Wireless 2D Barcode Scanner

- MS822B -

User Manual

Version 2.4

Change Log

Date	Change Description	Version
2023/04/28	first published version	1.0
2023/06/08	Update 2.6 Auto Power Off After Idle	1.1
2023/08/08	1. Update 3.1.3 Return to Factory Default for all Symbologies 2. Update 3.3.4 Code 32 (Enable Code 39 first) – Change Default from Enable to Disable	1.2
2023/10/25	Add Presentation Mode	1.3
2023/11/02	Add Specification Descriptions	1.4
2024/04/26	Add Auto Presentation Mode	1.5
2024/05/30	Add Febraban Decode	1.6
2024/06/12	Add Center Mode	1.7
2024/06/13	Add Output Method	1.8
2024/08/15	Update IP Rating (IP42 > IP52)	1.9
2024/12/27	Update Ch. 2.3.2, 2.9 & 2.10	2.0
2025/02/03	Add GS1 AI & GS Character Conversion	2.1
2025/04/08	Update IP Rating	2.2
2025/07/14	Update IP Rating	2.3
2025/07/23	Add Inverse 2D Symbologies	2.4

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.

Canada, Industry Canada (IC) Notices

This device complies with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Canada, avis d'Industry Canada (IC)

Le présentappareilestconf orme aux CNR d' Industrie Canada applicables aux appareils radio exempts de licence. L'exploitationestautorisée aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage, et

(2) l' utilisateur de l'appareildoit accepter tout brouillageradioélectriquesubi, mêmesi le

brouillageest susceptible d'encompromettre le fonctionnement.

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

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

低功率電波輻射性電機管理辦法

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。應避免影響附近雷達系統之操作。高增益指向性天線只得應用於固定式點對點系統。

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. It is recommended to charge the battery to at least 30% every six months to ensure optimal performance and longevity. Despite Unitech’s safety precautions, the battery pack may experience changes in shape or swelling. 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.
- 電池若未正確更換，可能會爆炸。請用原廠建議之同款或同等級的電池來更換。請依原廠指示處理廢電池。
- 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

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

Figure 1 – Warning label (IEC 60417-6044)

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 & Africa**	
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
Mainland China		**Japan**	
Tel:	+86-59-2310-9966	**Tel:**	+81-3-62310896
E-mail:	info@cn.ute.com	**E-mail:**	info@unitech-japan.co.jp
Address:	Room401C, 4F, RIHUA International Mansion, Xinfeng 3nd Road, Huoju Hi-tech District, Xiamen, Fujan, China	**Address:**	3F Tosei Building, 18-10, Nihonbashi-Hakozakicho, Cyuouku, Tokyo 103-0015, Japan
Website:	http://cn.ute.com	**Website:**	https://jp.ute.com
Asia & Pacific / Middle East		**Latin America**	
Tel:	+886-2-27911556	**Tel:**	+52-55-5171-0528
E-mail:	info@tw.ute.com	**E-mail:**	info@latin.ute.com
Address:	4F., No. 236, ShinHu 2nd Rd., NeiHu Chiu, 114, Taipei,Taiwan	**Address:**	Av Insurgentes Sur Nro. 859-Segundo Piso Colonia Nápoles - Delegación Benito Juárez - CP03810 CDMX
Website:	http://apac.ute.com	**Website:**	http://latin.ute.com
North America		**Please scan QRCode to visit us:**	
Tel:	+1-714-8916400		
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 MS822B gift box.
If something is missing or damaged, please contact your Unitech representative.

The standard package (with 2.4 G Cradle only):

- MS822B Scanner
- Cradle integrated with 2.4G Dongle and Cable
- Quick Start Guide

1.2 Product Detail

- Scanner details

1.3 Specifications

Optical & Performance	
Sensor	CMOS Sensor, 1280 x 800 pixels
Aiming Element	Aiming : 625 nm LED
Illumination	Color temperature 6000-6500K
Ambient Light	0-100,000 Lux
Scan Rate	60 fps
Skew Angle	±65°
Pitch Angle Sensor	±65°
Memory	4 MB
Optical Resolution	3mil (code 39) 3mil (EAN13)
Depth of Field	13 mil EAN13 Near 50 mm Far 510 mm
Communication	
Radio	2.4G Wireless
Wireless Coverage	2.4G: 100M (line of sight)
Bluetooth	V4.2 Class II
Bluetooth Coverage	10M
Interface/ Profile	2.4G: USB Bluetooth®: HID, BLE ,SPP
Host Interface supported	USB Type-C
Mechanical	
Dimension	161mm × 72mm × 96.5mm (L x W x H)
Weight	180 g
Trigger Switch Life	1,000,000 time
Cradle Dimension	106mm x 80.5mm X 70mm (L x W x H)
Functionality	
Operation Mode	Trigger Mode, Presentation Mode, Buffer Mode

Regulatory Approvals	
CE, FCC, BSMI, VCCI, NCC, TELEC, IC, UKCA	
Symbologies	
1D	Codabar, Code11, Code39, Code32, Interleaved 2 of 5, Industrial 2 of 5, Matrix 2 of 5,Code93, Code128, GS1-128, UPC-A, UPC-E, EAN 8, EAN 13, GS1 DataBar (RSS14), GS1 DataBar Limited, GS1 DataBar Expanded, etc
2D	PDF417, Micro PDF417, QR Code, Micro QR, Data Matrix, Aztec Code
Data Formatting	Prefix, Suffix, Code ID
Electrical	
Operation Voltage	DC 5V
Current Consumption	Operation mode:＜290mA Standby mode: ＜55mA
Indicator	Buzzer LED light
Battery Type	Lithium-ion
Battery Capacity	2600mAh 18650 battery
Battery Charging time	Fully charged in 6 hours
Operating Time	Over 40 hours
Environmental	
ESD Protection	Functional after 4K Contact and 8K Air
Mechanical Shock	1.5m onto concrete (scanner only)
Operating Temperature	-10°C to 50°C
Storage Temperature	-20°C to 60°C
Relative Humidity	5% to 95% non-condensing
IP Rating	IP52
Package Contents	
The Standard Package: • MS822B scanner • Cradle integrated with 2.4G Dongle and cable	

1.4 Getting Started

1.4.1 Test & Finish

Open a word processing program such as Microsoft Word or Notepad and scan the following barcode:

If the word “Unitech” appears on the screen, you have successfully installed your scanner.

Note: The aiming beam can be **centered** over the barcode with any direction and have the proper alignment for a good read. (see example below)

1.5 Battery Charging

Please charge your scanner with the cradle by connecting the cradle with host PC, or by connecting the cradle to an AC power adaptor into the electrical outlet through USB cable.

Please make sure scanner and the cradle are both facing front while charging the MS822B (please refer to the picture below).

1.6 LED & Beeper Indicator

Status	Red LED	Green LED	Blue LED	Buzzer/Beeper
Charging	Red LED Always On			
Fully Charged	Red LED Off			
Power On		Green LED Slow Flash under 2.4G Mode	Blue LED Slow Flash under Bluetooth Mode	One Long Beep
Pairing with 2.4G Cradle		Green LED Blinks		
Under Bluetooth pairing Mode			Blue LED Blinks	
Bluetooth SPP/BLE Pairing			Blue LED Blinks	
USB connected successfully		Green LED Always On under 2.4G Mode	Blue LED Always On under Bluetooth Mode	One Short Beep
Connected to 2.4G Cradle successfully		Green LED Always On		One Short Beep
Bluetooth Connected successfully			Blue LED Always On	One Short Beep
Barcode Good Read		Green LED Quick Flash under 2.4G Mode	Blue LED Quick Flash under Bluetooth Mode	One Short Beep
Wireless Setting		Green LED Flash under 2.4G Mode	Blue LED Flash under Bluetooth Mode	
Bluetooth transmission Fail			Blue LED Flash	Three Short Beeps
Data Transmission Mode Setting Success		Green LED Flash under 2.4G Mode	Blue LED Flash under Bluetooth Mode	Two High-Low short Beeps
Data uploading under Batch Mode		Green LED turns off under 2.4G	Blue LED turns off under Bluetooth Mode	

		Mode		
Data Finish uploading under Batch Mode		Green LED turns back to always on under 2.4G Mode	Blue LED turns back to always on under Bluetooth Mode	Two High-Low Short Beeps
Clear All Data under Batch Mode		Green LED turns off, then turned back on after Clear All Data is completed.	Blue LED turns off, then turned back on after Clear All Data is completed.	
Power Off Automatically		Green LED turns off under 2.4G Mode	Blue LED turns off under Bluetooth Mode	Two High-Low Short Beeps
USB Disconnected		Green LED turns from Always On to Slow Flash under 2.4G Mode	Blue LED turns from Always On to Slow Flash under Bluetooth Mode	Three Short Beeps
2.4G Cradle Disconnected		Green LED turns from Always On to Slow Flash		Three Short Beeps
Bluetooth Disconnected			Blue LED turns from Always On to Slow Flash	Three Short Beeps
Flash Memory Full		Green LED Flash under 2.4G Mode	Blue LED Flash under Bluetooth Mode	Three Short Beeps
Data Upload Fail		Green LED Flash under 2.4G Mode	Blue LED Flash under Bluetooth Mode	Three Short Beeps
Power Off Automatically due to Lack of Power		Green LED turns off under 2.4G Mode	Blue LED turns off under Bluetooth Mode	Three Short Beeps with High-Low Beep

Chapter 2 – Command Setting

2.1 Scanner Type

2.1.1 Wireless 2.4G Setting

2.4 G Mode * 	
Pairing with Cradle 	***Note***: Scanner will enter one minute auto-pairing mode by scanning the “Pairing with Cradle” barcode (LED flash), take out the scanner from the cradle and insert again to pair, you will hear one beep if success.

2.1.2 Wireless Communication Mode

Bluetooth HID 	
Bluetooth HID Pairing 	***Note***: By scanning the Bluetooth pairing mode, Bluetooth can be searched by other Bluetooth devices. Default is 2.4G mode, if you want to enter Bluetooth mode after factory default, scan the barcode again to finish setting.

Bluetooth BLE Mode	***Note***: If you set the Bluetooth BLE mode, it will automatically connect to the Bluetooth paired last time. If you cannot connect to Bluetooth, it will automatically enter advertising state and can be paired directly.
Bluetooth SPP Mode	***Note***: If you set the Bluetooth SPP mode, it will automatically enter advertising state and can be paired directly.

Note: For more Bluetooth settings, please refer to 2.6 Bluetooth.

2.1.3 USB Interface Mode

USB-HID *

USB-COM

2.2 Factory Default

Factory Default

2.3 Operation Mode

Wedge Mode *

Batch Mode

Auto Mode

2.3.1 Data & Memory

Upload all data

Clear all data

Note: Clear all data mode is only effective under Batch mode.

Display stored data

2.3.2 Auto Presentation Mode

Off

On

2.4 Bluetooth

2.4.1 Bluetooth Name Setting

- **Bluetooth Name Barcode Definition**

^&C0C&^XXX

1. Fixed front character“^&C0C&^”,‘XXX’ is the name of the setting.
2. Setting the maximum length of the name: 24 bytes.

- **Bluetooth Name Default**

^&C0E&^

Note: Setting the Bluetooth name to factory default will automatically erase the set Bluetooth name. Alternatively, scanning for factory reset will also clear the customized Bluetooth name.

- **Get Bluetooth Name**

^&C10&^

Note: Only in HID/SPP/BLE mode can the Bluetooth name be obtained successfully, otherwise it will fail.

- **Get Bluetooth Address**

^&C11&^

Note: Only in HID/SPP/BLE mode can the Bluetooth address be obtained successfully, otherwise it will fail. The Bluetooth address cannot be displayed and can only be viewed through debugging with a serial port.

2.4.2 Show & Hide the HID Virtual Keyboard in IOS

Show & Hide the HID Virtual Keyboard in IOS

2.4.3 Bluetooth HID Transfer Rate Setting

High

Fast

Medium *

Ultra-Low

2.4.4 Encoding

Keyboard Function Key

Send Chinese Characters *

Send ASCII

2.5 Data Terminator

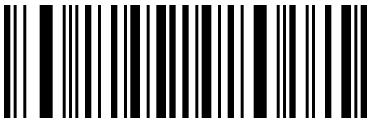
CR *

CR/LF

LF

None

TAB



2.6 Auto Power Off After Idle

Immediate Sleep

30s

1 min

2 mins

5 mins *

10 mins

30 mins

***Note:**

The Auto Power Off After Idle may have a ±5s gap. The calculation method for Auto Power Off is from the release of the button to the shutdown of the scanner.

2.7 Beeper Control

2.7.1 Scanner Beeper Control

Off

Note: The Off Code only turns off the short high beep of data send, the setting sound still exists

High *

Medium

Low

2.7.2 Cradle Beeper Control

Off

On *

2.8 Language Settings

USA *

German

France

Italy

Canadian

Spain

Brazil

Sweden

Portugal

Belgium

Turkey-F

Turkey-Q

Italian14

Netherlands

Poland

Finland

Latin America

Serbia

Hungary

Denmark

Norway

Japan

2.9 Center Mode

Note: To enable this feature, the firmware version must have a Build Time later than April 18, 2024.

Off *

On

2.10 Output Method

USB Priority Output *

Simultaneous Output
(USB, 2.4G & Bluetooth)

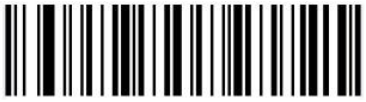
2.4G & Bluetooth Priority

2.11 Version Display

Display Firmware Version

Display Cradle Version

Build Time



2.12 GS1 AI

No *

Apply

Apply with Separator

2.13 GS Characters Conversion

None *

GS Converts To <GS>

GS Converts To |

GS converts to]

GS Converts To ^]

Chapter 3 – Symbology

3.1 Enable / Disable All Symbologies

Enable all barcodes may slow down decoding speed. We suggest you to enable the barcode depend on your need. (Default is Enable All)

Enable All *

Disable All

3.1.1 Enable / Disable All 1D Symbologies

Enable All *

Disable All

3.1.2 Enable / Disable All 2D Symbologies

Enable All *

Disable All

3.1.3 Return to Factory Default for all Symbologies

Factory Default

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

3.1.4 Enable / Disable Inverse 2D Symbologies

Enable

Disable*

3.2 Codabar

Enable *

Disable

3.2.1 Codabar Start / Stop Character

Do Not Transmit Codabar Start/ Stop Character *

Transmit Codabar Start/ Stop Character

3.2.2 Set Length Range For Codabar

Minimum Length（0~50bit）

Maximum Length（0~50bit）

3.3 Code 39

Enable *

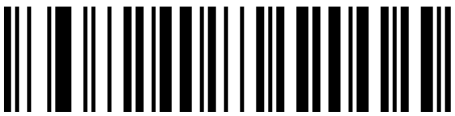
Disable

3.3.1 Code 39 Check Character Verification

Disable *

Do Not Transmit Check Character (Enable)

Transmit Check Character (Enable)



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 Code 39 first)

Enable

Disable*

3.4 Interleaved 2 of 5

Enable *

Disable

3.4.1 Interleaved 2 of 5 Check Character Verification

Disable *

Do Not Transmit Check Character (Enable)

Transmit Check Character (Enable)

3.4.2 Set Length Range for Interleaved 2 of 5 (ITF25)

Random Length (4-24bit) *

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

Enable *

Disable

3.6.1 Set Length Range For Matrix 2 of 5

Minimum Length（0~50bit）

Maximum Length（0~50bit）

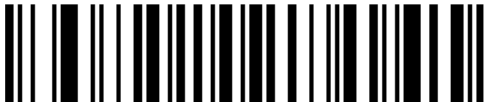
3.7 Code 93

Enable *

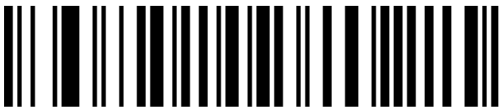
Disable

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 Transmit Code 11 Check Character

Enable

Disable *

3.8.2 Code 11 Check Character 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

3.10 GS1-128

Enable *

Disable

3.11 Set Length Range for Code 128

Minimum Length（0~50bit）

Maximum Length（0~50bit）

3.12 UPC-A

Enable *

Disable

3.12.1 Transmit UPC-A Check Character

Transmit UPC-A Check Character *

Do Not Transmit UPC-A Check Character

3.12.2 UPC-A Convert to EAN-13

Enable

Disable *

3.12.3 Do Not Send UPC-A Lead-digit

Do Not Send UPC-A Lead-digit

3.13 UPC-E

Enable*

Disable

3.13.1 Transmit UPC-E Check Character

Transmit UPC-E Check Character *

Do Not Transmit UPC-A Check Character

3.13.2 UPC-E Expand to UPC-A

Enable

Disable *

3.13.3 Do Not Send UPC-E Lead Digit

Do Not Send UPC-E Lead Digit

3.14 EAN/JAN-8

Enable *

Disable

3.14.1 EAN-8 Check Digit

Send EAN-8 Check Digit *

Do Not Send EAN-8 Check Digit

3.15 EAN/JAN-13

Enable *

Disable

3.15.1 EAN-13 Check Digit

Send EAN-13 Check Digit *

Do Not Send EAN-13 Check Digit

3.15.2 UPC/EAN/JAN Add-On code

Ignore UPC/EAN/JAN *

Decode UPC/EAN/JAN

Custom UPC/EAN/JAN add on code

3.15.3 EAN13 Convert to ISBN

Enable

Disable *

3.15.4 EAN13 Convert to ISSN

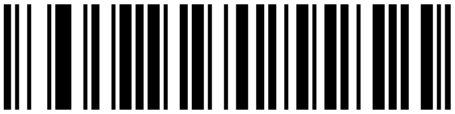
Enable

Disable *

3.16 GS1 DataBar (RSS14)

Enable *

Disable



3.16.1 GS1 DataBar Limited

Enable *

Disable

3.16.2 GS1 DataBar Expanded

Enable *

Disable

3.17 PDF417

Enable *

Disable

3.18 Micro PDF417

Enable *

Disable

3.19 QR Code

Enable *

Disable

3.20 QR Code URL Link

Disable*

Enable

3.21 Micro QR

Enable *

Disable

3.22 Data Matrix

Enable *

Disable

3.23 Aztec Code

Enable *

Disable

3.24 AIM ID

Disable AIM ID

AIM ID prefix

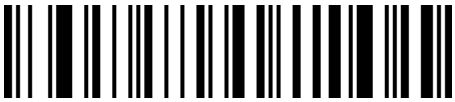
AIM CODE suffix

3.25 Code ID

Disable Code ID*

Code ID Prefix

Code ID Suffix



3.26 Prefix and Suffix Settings

Add Prefix Settings

Add Suffix Settings

Saved and Finish Set

3.26.1 Clear Prefix Settings And Suffix Settings

Clear All Prefixes

Clear All Prefixes and Suffixes

Clear All Suffixes

Note: For more information, please refer to Appendix C – ASCII Code Table.

Appendix A –Digit Barcodes

A.1 Numbers

0~9

0

1

2

3

4

5

6

7

8

9

A.2 Alphabets

A

B

C

D

E

F

A.3 Save Barcode

Save

Appendix B – Hidden Character

B-1 Hide The Previous Character Shortcut Settings

The format is as follows: ^&601&^ to ^&6FF&^,01~FF are hidden digits.

Do not hide the previous characters *

Hide the first 1 bit

Hide the first 2 bits

Hide the first 3 bits

Hide the first 4 bits

Hide the first 5 bits

Hide the first 6 bits

Hide the first 7 bits

Hide the first 8 bits

Hide the first 9 bits

Hide the first 10 bits

Hide the first 11 bits

Hide the first 12 bits

Hide the first 13 bits

Hide the first 14 bits

Hide the first 15 bits

B-2 Shortcut Settings to Hidden back character

The format is as follows: ^&701&^ to ^&7FF&^,01~FF are hidden digits.

Hide the last 1 bit

Hide the last 2 bits

Hide the last 3 bits

Hide the last 4 bits

Hide the last 5 bits

Hide the last 6 bits

Hide the last 7 bits

Hide the last 8 bits

Hide the last 9 bits

Hide the last 10 bits

Hide the last 11 bits

Hide the last 12 bits

Hide the last 13 bits

Hide the last 14 bits

Hide the last 15 bits

Appendix C – ASCII Code Table

Null

SOH(start of headline)

STX (start of text)

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

SP

!

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K

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a

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c

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f

g

h

i

j

k

l

m

n

o

p

q

r

s

t

u

v

w

x

y

z

[

|

]

~

DEL

Caps Lock

Function Key F1

Function Key F2

Function Key F3

Function Key F4

Function Key F5

Function Key F6

Function Key F7

Function Key F8

Function Key F9

Function Key F10

Function Key F11

Function Key F12

PrintScreen

Scroll Lock

Pause

Insert

Home

PageUp

Delete

PageDown

End

RightArrow

LeftArrow

DownArrow

UpArrow

Num Lock(keypad)

/(keypad)

*(keypad)

-(keypad)

+(keypad)

Enter(keypad)

1(keypad)

2(keypad)

3(keypad)

4(keypad)

5(keypad)

6(keypad)

7(keypad)

8(keypad)

9(keypad)

0(keypad)

.(keypad)

Dec	Hex	Char
32	20	<SPACE>
33	21	!
34	22	“
35	23	#
36	24	$
37	25	%
38	26	&
39	27	‘
40	28	(
41	29	)
42	2A	*
43	2B	+
44	2C	,
45	2D	-
46	2E	.
47	2F	/
48	30	0
49	31	1
50	32	2
51	33	3
52	34	4
53	35	5
54	36	6
55	37	7
56	38	8
57	39	9
58	3A	:
59	3B	;
60	3C	<
61	3D	=

Dec	Hex	Char
62	3E	>
63	3F	?
64	40	@
65	41	A
66	42	B
67	43	C
68	44	D
69	45	E
70	46	F
71	47	G
72	48	H
73	49	I
74	4A	J
75	4B	K
76	4C	L
77	4D	M
78	4E	N
79	4F	O
80	50	P
81	51	Q
82	52	R
83	53	S
84	54	T
85	55	U
86	56	V
87	57	W
88	58	X
89	59	Y
90	5A	Z
91	5B	[
92	5C	\
93	5D	]
94	5E	^

Dec	Hex	Char
95	5F	_
96	60	`
97	61	a
98	62	b
99	63	c
100	64	d
101	65	e
102	66	f
103	67	g
104	68	h
105	69	i
106	6A	j
107	6B	k
108	6C	l
109	6D	m
110	6E	n
111	6F	o
112	70	p
113	71	q
114	72	r
115	73	s
116	74	s
117	75	u
118	76	v
119	77	w
120	78	x
121	79	y
122	7A	z
123	7B	{
124	7C	|
125	7D	}
126	7E	~

Appendix D – Adding Ctrl, Shift, Alt and GUI Function Key

During setup, press the button and release accordingly.
If you keep pressing the button without release, it will cause data upload failure, unexpected computer lock screen and other hotkey issues.

L-Ctrl Press

L-Shift Press

L-Alt Press

L-GUI Press

R-Ctrl Press

R-Shift Press

R-Alt Press

R-GUI Press

R-GUI Release

L-Ctrl Release

L-Shift Release

L-Alt Release

L-GUI Release

R-Ctrl Release

R-Shift Release

R-Alt Release

Appendix E – Code ID Table

Symbology	HEX	Code ID
All Symbologies	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 DataBar Limited	52	R
GS1 DataBar Expanded	52	R
GS1-128 (EAN-128)	6A	j
Interleaved 2 of 5	65	e
Matrix 2 of 5	76	V
Industry 2 of 5	44	D
UPC-A	63	c
UPC-E	63	c
ISBN	42	B
ISSN	6E	n
Aztec Code	7A	z
DataMatrix	75	u
PDF417	72	r
Micro PDF417	53	s
QR Code	51	Q
Micro QR Code	51	Q

Dec	Hex	Char
32	20	<SPACE>
33	21	!
34	22	“
35	23	#
36	24	$
37	25	%
38	26	&
39	27	‘
40	28	(
41	29	)
42	2A	*
43	2B	+
44	2C	,
45	2D	-
46	2E	.
47	2F	/
48	30	0
49	31	1
50	32	2
51	33	3
52	34	4
53	35	5
54	36	6
55	37	7
56	38	8
57	39	9
58	3A	:
59	3B	;
60	3C	<
61	3D	=

Dec	Hex	Char
62	3E	>
63	3F	?
64	40	@
65	41	A
66	42	B
67	43	C
68	44	D
69	45	E
70	46	F
71	47	G
72	48	H
73	49	I
74	4A	J
75	4B	K
76	4C	L
77	4D	M
78	4E	N
79	4F	O
80	50	P
81	51	Q
82	52	R
83	53	S
84	54	T
85	55	U
86	56	V
87	57	W
88	58	X
89	59	Y
90	5A	Z
91	5B	[
92	5C	\
93	5D	]
94	5E	^

Dec	Hex	Char
95	5F	_
96	60	`
97	61	a
98	62	b
99	63	c
100	64	d
101	65	e
102	66	f
103	67	g
104	68	h
105	69	i
106	6A	j
107	6B	k
108	6C	l
109	6D	m
110	6E	n
111	6F	o
112	70	p
113	71	q
114	72	r
115	73	s
116	74	s
117	75	u
118	76	v
119	77	w
120	78	x
121	79	y
122	7A	z
123	7B	{
124	7C	|
125	7D	}
126	7E	~

Appendix F – Function Code for USB Keypad

Dec	Hex	Enable Function Code	Disable Function Code
0	00	Save	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	Backspace
9	09	Tab	Tab
10	0A	Enter	Ctrl+J
11	0B	Caps Lock	Ctrl+K
12	0C	Print Screen	Ctrl+L
13	0D	Enter	Enter
14	0E	Scroll Lock	Ctrl+N
15	0F	Pause/Break	Ctrl+O
16	10	F11	Ctrl+P
17	11	Arrow Key ↑	Ctrl+Q
18	12	Arrow Key ↓	Ctrl+R
19	13	Arrow Key ←	Ctrl+S
20	14	Arrow 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

Dec	Hex	Enable Function Code	Disable Function Code
26	1A	F5	Ctrl+Z
27	1B	F6	ESC
28	1C	F7	Ctrl+\
29	1D	F8	Ctrl+]
30	1E	F9	Ctrl+^
31	1F	F10	Ctrl+_

Appendix G – Function Code for Serial Port and USB Virtual Serial Port

Hex	Dec	Char
00	0	NUL (Null char.)
01	1	SOH (Start of Header)
02	2	STX (Start of Text)
03	3	ETX (End of Text)
04	4	EOT (End of Transmission)
05	5	ENQ (Enquiry)
06	6	ACK (Acknowledgment)
07	7	BEL (Bell)
08	8	BS (Backspace)
09	9	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)

Hex	Dec	Char
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)

Appendix H – 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