2D Handheld Scanner

- MS838 -

User Manual

Version 2.0

Change Log

Date	Change Description	Version
20210202	first published version	1.0
2021/2/25	Update factory default	1.1
2022/2/7	Add 2.15 Center Mode	1.2
2022/03/24	Add Do Not Send UPC-A Lead Digit barcode	1.3
2022/4/14	1. Add 3.13.2 and 3.14.4 2. Update 1.3 IP Rating 3. Add Appendix C	1.4
2022/4/26	Update 1.3 Specification	1.5
2022/5/23	Update 2.5 Scan Mode (Update Auto Sense Mode)	1.6
2022/11/16	Add Do Not Send UPC-E Lead digit Barcode	1.7
2023/9/27	Add GS1 AI setting	1.8
2023/11/07	Update 1.4 Descriptions	1.9
2024/5/30	Add Febraban Decode	2.0

Preface

About This Manual

Thank you for purchasing the Unitech product.
This manual explains how to install, operate and maintain our product.

Regulatory Compliance Statements

FCC Warning Statement

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference with radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

–Reorient or relocate the receiving antenna.
–Increase the separation between the equipment and receiver.
–Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

–Consult the dealer or an experienced radio/TV technician for help.

1. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. To maintain compliance with FCC RF exposure requirements, avoid direct contact to the transmitting antenna during transmitting.
3. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

Operation on the 5.15 - 5.25GHz frequency band is restricted to indoor use only. The FCC requires indoor use for the 5.15-5.25GHz band to reduce the potential for harmful interference to co-channel Mobile Satellite Systems. Therefore, it will only transmit on the 5.25-5.35 GHz, 5.47-5.725 GHz and 5.725 – 5.850 GHz band when associated with an access point (AP).

FCC Label Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

RF Radiation Exposure Statement

For body contact during operation, this device has been tested and meets FCC RF exposure guidelines when used with an accessory that contains no metal and that positions the handset a minimum of 1.5 cm from the body.
Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

Canadian Compliance Statement

This Class B Digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numerique de la classe B respecte les exigences du Reglement

sur le material broilleur du Canada.

European Conformity Statement

Unitech Electronics co., Ltd herewith declares that the Unitech product is in compliance with the essential requirements and all other provisions of the RED 2014/53/EU directive, the EMC 2014/30/EU directive and the Low Voltage 2014/35/EU directive.
The declaration of conformity is available for download at :
https://portal.Unitech.eu/public/Safetyregulatorystatement

CE RF Exposure Compliance

This device meets EU requirements (2014/53/EU) on the limitation of exposure of the general public to electromagnetic fields by way of health protection.
For body-worn operation, this device has been tested and meets the ICNIRP guidelines and the European Standard EN 62209-2, for use with dedicated accessories, SAR is measured with this device at a separation of 0.5 cm to the body, while transmitting at the highest certified output power level in all frequency bands of this device. Use of other accessories which contain metals may not ensure compliance with ICNIRP exposure guidelines.

CE Mark Warning

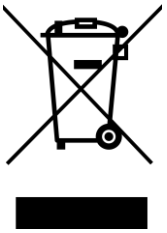
CE

This equipment complies with the requirements of Directive 2014/53/EU of the European Parliament and Commission from 24 May, 2014 governing Radio and Telecommunications Equipment and mutual recognition of conformity.

RoHS Statement

This device conforms to RoHS (Restriction of Hazardous Substances) European Union regulations that set maximum concentration limits on hazardous materials used in electrical and electronic equipment.

Waste electrical and electronic equipment (WEEE)



Unitech has set up a policy and process to meet the EU directive 2002/96/EC and update 2003/108/EC concerning electronic waste disposal.

For more detailed information of the electronic waste disposal of the products you have purchased from Unitech directly or via Unitech's resellers, you shall either contact your local supplier or visit us at : https://portal.Unitech.eu/public/WEEE

Taiwan NCC Warning Statement

NCC 警語

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

注意事項:

1. 使用過度恐傷害視力。
2. 使用30分鐘請休息10分鐘；2歲以下幼兒不看螢幕，2歲以上每天看螢幕不要超過1小時。
3. 減少電磁波影響，請妥適使用。

Laser Information

The Unitech product is certified in the U.S. to conform to the requirements of DHHS/CDRH 21CFR Subchapter J and to the requirements of IEC 825-1. Class II and Class 2 products are not considered to be hazardous. The Unitech product contains internally a Visible Laser Diode (VLD) whose emissions do not exceed the maximum limits as set forth in the above regulations. The scanner is designed so that there is no human access to harmful laser light during normal operation, user maintenance or prescribed service operations.

The laser safety warning label required by the DHHS/IEC for the Unitech product's optional laser scanner module is located on the memory compartment cover, on the back of the unit.

* Laser information only applies to the products with laser components.

CAUTION! Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light. Use of optical instruments with the scanner, including binoculars, microscopes, and magnifying glasses, with will increase eye damage. This does not include eyeglasses worn by the user.

LED Information

The Unitech product contains LED indicator(s) or LED ring whose luminance is not harmful to human eyes during normal operation, user maintenance or prescribed service operations.

*LED information only applies to the products with LED components.

Battery Notice

1. To guarantee optimal performance, it is recommended that rechargeable batteries be replaced every year, or after 500 charging cycles are completed. It is normal for the battery to balloon or expand after one year or 500 cycles. Although it does not cause damage, it cannot be used again and must be disposed of according to the location's safe battery disposal procedures.
2. If a battery performance decreases more than 20%, the battery is at the end of its life cycle. Stop use and ensure the battery is disposed of properly.
3. The length of time that a battery lasts depends on the battery type and how the device is used. Conserve the battery life by doing the following:
   - Avoid fully uncharging the battery because this places additional strain on it. Several partial uncharges with frequent charges are better than a fully uncharged battery. Charging a partially charged battery does not cause harm to the unit.
   - Keep the battery cool. Avoid hot vehicles. For prolonged storage, keep the battery at a 40% charge level.
   - Do not leave the battery uncharged and unused for an extended period of time, the battery will wear out and the longevity of the battery will be at least half of one with frequent charges.
4. Protect battery life by not over or under charging the battery.
5. Please do not leave battery unused for long time without charging it. Despite Unitech’s safety precautions, the battery pack may begin to change shape. If so, stop using it immediately. Please check to see if you are using a proper power adapter to charge the battery or contact your service provider for service.
6. If you cannot charge the battery after it has been idle for an extended period of time and it begins to heat up, please do not try to charge it. It may not be functional anymore.
7. Please only use the original battery from Unitech. Using a third party battery can damage our products. Please note that when such damage occurs, it is not covered by your warranty.

CAUTION!

- RISK OF EXPLOSION IF BATTERY IS REPLACED INCORRECTLY.
  DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.
- 如果更換不正確之電池行事會有爆炸的風險
  請依製造商說明書處理用過之電池
- 如果更换不正确之电池行事会有爆炸的风险
  请依制造商说明书处理用过之电池

Battery charge notice

It is important to consider temperature when the battery pack is charging. Charging is most efficient at normal room temperature or in a slightly cooler environment. It is essential that batteries are charged within the stated range of 0˚C to 40˚C. Charging batteries outside of the specified range could damage the batteries and shorten their life cycle.

CAUTION! Do not charge batteries at a temperature lower than 0˚C. This will and make the batteries unstable and dangerous. Please use a battery temperature detecting device for a charger to ensure a safe charging temperature range.

CAUTION! To ensure the unit working properly, please keep all connectors away from the contaminants staying inside of them such as dust, grease, mud, and water. The negligence may cause the unit with no communication, short circuited, overheated and so on.

CAUTION! If the connector is damaged, please ensure the connector is being fully repaired before use the unit to avoid causing short circuited.

Storage and safety notice

Although charged batteries may be left unused for several months, their capacity may be depleted due to build up of internal resistance. If this happens, they will require recharging prior to use. Batteries may be stored at temperatures between -20°C to 60°C, however they may deplete more rapidly at higher temperatures. It is recommended to store batteries at room temperature.

** The message above only applies to the usage of the removable batteries. For the products with non-removable batteries / without batteries, please refer to the specification of each product.*

Product Operation and Storage Notice

The Unitech product has applicable operation and storage temperature conditions. Please follow the limitation of suggested temperature conditions to avoid failure, damage or malfunction.

**For applicable temperature conditions, please refer to the specification of each product.*

Adapter Notice

1. Please do not leave the power adapter in the socket when it is not connected to your Unitech product for charging.
2. Please remove the power adapter when the battery is fully recharged.
3. The bundled power adapter that comes with your Unitech product is not meant to be used outdoors. An adapter exposed to water or rain, or a very humid environment can cause damage to both the adapter and the product.
4. Please only use the bundled power adapter or same specification of adapter to charge your Unitech product. Using the wrong power adapter can damage your Unitech product.

** The message above only applies to the product connected to the adapter. For the products without using the adapters, please refer to the specification of each product.*

Hearing Damage Warning

Zx.3 Warning

The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:

- the symbol of Figure 1 with a minimum height of 5 mm; and
- the following wording, or similar :

To prevent possible hearing damage, do not listen at high volume levels for long periods.

Figure 1 – Warning label (IEC 60417-6044)

Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.

Worldwide Support

Unitech's professional support team is available to quickly answer questions or assist with technical-related issues. Should an equipment problem occur, please contact the nearest Unitech regional service representative.
For complete contact information please visit the Web sites listed below:

Taipei, Taiwan – Headquarters		Europe	
Tel:	+886-2-89121122	**Tel:**	+31-13-4609292
E-mail:	info@hq.ute.com	**E-mail:**	info@eu.ute.com
Address:	5F, No. 136, Lane 235, Baoqiao Road, Xindian District, New Taipei City 231, Taiwan (R.O.C.)	**Address:**	Kapitein Hatterasstraat 19, 5015 BB, Tilburg, the Netherlands
Website:	http://www.ute.com	**Website:**	http://eu.ute.com
China		**Japan**	
Tel:	+86-59-2310-9966	**Tel:**	+81-3-35232766
E-mail:	info@cn.ute.com	**E-mail:**	info@jp.ute.com
Address:	Room401C, 4F, RIHUA International Mansion, Xinfeng 3nd Road, Huoju Hi-tech District, Xiamen, Fujan , China	**Address:**	Kayabacho Nagaoka Building 8F.,1-5-19 Shinkawa, Chuo-Ku, Tokyo, 104-0033, Japan
Website:	http://cn.ute.com	**Website:**	http://jp.ute.com
Asia & Pacific / Middle East		**Latin America**	
Tel:	+886-2-27911556	**Tel:**	+52-55-5171-0528
E-mail:	info@apac.ute.com info@india.ute.com info@mideast.ute.com	**E-mail:**	info@latin.ute.com
Address:	4F., No. 236, ShinHu 2nd Rd., NeiHu Chiu, 114, Taipei,Taiwan	**Address:**	17171 Park Row, Suite 210 Houston, TX 77084USA (Rep.)
Website:	http://apac.ute.com / http://mideast.ute.com	**Website:**	http://latin.ute.com
North America		**Please scan QR Code to visit us :**	
Tel:	+1-714-8926400		
E-mail:	info@us.ute.com / info@can.ute.com		
Address:	6182 Katella Ave, Cypress, CA 90630, USA		
Website:	http://us.ute.com		

Warranty Policy

The items covered under the Unitech Limited Warranty are free from defects during normal use.
The warranty period is varied from each country. Please consult with your supplier or Unitech local office for actual length of warranty period to your purchased product.

Warranty becomes void if equipment is modified, improperly installed or used, damaged by accident or neglect, or if any parts are improperly installed or replaced by the user.

Table of Contents

Chapter 1 - Overview

1.1 Package

Please make sure the following contents are in the MS838 gift box.
If something is missing or damaged, please contact your Unitech representative.

The standard package contents:

- MS838 2D handheld Scanner
- Cable
- Quick Start Guide
- Regulatory Compliance Statements

The combo package contents:

- MS838 2D handheld Scanner
- Cable
- Hands free stand
- Quick Start Guide
- Regulatory Compliance Statements

*NOTE: **The barcode with an asterisk (*) which appears in the following chapters indicates that it is the default option for the corresponding setting.***

1.2 Product Detail

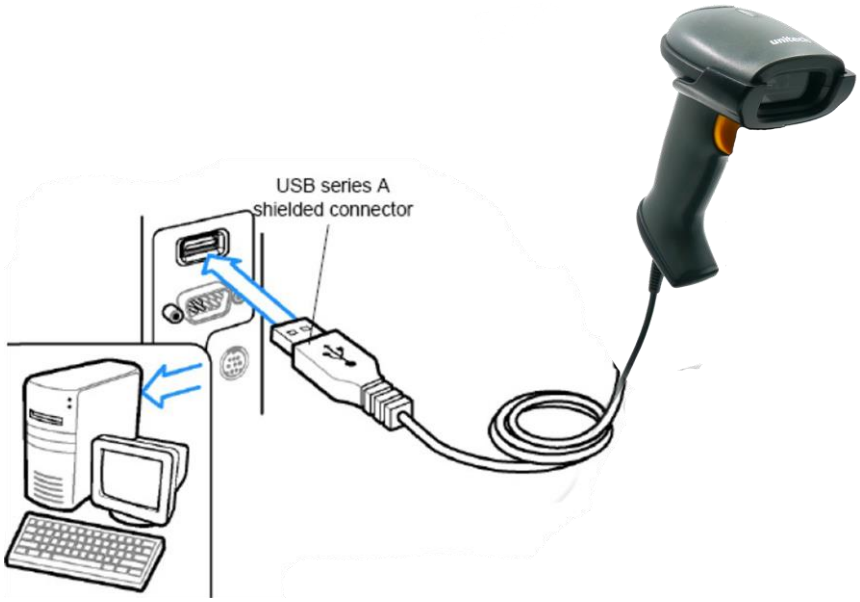
1.3 Specifications

Optical & Performance	
1D or 2D	2D
Sensor	CMOS sensor with 640 x 480 pixel
Aiming Element	Red LED
Illumination	White LED
Ambient Light	0~100,000lux (natural light)
Skew Angle	± 65°
Pitch Angle Sensor	± 60°
Roll Angle	0 - 360°
Optical Resolution	≥3mil (code 39)
Depth of Field (DOF PCS=80%)	60-310mm (13 mil, EAN13, PCS=90%)
Communication	
Host Interface supported	USB / RS232
Mechanical	
Dimension	174mm × 72mm × 96mm (L x W x H)
Weight	245g
Trigger Switch Life	1 million time

Functionality	
Symbologies	**1D:** Code 128, EAN-13, EAN-8, Code 39, Code 32, UPC-A, UPC-E, Codabar, Interleaved 2 of 5, Code 93, GS1-128, GS1 Databar, GS1 Databar Limited, GS1 Databar Expanded, Matrix 2 of 5, Code 11, Industrial 2 of 5, Matrix 2 of 5 **2D:** PDF417, Micro PDF417, QR Code, Micro QR, Data Matrix, Aztec Code
Operation Mode	Trigger mode, Presentation mode,
Data Formatting	Prefix, Suffix, Code ID, Reformatting Date
Electrical	
Operation Voltage	DC 5V
Current Consumption	Operation mode: <142mA, Standby mode: <42mA
Indicator	Buzzer, LED
Environmental	
Mechanical Shock	1.5M onto concrete
Operating Temperature	-10°C to 50°C
Storage Temperature	-20°C to 60°C
Relative Humidity	5%-95% non-condensing
IP Rating	IP54
Regulatory Approvals	
CE, FCC, BSMI, VCCI	

1.4 Getting Started

To get started with MS838, please connect “USB cable or Y-cable” to the USB port of a host PC.



Note: MS838 has different SKUs, each supporting either USB cable or Y-cable.

The Y-cable is available in RS232 (DB9) and USB-A versions.

1.5 LED Indicator / Beeper Sequence

Description	Indication	
	Beeper	LED
Trigger pull	No Sound	No Light
No decode		
Wake up		
Decode	High Tone	Blue Blink
Power on	Low Tone, Middle Tone, High Tone	Blue Blink
Transmission error	Four Low Tones	No Light

Chapter 2 – Command Settings

2.1 General setting

2.1.1 Enable/Disable Configuration barcode

Scanner can set up when enabled barcode function. In contrast, the scanner can’t set up if disabled. Need to switch on and set up again.

Enable Configuration Function*

Disable Configuration Function

2.1.2 Display Version

Scan below bar code to display version.

Display Version

2.1.3 Factory Default

Scanning the below barcode can restore the scanner the factory default.

Restore Factory Default Configuration

2.1.4 Product User Configuration

Scanning the below barcode can save current parameters as user ’s configuration.

Save

Scanning the below barcode can restore for saved user ’s configuration.

Restore User Configuration

2.2 Data Interface Setting

2.2.1 USB Device Type

USB Keyboard*

RS232

USB Virtual Com (driver is needed)

2.3 USB Keyboard Layout

2.3.1 Control Character Escaping

Disable *

Enable

2.3.2 Control Character Output

Disable

Enable

2.3.3 CR/LF Character Processing (USB Keyboard)

Only 0D (CR) line feed *

Only 0A(LF) line feed

All Covert to 0A (LF)/0D(CR)

2.3.4 USB Keyboard Transfer Speed

Used for set up scanning speed under USB keyboard mode. If PC in a lower function, please choose low scanning speed to make sure its accuracy.

Low *

Middle

High

Custom Sending Speed (2ms ~ 50ms)

2.3.5 Covert Case

Scan below bar code to send / don’t send non printable characters to the host.

Original data*

Convert All to Upper Case

Convert All to Lower Case

Case Inversion

2.3.6 Keyboard Layouts

Scan the bar code corresponding to the keyboard type.

English (US)*

German

French

Russian (MS)

Russian (typewriter)

Arabic (101)

Spanish

Spanish (Latin America)

Finnish

Japanese

Italian 142

Italian

Irish

English (UK)

Polish (Programmers)

Dutch (Netherlands)

Czech (QWERTZ)

Portuguese

Portuguese (Brazil)

Swedish

Turkish Q

Turkish F

Greek (MS)

French (Belgium)

2.3.7 Barcode Encoding Configuration

In a normal situation , the barcode encoding was identified accurately. Please use manual to set up if encountered peculiar characters, then make sure output barcode content correctly.

Auto*

KOI8-R Code

2.3.8 Output Encoding Format

To output correctly in the specified encoding format.
For example: It's GBK code when output in the Notepad /Excel; It's UNICODE when output in the Word.
When output is English/Latin-1 encode format, the output mode will affected by the function switch of virtual keyboard. When output is GBK/UNICODE, the output mode will compelled to virtual keyboard.

English / Latin-1 *

GBK (Notepad /excel)

UNICODE (Word)

2.4 RS232 Interface Configuration

2.4.1 Baud Rate

9600 *

4800

19200

38400

57600

115200

2.4.2 Data bit, Stop bit, Parity bit

7 Bit,1 Stop Bit, No Parity

7 Bit,1 Stop Bit, Even Parity

7 Bit,1 Stop Bit, Odd Parity

7 Bit,2 Stop Bit, No Parity

7 Bit,2 Stop it, Even Parity B

7 Bit,2 Stop Bit, Odd Parity

8 Bit,1 Stop Bit, No Parity *

8 Bit,1 Stop Bit, Even Parity

8 Bit,1 Stop Bit, Odd Parity

8 Bit,2 stop Bit, No Parity

8 Bit,2 Stop Bit, Even Parity

8 Bit,2 Stop Bit, Odd Parity

2.4.3 GS Control Character Replacement

When output character is “Ç”, please first to scan” Virtual keyboard (Mode one or Mode two or Mode three)”.

Do not Replace *

Replace Ç

Replace

Replace ^]

R

eplace]

Replace <GS>

2.5 Scan Mode

2.5.1 Auto Sense Mode off

Decoding by pulling the trigger of the scanner when auto sense mode is off. It's default mode

Off *

2.5.2 Auto Sense Mode on

The scanner can sense barcode for decoding automatically.

On

2.5.3 Repeat Barcode Detection

Use for decode same barcode of interval time, it will decode only one time if not exceeded set time.

750ms*

500ms

1s

2s

2.6 Light Configuration

2.6.1 LED Indicator Light

On *

Off

2.7 Buzzer Configuration

2.7.1 Volume Setting

High *

Low

2.7.2 Prompt Tone Setting

On *

Off

2.7.3 Successful Decode Prompt Tone Setting

On *

Off

2.7.4 Successful Decode Prompt Audio Frequency Setting (Tone)

1 *

2

3

Custom

2.7.5 Successful Decode Prompt Duration Setting

Long *

Short

2.7.6 Error Warning Prompt Frequency Setting (Tone)

There will be four consecutive error warning tones if data transmission fails, and a single error warning tone when the unrecognized configuration code is scanned.

Low *

Middle

High

2.8 Prefix and Suffix Configuration

2.8.1 Start Character

None*

STX

2.8.2 Terminal Character

CR / LF*

TAB

ETX

Enter

LF

None

2.9 Custom Prefix

2.9.1 Output Options

Off *

On

2.9.2 Edit

Clear All Custom Prefix

Set Custom Prefix

(Please set up ID Table ,Data, and edit barcode refer to the appendix after scanning.)

2.10 Custom Suffix

2.10.1 Output Options

Off *

On

2.10.2 Edit

Clear All Custom Suffix

Set Custom Suffix

(Please set up ID Table ,Data, and edit barcode refer to the appendix after scanning.)

2.11 Code ID

2.11.1 Output Options

Off *

Before Switch on

After Switch on

2.11.2 Edit

Clear All Custom Prefix

Set Custom Prefix

(Please set up ID Table ,Data, and edit barcode refer to the appendix after scanning.)

2.12 AIM ID

2.12.1 Output Options

Off *

Before Switch on

After Switch on

2.13 Barcode Prefix and Suffix Order Selection

2.13.1 Prefix

Start Character+CODE ID+AIM ID+Custom Prefix *

Start Character+ Custom Prefix + CODE ID+AIM ID

2.13.2 Suffix

Custom Suffix+CODE ID+AIM ID+Terminal Character *

CODE ID+AIM ID+Custom Suffix+Terminal Character

2.14 Inverse Color Barcode Selection

(Only 1D/ DataMatrix / Aztec)

Normal Color

Inverse Color

Both (Normal / Inverse)

2.15 Center Mode

On

Off *

Chapter 3 – Symbology

3.1 Enable / Disable All barcodes

Enable all barcodes will low down decoding speed. So, we suggest you switch on scanner when needed. (Default is switch on state)

Enable All

Disable All

3.1.1 Enable / Disable All 1D barcodes

Enable All

Disable All

3.1.2 Enable / Disable All 2D barcodes

Enable All

Disable All

***Note**:* For the default values of each symbology's length within range, please refer to Appendix C**.**

3.2 Codabar

Enable

Disable

3.2.1 Codabar Start / Terminal Character

Not Send Codabar Start/Terminal Character *

Send Codabar Start/Terminal Character

3.2.2 Set Length Range For Codabar

Minimum Length（0~50bit）

Maximum Length（0~50bit）

3.3 Code 39

Enable

Disable

3.3.1 Code 39 Parity Check

Disable *

Enable But Not Transfer

Enable & Transfer

3.3.2 Code 39 Full ASCII

Enable

Disable *

3.3.3 Set Length Range For Code 39

Minimum Length（0~50bit）

Maximum Length（0~50bit）

3.3.4 Code 32 (Enable code39 first)

Enable

Disable

3.3.5 Code 32 Prefix

Enable

Disable

3.4 Interleaved 2 of 5 (ITF25)

Enable

Disable

3.4.1 Interleaved 2 of 5 (ITF25) Check Bit

Disable Check Bit *

Enable Check and Not Send Check Bit

Enable Check & Send Check Bit

3.4.2 Interleaved 2 of 5 (ITF25) Length Selection

Random Length（6-50bit）*

6 Bit

8 Bit

10 Bit

12 Bit

14 Bit

16 Bit

18 Bit

20 Bit

22 Bit

24 Bit

3.4.3 Set Length Range For Interleaved 2 of 5

Minimum Length（0~50bit）

Maximum Length（0~50bit）

3.4.4 Febraban Decode

On

Off *

3.5 Industrial 2 of 5

Enable

Disable

3.5.1 Set Length Range For Industrial 2 of 5

Minimum Length（0~50bit）

Maximum Length（0~50bit）

3.6 Matrix 2 of 5 (4-24bit)

Enable

Disable

3.6.1 Set Length Range For Matrix 2 of 5

Minimum Length（0~50bit）

Maximum Length（0~50bit）

3.7 Code 93

Enable

Disable

3.7.1 Set Length Range For Code 93

Minimum Length（0~50bit）

Maximum Length（0~50bit）

3.8 Code 11

Enable

Disable

3.8.1 Code 11 Parity Check Output

Enable

Disable *

3.8.2 Code 11 Parity Selection

Disable *

1 Bit

2 Bit

3.8.3 Set Length Range For Code 11

Minimum Length（0~50bit）

Maximum Length（0~50bit）

3.9 Code 128

Enable

Disable

3.9.1 Set Length Range For Code 128

Minimum Length（0~50bit）

Maximum Length（0~50bit）

3.10 GS1-128

Enable

Disable

3.10.1 GS1 AI

No *

Apply

Apply with Separator

3.11 UPC-A

Enable

Disable

3.11.1 UPC-A Check Bit

Send UPC-A Check Bit *

Not send UPC-A Check Bit

3.11.2 UPC-A Convert to EAN-13

Disable UPC-A convert to EAN-13 *

Enable UPC-A convert to EAN-13

3.11.3 Do Not Send UPC-A Lead-digit

Do Not Send UPC-A Lead-digit

3.12 UPC-E

Enable

Disable

3.12.1 UPC-E Check Bit

Send UPC-E Check Bit *

Not send UPC-E Check Bit

3.12.2 UPC-E Expand to UPC-A

Enable

Disable *

3.12.3 Do Not Send UPC-E Lead Digit

Do Not Send UPC-E Lead Digit

3.13 EAN/JAN-8

Enable

Disable

3.13.1 EAN-8 Convert to EAN-13

Disable EAN-8 convert to EAN-13

Enable EAN-8 convert to EAN-13

3.13.2 EAN-8 Check Digit

Send EAN-8 Check Digit *

Do Not Send EAN-8 Check Digit

3.14 EAN/JAN-13

Enable

Disable

3.14.1 UPC/EAN/JAN Add on code

Ignore UPC/EAN/JAN *

Decode UPC/EAN/JAN

Custom UPC/EAN/JANA add on code

3.14.2 EAN13 Convert to ISBN

Enable

Disable *

3.14.3 EAN13 Convert to ISSN

Enable

Disable *

3.14.4 EAN13 Check Digit

Send EAN-13 Check Digit *

Do Not Send EAN-13 Check Digit

3.15 GS1 DataBar (RSS14)

Enable

Disable

3.15.1 GS1 DataBar Limited

Enable

Disable

3.15.2 GS1 DataBar Expanded

Enable

Disable

3.16 PDF417

Enable

Disable

3.17 Micro PDF417

Enable

Disable

3.18 QR Code

Enable

Disable

3.19 QR Code URL Link

Enable

Disable

3.20 Micro QR

Enable

Disable

3.21 Data Matrix

Enable

Disable

3.22 Aztec Code

Enable

Disable

Appendix A –
ASCII Character Sets

A-1 Visible Character ASCII Table

Decimal	Hexadectimal	Character	Decimal	Hexadectimal	Character	Decimal	Hexadecimal	Character
32	20	<SPACE>	64	40	@	96	60	`
33	21	!	65	41	A	97	61	a
34	22	“	66	42	B	98	62	b
35	23	#	67	43	C	99	63	c
36	24	$	68	44	D	100	64	d
37	25	%	69	45	E	101	65	e
38	26	&	70	46	F	102	66	f
39	27	‘	71	47	G	103	67	g
40	28	(	72	48	H	104	68	h
41	29	)	73	49	I	105	69	i
42	2A	*	74	4A	J	106	6A	j
43	2B	+	75	4B	K	107	6B	k
44	2C	,	76	4C	L	108	6C	l
45	2D	-	77	4D	M	109	6D	m
46	2E	.	78	4E	N	110	6E	n
47	2F	/	79	4F	O	111	6F	o
48	30	0	80	50	P	112	70	p
49	31	1	81	51	Q	113	71	q

Decimal	*Hexadectimal*	Character	Decimal	*Hexadectimal*	Character	Decimal	*Hexadecimal*	*Character*
50	*32*	*2*	*82*	*52*	*R*	*114*	*72*	*r*
51	*33*	*3*	*83*	*53*	*S*	*115*	*73*	*s*
52	*34*	*4*	*84*	*54*	*T*	*116*	*74*	*s*
53	*35*	*5*	*85*	*55*	*U*	*117*	*75*	*u*
54	*36*	*6*	*86*	*56*	*V*	*118*	*76*	*v*
55	*37*	*7*	*87*	*57*	*W*	*119*	*77*	*w*
56	*38*	*8*	*88*	*58*	*X*	*120*	*78*	*x*
57	*39*	*9*	*89*	*59*	*Y*	*121*	*79*	*y*
58	*3A*	*:*	*90*	*5A*	*Z*	*122*	*7A*	*z*
59	*3B*	*;*	*91*	*5B*	*[*	*123*	*7B*	*{*
60	*3C*	*<*	*92*	*5C*	**	*124*	*7C*	*|*
61	*3D*	*=*	*93*	*5D*	*]*	*125*	*7D*	*}*
62	*3E*	*>*	*94*	*5E*	*^*	*126*	*7E*	*~*
63	*3F*	*?*	*95*	*5F*	*_*			

A-2 Barcode Type ID Table

Code type	HEX	CODE ID(Default)
All codes	99	
Codabar	61	a
Code128	6A	j
Code32	3C	<
Code93	69	i
Code39	62	b
Code11	48	H
EAN-13	64	d
EAN-8	64	d
GS1 DataBar	52	R
GS1-128 (EAN-128)	6A	j
2 of 5		
Interleaved 2 of 5	65	e
Matrix 2 of 5	76	v
Industry 2 of 5/IATA	44	D
UPC-A	63	c
UPC-E	63	c
ISBN	42	B
ISSN	6E	n
MSI	6D	m
Aztec Code	7A	z
DataMatrix	75	u
PDF417	72	r
Micro PDF417	53	S
QR Code	51	Q
Micro QR Code	51	Q

A-3 AIM ID Table

Code type	AIM ID	Description
Codabar	]Fm	m: 0~1
Code128	]C0	m: 0, 1, 2, 4
Code32	]A0	
Code93	]G0	
Code39	]Am	m: 0, 1, 3, 4, 5, 7
Code11	]Hm	m: 0, 1, 3, 8, 9
EAN-13 / EAN-8	]Em	m: 0, 1, 3, 4
GS1 DataBar	]e0	
GS1-128 (EAN-128)	]C1	
Interleaved 2 of 5	]Im	m: 0, 1, 3
Matrix 2 of 5	]X0	
Industry 2 of 5	]S0	
UPC-A/ UPC-E	]Em	m: 0, 3
ISBN	]X0	
ISSN	]X0	
Aztec Code	]z0	
DataMatrix	]dm	m: 0~6
PDF417 / Micro PDF417	]Lm	m: 0~5
QR Code / Micro QR Code	]Qm	m: 0~6

A-4 Control Character Set (USB keyboard mode)

Decimal	*Hexadecimal*	*Corresponding key value (disable CODE ID)*	Corresponding key value (enable CODE ID)
0	00	reserve	Ctrl+@
1	01	Insert	Ctrl+A
2	02	Home	Ctrl+B
3	03	End	Ctrl+C
4	04	Delete	Ctrl+D
5	05	PageUp	Ctrl+E
6	06	PageDown	Ctrl+F
7	07	ESC	Ctrl+G
8	08	Backspace	Ctrl+H
9	09	Tab	Ctrl+I
10	0A	Enter (The configuration of CRLF processing decide how it express)	Ctrl+J
11	0B	Caps Lock	Ctrl+K
12	0C	Print Screen	Ctrl+L
13	0D	Enter (The configuration of CRLF processing decide how it express)	Ctrl+M
14	0E	Scroll Lock	Ctrl+N
15	0F	Pause/Break	Ctrl+O
16	10	F11	Ctrl+P
17	11	Direction key ↑	Ctrl+Q
18	12	Direction key ↓	Ctrl+R
19	13	Direction key ←	Ctrl+S
20	14	Direction key →	Ctrl+T
21	15	F12	Ctrl+U
22	16	F1	Ctrl+V
23	17	F2	Ctrl+W
24	18	F3	Ctrl+X
25	19	F4	Ctrl+Y
26	1A	F5	Ctrl+Z

27	1B	F6	Ctrl+[
28	1C	F7	Ctrl+\
29	1D	F8	Ctrl+]
30	1E	F9	Ctrl+^
31	1F	F10	Ctrl+_

A-5 Control Character Set (RS232, USB, VCP)

Decimal	Hexadecimal	Character
0	00	NUL
1	01	SOH
2	02	STX
3	03	ETX
4	04	EOT
5	05	ENQ
6	06	ACK
7	07	BEL
8	08	BS
9	09	HT
10	0A	LF
11	0B	VT
12	0C	FF
13	0D	CR
14	0E	SO
15	0F	SI
16	10	DLE
17	11	DC1
18	12	DC2
19	13	DC3
20	14	DC4
21	15	NAK
22	16	SYN
23	17	ETB
24	18	CAN
25	19	EM
26	1A	SUB
27	1B	ESC
28	1C	FS

Decimal	Hexadecimal	Character
29	1D	GS
30	1E	RS
31	1F	US

Appendix B – Numeric Barcodes

B-1 Data and Edit barcode

0

5

1

6

2

7

3

8

4

9

A

B

C

D

E

F

Cancel current setting

Cancel a string of data from previous read

Cancel the data from previous read

Save

Appendix C – The Default Value Of Each Symbology's Length Within Range

Symbology	Default Minimum Length	Default Maximum Length
Codabar	4	50
Code 93	4	50
Code 39	4	50
Code 32	4	50
Interleaved 2 of 5	6	50
Code 11	4	50
Industrial 2 of 5	4	50
Matrix 2 of 5	4	50
GS1 DataBar Omnidirectional	4	50
PDF 417	ANY LENGTH	ANY LENGTH
Micro PDF417	ANY LENGTH	ANY LENGTH
UPC-A	4	50
UPC-E	4	50
EAN-8	4	50
EAN-13	4	50
Code 128	4	50
GS1 128	4	50
ISBT 128	4	50
Data Matrix	ANY LENGTH	ANY LENGTH
QR Code	ANY LENGTH	ANY LENGTH
QR Code URL Link	ANY LENGTH	ANY LENGTH
Micro QR Code	ANY LENGTH	ANY LENGTH
Aztec	ANY LENGTH	ANY LENGTH