aimer – On
Bit3-2	00: Illumination – Always Off 01: Illumination – Normal* 10/11: Illumination – Always On
Bit1-0	00: Trigger Mode 01: Serial Trigger Mode 10: Continuous Mode 11: Auto-sensing Mode*
Address	0x0002
Register	Function
Bit7-1	Reserved
Bit0	Serial Trigger Mode – Trigger Command 1: Trigger 0: Not Trigger*
Address	0x0003
Register	Function
Bit7-2	HID cycle inquiry Cycle = (Reg0x0003[7:2]+1) ms (Default = 0ms)
Bit1	0: Barcode Configurability – On* 1: Barcode Configurability – Off

Bit0	0: Disable Config Barcode Data Output* 1: Enable Config Barcode Data Output
Address	0x0004
Register	Function
Bit7-0	Image Stabilization Timeout 0x00~0xFF: 0ms~25500ms (unit = 100ms, Default = 0ms)
Address	0x0005
Register	Function
Bit7-0	Scan Interval 0x00~0xFF: 0ms~25500ms (unit = 100ms, Default = 1000ms)
Address	0x0006
Register	Function
Bit7-0	LED Timeout 0x00~0xFF: 100ms~25500ms (unit = 100ms, Default = 5000ms, 0x00 = unlimited)
Address	0x0009
Register	Function
Bit7-2	Delay Before HID Release Delay = (Reg0x0009[7:2]) ms (Default = 1ms)
Bit1-0	Mirrored Barcode 00: Mirrored Barcode – Disable* 01: Mirrored Barcode – Enable 10/11: Reserved
Address	0x000B
Register	Function
Bit7-0	Good Read Beep Duration 0x00~0xFF: 0ms~255ms (unit = 1ms, Default = 60ms)
Address	0x000C
Register	Function

Bit7-2	Delay After HID Release Delay = (Reg0x000C[7:2]) ms (Default = 1ms)
Bit1	0: CapsLock - Off* 1: CapsLock - On
Bit0	Reserved
Address	0x000D
Register	Function
Bit7	Reserved
Bit6	Virtual Keyboard 0: Standard Keyboard* 1: Virtual Keyboard
Bit5-4	Reserved
Bit3-2	00: Encoding Format – GBK* 01: Encoding Format – UNICODE 10: Encoding Format – Raw 11: Encoding Format – UTF8
Bit1-0	Interface 00: UART 01: USB HID* 10: HID & UART 11: USB VCP
Address	0x000E
Register	Function
Bit7-4	Reserved
Bit3	Reserved
Bit2	0: Good Read Beep – Off 1: Good Read Beep – On*
Bit1	0: Power Up Beep – On* 1: Power Up Beep – Off
Bit0	HID Emulation in Serial Interface 0: Disable* 1: Enable
Address	0x000F

Register	Function
Bit7-0	Auto-sensing Sensitivity Parameter 1 0x00~0xFF: the higher the value, the lower the sensitivity (Default = 100)
Address	0x0010
Register	Function
Bit7-0	Auto-sensing Sensitivity Parameter 2 0x00~0xFF: the higher the value, the lower the sensitivity (Default = 10)
Address	0x0013
Register	Function
Bit7	0: Disable Identical Read Interval* 1: Enable Identical Read Interval
Bit6-0	Identical Read Interval 0x00: unlimited 0x01~0x7F: 100ms~12700ms (unit = 100ms, Default = 0ms)
Address	0x0014
Register	Function
Bit7-0	Message Output Timeout 0x00~0xFF: 0ms~2550ms (unit = 10ms, Default = 60ms)
Address	0x0016
Register	Function
Bit7-5	Reserved
Bit4	Inverse Barcode 0: Inverse Barcode – Disable* 1: Inverse Barcode – Enable
Bit3-1	Reserved
Bit1	Enhanced Decode Capability 0: Enhanced Decode Capability – Disable* 1: Enhanced Decode Capability – Enable
Address	0x002B, 0x002A

Register	Function
Bit15	Reserved
Bit14-13	00: Parity – None* 01: Parity – Odd 10: Parity – Even
Bit12-0	0x09C4: 1200bps 0x0271: 4800bps 0x0139: 9600bps* 0x00D0: 14400bps 0x009C: 19200bps 0x004E: 38400bps 0x0034: 57600bps 0x001A: 115200bps Example: 9600bps: 0x002A = 0x39, 0x002B = 0x01
Address	0x002C
Register	Function
Bit7-4	Reserved
Bit3	Reserved
Bit2-1	00: Disable All Symbologies 01: Enable All Symbologies 10/11 : Enable Default Symbologies*
Bit0	Reserved
Address	0x002E
Register	Function
Bit7	0: Disable EAN-13 5-digit Supplement* 1: Enable EAN-13 5-digit Supplement
Bit6	0: Disable EAN-13 2-digit Supplement* 1: Enable EAN-13 2-digit Supplement
Bit5	0: Disable EAN-13 Supplement Required* 1: Enable EAN-13 Supplement Required
Bit4-2	Reserved
Bit1	0: Not Send EAN-13 Check Digit 1: Send EAN-13 Check Digit*

Bit0	0: Disable EAN-13 1: Enable EAN-13*
Address	0x002F
Register	Function
Bit7	0: Disable EAN-8 5-digit Supplement* 1: Enable EAN-8 5-digit Supplement
Bit6	0: Disable EAN-8 2-digit Supplement* 1: Enable EAN-8 2-digit Supplement
Bit5	0: Disable EAN-8 Supplement Required* 1: Enable EAN-8 Supplement Required
Bit4-2	Reserved
Bit1	0: Not Send EAN-8 Check Digit 1: Send EAN-8 Check Digit*
Bit0	0: Disable EAN-8 1: Enable EAN-8*
Address	0x0030
Register	Function
Bit7	0: Disable UPC-A 5-digit Supplement* 1: Enable UPC-A 5-digit Supplement
Bit6	0: Disable UPC-A 2-digit Supplement* 1: Enable UPC-A 2-digit Supplement
Bit5	0: Disable UPC-A Supplement Required* 1: Enable UPC-A Supplement Required
Bit4	0: Disable UPC-A to EAN-13* 1: Enable UPC-A to EAN-13
Bit3-2	Reserved
Bit1	0: Not Send UPC-A Check Digit 1: Send UPC-A Check Digit*
Bit0	0: Disable UPC-A 1: Enable UPC-A*
Address	0x0031
Register	Function
Bit7	0: Disable UPC-E0 5-digit Supplement* 1: Enable UPC-E0 5-digit Supplement

Bit6	0: Disable UPC-E0 2-digit Supplement* 1: Enable UPC-E0 2-digit Supplement
Bit5	0: Disable UPC-E0 Supplement Required* 1: Enable UPC-E0 Supplement Required
Bit4-2	Reserved
Bit1	0: Not Send UPC-E0 Check Digit 1: Send UPC-E0 Check Digit*
Bit0	0: Disable UPC-E0 1: Enable UPC-E0*
Address	0x0032
Register	Function
Bit7	0: Disable UPC-E1 5-digit Supplement* 1: Enable UPC-E1 5-digit Supplement
Bit6	0: Disable UPC-E1 2-digit Supplement* 1: Enable UPC-E1 2-digit Supplement
Bit5	0: Disable UPC-E1 Supplement Required* 1: Enable UPC-E1 Supplement Required
Bit4-2	Reserved
Bit1	0: Not Send UPC-E1 Check Digit 1: Send UPC-E1 Check Digit*
Bit0	0: Disable UPC-E1 1: Enable UPC-E1*
Address	0x0033
Register	Function
Bit7-1	Reserved
Bit0	0: Disable Code128 1: Enable Code128*
Address	0x0034
Register	Function
Bit7-0	Code128 Min Length 0x00~0xFF: 0~255byte (Default = 0)
Address	0x0035
Register	Function

Bit7-0	Code128 Max Length 0x00~0xFF: 0~255byte (Default = 255)
Address	0x0036
Register	Function
Bit7	0: Not Send Code39 Stop* 1: Send Code39 Stop
Bit6	0: Not Send Code39 Start* 1: Send Code39 Start
Bit5	0: Disable Code32 Preamble 'A' 1: Enable Code32 Preamble 'A' *
Bit4	0: Disable Code32* 1: Enable Code32
Bit3	0: Disable Full ASCII Code39* 1: Enable Full ASCII Code39
Bit2	0: Disable Code39 Verification* 1: Enable Code39 Verification
Bit1	0: Not Send Code39 Check Digit* 1: Send Code39 Check Digit
Bit0	0: Disable Code39 1: Enable Code39*
Address	0x0037
Register	Function
Bit7-0	Code39 Min Length 0x00~0xFF: 0~255byte (Default = 0)
Address	0x0038
Register	Function
Bit7-0	Code39 Max Length 0x00~0xFF: 0~255byte (Default = 255)
Address	0x0039
Register	Function
Bit7-1	Reserved
Bit0	0: Disable Code93 1: Enable Code93*

Address	0x003A
Register	Function
Bit7-0	Code93 Min Length 0x00~0xFF: 0~255byte (Default = 0)
Address	0x003B
Register	Function
Bit7-0	Code93 Max Length 0x00~0xFF: 0~255byte (Default = 255)
Address	0x003C
Register	Function
Bit7	0: Not Send Codabar Check Digit* 1: Send Codabar Check Digit
Bit6-4	Reserved
Bit3	0: Disable Codabar Verification Mod10* 1: Enable Codabar Verification Mod10
Bit2	0: Disable Codabar Verification Mod16* 1: Enable Codabar Verification Mod16
Bit1	Reserved
Bit0	0: Disable Codabar 1: Enable Codabar*
Address	0x003D
Register	Function
Bit7-0	Codabar Min Length 0x00~0xFF: 0~255byte (Default = 0)
Address	0x003E
Register	Function
Bit7-0	Codabar Max Length 0x00~0xFF: 0~255byte (Default = 255)
Address	0x003F
Register	Function
Bit7-6	Reserved

Bit5	0: Disable Model 1 QR Code* 1: Enable Model 1 QR Code
Bit4-1	Reserved
Bit0	0: Disable QR Code 1: Enable QR Code*
Address	0x0040
Register	Function
Bit7-3	Reserved
Bit2	0: Disable Interleaved 2/5 Verification Mod10* 1: Enable Interleaved 2/5 Verification Mod10
Bit1	0: Not Send Interleaved 2/5 Check Digit* 1: Send Interleaved 2/5 Check Digit
Bit0	0: Disable Interleaved 2/5* 1: Enable Interleaved 2/5
Address	0x0041
Register	Function
Bit7-0	Interleaved 2/5 Min Length 0x00~0xFF: 0~255byte (Default = 4)
Address	0x0042
Register	Function
Bit7-0	Interleaved 2/5 Max Length 0x00~0xFF: 0~255byte (Default = 32)
Address	0x0043
Register	Function
Bit7-3	Reserved
Bit2	0: Disable Industrial 2/5 Verification Mod10* 1: Enable Industrial 2/5 Verification Mod10
Bit1	0: Not Send Industrial 2/5 Check Digit* 1: Send Industrial 2/5 Check Digit
Bit0	0: Disable Industrial 2/5* 1: Enable Industrial 2/5
Address	0x0044

Register	Function
Bit7-0	Industrial 2/5 Min Length 0x00~0xFF: 0~255byte (Default = 4)
Address	0x0045
Register	Function
Bit7-0	Industrial 2/5 Max Length 0x00~0xFF: 0~255byte (Default = 32)
Address	0x0046
Register	Function
Bit7-3	Reserved
Bit2	0: Disable Matrix 2/5 Verification Mod10* 1: Enable Matrix 2/5 Verification Mod10
Bit1	0: Not Send Matrix 2/5 Check Digit* 1: Send Matrix 2/5 Check Digit
Bit0	0: Disable Matrix 2/5* 1: Enable Matrix 2/5
Address	0x0047
Register	Function
Bit7-0	Matrix 2/5 Min Length 0x00~0xFF: 0~255byte (Default = 4)
Address	0x0048
Register	Function
Bit7-0	Matrix 2/5 Max Length 0x00~0xFF: 0~255byte (Default = 32)
Address	0x0049
Register	Function
Bit7-3	Reserved
Bit2	0: Code11 Verification 1bit* 1: Code11 Verification 2bit
Bit1	0: Not Send Code11 Check Digit* 1: Send Code11 Check Digit
Bit0	0: Disable Code11*

	1: Enable Code11
Address	0x004A
Register	Function
Bit7-0	Code11 Min Length 0x00~0xFF: 0~255byte (Default = 4)
Address	0x004B
Register	Function
Bit7-0	Code11 Max Length 0x00~0xFF: 0~255byte (Default = 32)
Address	0x004C
Register	Function
Bit7-3	Reserved
Bit2	0: MSI Plessey Verification Mod10* 1: MSI Plessey Verification Double Mod10
Bit1	0: Not Send MSI Plessey Check Digit* 1: Send MSI Plessey Check Digit
Bit0	0: Disable MSI Plessey* 1: Enable MSI Plessey
Address	0x004D
Register	Function
Bit7-0	MSI Plessey Min Length 0x00~0xFF: 0~255byte (Default = 4)
Address	0x004E
Register	Function
Bit7-0	MSI Plessey Max Length 0x00~0xFF: 0~255byte (Default = 32)
Address	0x004F
Register	Function
Bit7	0: Enable GS1 Databar AI Parenthese* 1: Disable GS1 Databar AI Parenthese
Bit6-1	Reserved

Bit0	0: Disable GS1 Databar* 1: Enable GS1 Databar
Address	0x0050
Register	Function
Bit7	0: Enable GS1 Databar Limited AI Parenthese* 1: Disable GS1 Databar Limited AI Parenthese
Bit6-1	Reserved
Bit0	0: Disable GS1 Databar Limited* 1: Enable GS1 Databar Limited
Address	0x0051
Register	Function
Bit7	0: Enable GS1 Databar Expanded AI Parenthese* 1: Disable GS1 Databar Expanded AI Parenthese
Bit6-1	Reserved
Bit0	0: Disable GS1 Databar Expanded* 1: Enable GS1 Databar Expanded
Address	0x0052
Register	Function
Bit7-0	GS1 Databar Expanded Min Length 0x00~0xFF: 0~255byte (Default = 4)
Address	0x0053
Register	Function
Bit7-0	GS1 Databar Expanded Max Length 0x00~0xFF: 0~255byte (Default = 32)
Address	0x0054
Register	Function
Bit7-2	Reserved
Bit1	0: Disable Data Matrix Multicode* 1: Enable Data Matrix Multicode
Bit0	0: Disable Data Matrix 1: Enable Data Matrix*
Address	0x0055

Register	Function
Bit7-1	Reserved
Bit0	0: Disable PDF417 1: Enable PDF417*
Address	0x0056
Register	Function
Bit7-1	Reserved
Bit0	0: Disable Han Xin* 1: Enable Han Xin
Address	0x0057
Register	Function
Bit7-1	Reserved
Bit0	0: Disable MicroPDF417 1: Enable MicroPDF417*
Address	0x0058
Register	Function
Bit7-1	Reserved
Bit0	0: Disable Micro QR Code 1: Enable Micro QR Code*
Address	0x0059
Register	Function
Bit7-1	Reserved
Bit0	0: Disable MaxiCode* 1: Enable MaxiCode
Address	0x005A
Register	Function
Bit7-1	Reserved
Bit0	0: Disable Aztec* 1: Enable Aztec
Address	0x005B
Register	Function

Bit7-3	Reserved
Bit2	0: Disable Standard 2/5 Verification* 1: Enable Standard 2/5 Verification
Bit1	0: Not Send Standard 2/5 Check Digit* 1: Send Standard 2/5 Check Digit
Bit0	0: Disable Standard 2/5* 1: Enable Standard 2/5
Address	0x005C
Register	Function
Bit7-0	Standard 2/5 Min Length 0x00~0xFF: 0~255byte (Default = 4)
Address	0x005D
Register	Function
Bit7-0	Standard 2/5 Max Length 0x00~0xFF: 0~255byte (Default = 32)
Address	0x0060
Register	Function
Bit7	0: Output Data Only* 1: Output Protocol
Bit6-5	00: Terminator – CR* 01: Terminator – CR LF 10: Terminator – TAB 11: Terminator – None
Bit4	0: Disable RF Message* 1: Enable RF Message
Bit3	0: Disable Preamble* 1: Enable Preamble
Bit2	0: Disable Code ID* 1: Enable Code ID
Bit1	0: Disable Postamble* 1: Enable Postamble
Bit0	0: Disable Terminator 1: Enable Terminator*
Address	0x0061

Register	Function
Bit7-0	00: Keyboard Layout – English (USA)* 01: Keyboard Layout – Czech 02: Keyboard Layout – French 03: Keyboard Layout – German 04: Keyboard Layout – Hungarian 05: Keyboard Layout – Italian 06: Keyboard Layout – Japanese 07: Keyboard Layout – Spanish 08: Keyboard Layout – Turkish Q 09: Keyboard Layout – Turkish F 0A: Keyboard Layout – Mexican (Latin A.)
Address	0x0062
Register	Function
Bit7-4	Preamble Length 0x00~0x0F: Preamble Length (Default = 0)
Bit3-0	Postamble Length 0x00~0x0F: Postamble Length (Default = 0)
Address	0x0063 – 0x0071
Register	Function
Bit7-0	Set Preamble 0x00~0xFF: Preamble data, up to 15byte (Default = N/A)
Address	0x0072 – 0x0080
Register	Function
Bit7-0	Set Postamble 0x00~0xFF: Postamble data, up to 15byte (Default = N/A)
Address	0x0081
Register	Function
Bit7-4	Reserved

Bit3-0	RF Message Length 0x00~0x0F: RF Message Length (Default = 0)
Address	0x0082 – 0x0090
Register	Function
Bit7-0	Set RF Message 0x00~0xFF: RF Message data, up to 15byte (Default = N/A)
Address	0x0091 – 0x00AE
Register	Function
Bit7-0	Set Code ID 0x41~0x5A & 0x61~0x7A (A~Z, a~z): see Appendix A – Code ID for corresponding Code ID of each symbology
Address	0x00B0
Register	Function
Bit7-2	Reserved
Bit1-0	00: Send All* 01: Send Start Only 10: Send End Only 11: Send Center Only
Address	0x00B1
Register	Function
Bit7-0	Set Start Length 0x00~0xFF: 0~255byte (Default = 0)
Address	0x00B2
Register	Function
Bit7-0	Set End Length 0x00~0xFF: 0~255byte (Default = 0)
Address	0x00BB
Register	Function
Bit7-3	Reserved

Bit2	0: Disable UK Plessey Verification* 1: Enable UK Plessey Verification
Bit1	0: Not Send UK Plessey Check Digit* 1: Send UK Plessey Check Digit
Bit0	0: Disable UK Plessey* 1: Enable UK Plessey
Address	0x00BC
Register	Function
Bit7-0	UK Plessey Min Length 0x00~0xFF: 0~255byte (Default = 4)
Address	0x00BD
Register	Function
Bit7-0	UK Plessey Max Length 0x00~0xFF: 0~255byte (Default = 32)
Address	0x00BE
Register	Function
Bit7-3	Reserved
Bit2	0: Disable ChinaPost 2/5 Verification* 1: Enable ChinaPost 2/5 Verification
Bit1	0: Not Send ChinaPost 2/5 Check Digit* 1: Send ChinaPost 2/5 Check Digit
Bit0	0: Disable ChinaPost 2/5* 1: Enable ChinaPost 2/5
Address	0x00BF
Register	Function
Bit7-0	ChinaPost 2/5 Min Length 0x00~0xFF: 0~255byte (Default = 4)
Address	0x00C0
Register	Function
Bit7-0	ChinaPost 2/5 Max Length 0x00~0xFF: 0~255byte (Default = 32)
Address	0x00C1

Register	Function
Bit7-1	Reserved
Bit0	0: Disable Code16K* 1: Enable Code16K
Address	0x00C2
Register	Function
Bit7-0	Code16K Min Length 0x00~0xFF: 0~255byte (Default = 4)
Address	0x00C3
Register	Function
Bit7-0	Code16K Max Length 0x00~0xFF: 0~255byte (Default = 32)
Address	0x00CF
Register	Function
Bit7-1	Reserved
Bit0	Auto-sensing Advanced Mode Setup 0: Fast Mode* 1: Standard Mode
Address	0x00D9 (Write only)
Register	Function
Bit7-0	0x50: Factory Default 0x55: Custom Default 0x56: Save Custom Default
Address	0x00E1 (Read only)
Register	Function
Bit7-0	Hardware Version 0x64: V1.00 0x6E: V1.10 0x78: V1.20 0x82: V1.30 0x8C: V1.40 .....

Address	0x00E2 (Read only)
Register	Function
Bit7-0	First Digit of Software Version 0x01: V1.x.x 0x02: V2.x.x .....
Address	0x00E3 (Read only)
Register	Function
Bit7-0	Second Digit of Software Version 0x01: Vx.1.x 0x02: Vx.2.x .....
Address	0x00E4 (Read only)
Register	Function
Bit7-0	Third Digit of Software Version 0x01: Vx.x.1 0x02: Vx.x.2 .....
Address	0x00E5 (Read only)
Register	Function
Bit7-0	Software Year (+ 2000 = Year) 0x15: 2021 0x16: 2022 .....
Address	0x00E6 (Read only)
Register	Function
Bit7-0	Software Month 0x09: Sep 0x0A: Oct 0x0B: Nov .....
Address	0x00E7 (Read only)
Register	Function

Bit7-0	Software Date 0x0A: 10th 0x0B: 11th .....

Appendix

Appendix A - Code ID

Symbology	Code ID
EAN-13	d
EAN-8	d
UPC-A	c
UPC-E0	c
UPC-E1	c
Code128	j
Code39	b
Code93	i
Codabar	a
Interleaved 2/5	e
Industrial 2/5	D
Matrix 2/5	v
Standard 2/5	f
ChinaPost 2/5	X
Code11	H
MSI Plessey	m
UK Plessey	n
GS1 Databar	R
GS1 Databar Limited	R
GS1 Databar Expanded	R
Code16K	X
QR Code	Q
Micro QR Code	X
Data Matrix	u
PDF417	r
MicroPDF417	R
Aztec	z
MaxiCode	x
Han Xin	h

Version History

Rev	Date	Description	Issued
1.0	2021.11.03	Initial Release	Shaw
1.1	2022.05.09	Updated Address 0x000D Updated Appendix A - Code ID	Shaw
1.2	2022.07.19	Updated Address 0x0003	Shaw
1.3	2022.10.20	Updated Address 0x0009 Added Address 0x0016	Shaw
1.4	2022.12.22	FW: V1.4.91 Updated Address 0x0006, 0x00E2 ~ 0x00E7 Removed Address 0x0007 Added Address 0x002B, 0x002A, 0x0056, 0x0057, 0x0058, 0x0059, 0x005A, 0x005B, 0x005C, 0x005D, 0x00BB, 0x00BC, 0x00BD, 0x00BE, 0x00BF, 0x00C0, 0x00C1, 0x00C2, 0x00C3, 0x00CF	Shaw
1.5	2023.05.09	Updated Address 0x002E ~ 0x0032, 0x0036, 0x003C, 0x003F, 0x0040, 0x0043, 0x0046, 0x0049, 0x004C, 0x004F ~ 0x0051, 0x0054	Shaw
1.6	2023.05.10	Added Default Value	Shaw

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