unitech

Wireless 2D Barcode Scanner

- MS822B -

User's Manual

Version 2.4

Change Log

Date	Change Description	Version
2021/10/19	first published version	1.0
2021/10/21	Update Ch.2.4, Ch3 and Appendix	1.1
2021/10/26	Update Appendix	1.2
2021/11/02	Update Ch.2 and Appendix	1.3
2021/11/16	Update Ch.2 and Ch.3	1.4
2021/12/02	Remove 3.23 Prefix Sequence	1.5
2021/12/07	Update Chapter 2 and Chapter 3	1.6
2021/12/10	Remove 2.5.1 Extended Cache Setting & Update 3.15.2	1.7
2022/02/07	Add 2.16 Center Mode	1.8
2022/03/24	Add Do Not Send UPC-A Lead Digit barcode	1.9
2022/4/14	1. Add 3.14.1 & 3.15.1 2. Update 1.3 IP Rating and Scan Rate 3. Add Appendix H	2.0
2022/5/3	Update 1.3 Specification	2.1
2022/5/23	Update 2.4 (Add Auto Sense Mode)	2.2
2022/6/06	Update USB Interface	2.3
2022/9/26	Change micro USB into USB Type-C	2.4

Preface

About This Manual

Thank you for purchasing the Unitech product.

This manual explains how to install, operate and maintain our product.

No part of this publication may be reproduced or used in any form, or by any electrical or mechanical means, such as photocopying, recording, or information storage and retrieval systems, without permission in writing from the manufacturer. The material in this manual is subject to change without notice. All product and company names are trademarks, service marks, or registered trademarks of their respective owners.

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.

The device has been evaluated to meet general RF exposure requirement.

The device can be used in portable exposure condition without restriction

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.

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.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction. Le matériel a été évalué pour répondre aux exigences générales d'exposition aux radiofréquences.Le dispositif peut être utilisé dans des conditions d 'exposition portables illimitées.

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

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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 MS822B gift box.
If something is missing or damaged, please contact your Unitech representative.

The package contents (without cradle):

- MS822B Scanner with Battery

- USB Type-C Charging Cable

- 2.4G Receiver

- Quick Start Guide

- Regulatory Compliance Statements

Note: Please charge with USB Type-C charging cable.

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

1

1.2 Product Detail

■ Scanner details

LED Indicator ⎯⎯⎯⎯⎯⎯

Scan Window ⎯⎯⎯⎯⎯⎯

Trigger Key

USB Type-C Connector for Charging

1.3 Specifications

| Optical & Performance	
Sensor	CMOS Sensor,640 x 480 pixels
Aiming Element	Red LED
Illumination	White LED
Ambient Light	0-100,000 Lux
Scan Rate	60 fps
Skew Angle	$\pm65°$
Pitch Angle Sensor	$\pm60°$
Roll Angle	0 - 360°
Memory	16MB
Optical Resolution	≥ 3mil(code 39)
Depth of Field	60-310mm (13 mil, EAN13, PCS=90%)
Communication	
Radio	2.4G Wireless
Wireless Coverage	2.4G: 100M(line of sight)
Interface/ Profile	2.4G: USB Bluetooth: HID, BLE ,SPP
Host Interface supported	USB Type-C
Mechanical	
Dimension	174mm × 72mm × 96mm (L x W x H)
Weight	200g
Functionality	
Operation Mode	Trigger Mode, Buffer Mode

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Regulatory Approvals	
CE, FCC, BSMI, VCCI	
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:＜250mA Standby mode:＜48mA
Indicator	Buzzer LED light
Battery Type	Lithium-ion
Battery Capacity	2600mAh 18650 battery
Battery Charging time	Fully charged in 5 hours
Operating Time	Over 16 hours
Environmental	
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 90% non-condensing
IP Rating	IP42
Package Contents	
• MS822B scanner	

- 2.4G Receiver
- USB Type-C Charging Cable

1.4 Getting Started

1.4.1 How to pair the scanner with the receiver

Connect the USB receiver to the host. Plug the USB Receiver to a free USB port of a host computer. The MS822B is now ready to use.
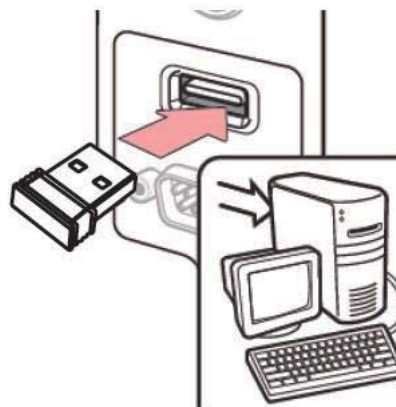
- **LED Description**

Green Light	Slow flash	Scanner is not connected to receiver or USB.
	Flash	Scanner is connected to receiver or USB.
	Quick flash	Entering the pairing mode.
	Flash once	Flash once : Scanned data being uploaded successfully.

Scanner Turn on: Long press the trigger key for 2 seconds until you hear a long beep sound.

1.4.2 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)

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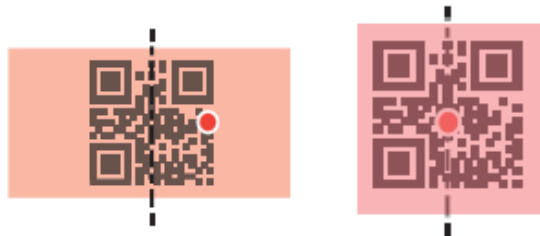
1.5 Battery Charging

Before you use the MS822B for the first time, we strongly recommend charging the battery. It takes approximately 6 hours to fully charge the battery. To charge the scanner without a cradle, please follow the instructions below. Please only use the USB Type-C cable which came with the package.
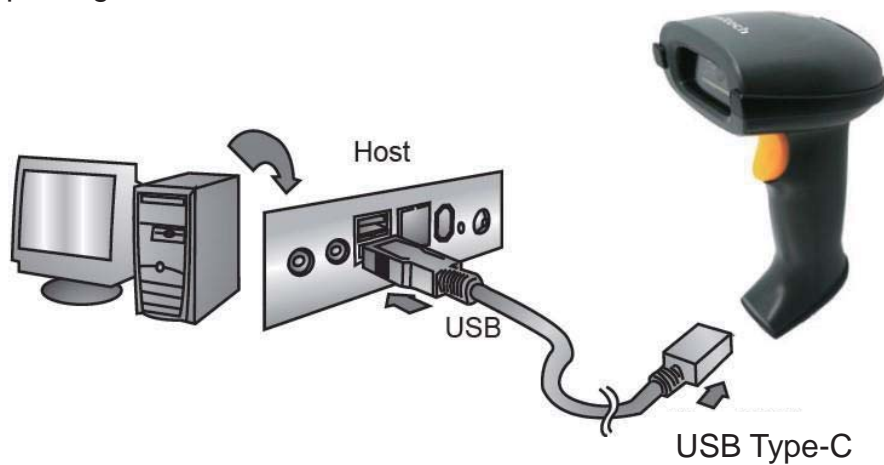
USB Type-C

■ **Charging through USB Type-C cable**

To charge MS822B, please connect scanner with host PC through USB Type-C cable.

1.6 LED / Beeper Indicator

Division	Red LED Light	Green LED Light	Beep / Sound
Battery charging	Red light always on		
Battery Fully charged	Red light out		
Power On			One Long Beep
2.4 G Receiver Pairing		Green light keeps flashing	
Bluetooth Pairing		Green light keeps flashing	
Bluetooth SPP/BLE Pairing		Slow Flash	
USB connection success		Green light always on	One short Beep
2.4 G Receiver connection success		Green light always on	One short Beep
Bluetooth connection success		Green light always on	One short Beep
Barcode Good Read		Green light flash once	One short Beep
Wireless Setting Sound			Two High Beeps
Bluetooth Transmission Failed			Three short Beeps
Mode Setting success			High and Low Beeps
Data saved success			High and Low Beeps
Data upload complete			High and Low Beeps
Auto Power Off			High and Low Beeps
USB disconnection			Three short Beeps
2.4 G Receiver disconnection			Three short Beeps
Bluetooth disconnection			Three short Beeps
Data upload failed			Three short Beeps
Flash memory is full			Three short Beeps
Auto Power Off under Low Battery			Three short Beeps and High and Low Beeps

Chapter 2 – Command Setting

2.1 Scanner Type

2.1.1 Wireless Communication Mode

2.4 G Receiver Mode *

Note: For more information, please refer to • 2.5 Wireless 2.4G Setting.

Bluetooth HID Mode

Note: For more information, please refer to • 2.6.1Bluetooth HID Mode

Bluetooth BLE Mode

Bluetooth SPP Mode

Note:

- *To switch the different scanner type, please do un-pair first and then select the scanner type and redo Bluetooth connection.*

2.1.2 USB Interface Mode

USB-HID *

USB-COM

2.2 Output Method

USB Priority Output*

Simultaneous Output

(USB,2.4G& Bluetooth)

2.3 System Reset

Factory Default

Software Decoder Version

Wireless Version

Build Time

2.4 Operation Mode

Wedge Mode

Batch Mode

Auto Mode *

2.4.1 Auto Sense Mode

Off *

On

2.4.2 Data & Memory

Upload all data

Note: Scan the "Upload all data" code to complete the data transfer.

Clear all data

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

Display stored data

2.5 Wireless 2.4G Setting

2.4G Receiver Mode *

Scan the "2.4G Receiver Mode" barcode to enter the 2.4G receiver mode automatically and connect to the receiver which is matched last time by default.

One scanner pairing to one receiver is the factory default. If you want to pair with a new receiver, please refer to the following instructions.

Pairing with new receiver
There are two ways to pair with the new receiver:
A. Scan the "2.4G Receiver Pairing" barcode.
B. Long press the button for about 16 seconds.

A. Scan the "2.4G Receiver Pairing" barcode
(1) Remove the original receiver.
(2) Scan the following barcode:

2.4G Receiver Pairing

(3) Insert the receiver you want to connect with into your device. You will hear a short beep when pairing succeeds.

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B. Long press the button for about 16 seconds

(1) Remove the original receiver.

(2) Long press the button for about 16 seconds. During the process, there will be 2 sounds respectively; first sound at the 8th second, the second at the 16th second, then release the button.

Long press 16 seconds to Enter 2.4G pairing Mode

Enable

Disable *

Exit 2.4G Pairing:

(1) When the Receiver is matched, it will prompt once and ending pairing.

(2) Double-click the button to exit and it will prompt once.

(3) If the receiver is not connected within 1 minute, it will exit automatically and with 3 beeps.

Note: When exiting the pairing, if the receiver is not connected, it will connect to the receiver which is matched last time automatically by default.

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2.6 Bluetooth

2.6.1 Bluetooth HID Mode

Bluetooth HID Mode

Note: Scan this barcode to enter the "Bluetooth HID Mode" and it will connect to the Bluetooth® which is matched last time automatically by default.

2.6.2 Bluetooth HID Pairing

Bluetooth HID Pairing

1. Enter "Bluetooth HID Pairing" mode:
Scan this barcode to enter the "Bluetooth HID Pairing" mode, or long press 8 seconds until you hear a short beep, then releae the button.

2. Exit "Bluetooth HID Pairing" mode:
(1) Double-click the button, and you will exit the "Bluetooth HID Pairing" mode after one short beep.
(2) If the Bluetooth is not matched within 1 minute, it will exit automatically and with three short beeps.

Enable/Disable "Bluetooth HID Pairing" mode:

Enable

Disable *

2.6.3 Show & Hide the HID Virtual Keyboard in IOS

Show & Hide the HID Virtual Keyboard in IOS

Note: Quick press three times to enable show or hide IOS virtual keyboard function.

2.6.4 Bluetooth HID Transfer Rate Setting

Fast

Medium *

Low

Ultra-low

*Note***:**
1. Fast speed uploading is recommended in IOS.

2. Set the corresponding speed according to the response speed of the phone under Android system.

3. When the uploaded data is messed up and lost, try to turn down the speed.

2.6.5 Bluetooth BLE/SPP Mode

Bluetooth BLE Mode

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Bluetooth SPP Mode

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2.6.6 Bluetooth Name Setting

Bluetooth Name Setting

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^&C0C&^MS822B

The front character "^&C0C&^" is fixed and 'MS822B' is the name that needs to be set.
(For example, if you want to set the scanner name as "123", you will need to create a barcode named "^&C0C&^123".)

Note:
1. The Bluetooth$^\circledR$ name can only be set within 24 bytes.
2. The name of Bluetooth HID/SPP/BLE all changed after modifying.

Bluetooth Name ASCII Setting

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Steps:
1. Scan "Bluetooth Name ASCII Setting" barcode.
2. Please refer to the Appendix C – ASCII Code Table, and scan the contents that needs to be added in sequence.
3. Scan "Save and Finish Setting" barcode below.

Save and Finish Setting

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Note: The Bluetooth® name can only be set within 24 bytes.

Bluetooth Name Default

Note:

Scan the "Bluetooth Name Default" barcode Or the "Factory Default" barcode to clear the customized Bluetooth® names.

2.6.7 Get Bluetooth Name

Get Bluetooth Name

Note: This code only worked under the Bluetooth HID/SPP/BLE mode.

2.6.8 Encoding

Keyboard Function Key *

Send Chinese Characters

Send ASCII

19

2.7 Data Terminator

CR *

CR/LF

LF

None

TAB

2.8 Auto Power Off After Idle

Disable

Immediate Sleep

10s

30s

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1min *

‖‖ ‖‖‖‖‖‖‖ ‖‖‖ ‖‖‖

2min

‖‖ ‖‖‖‖‖‖‖ ‖‖‖ ‖‖

5min

‖‖ ‖‖‖‖‖‖‖ ‖‖ ‖‖

10min

‖‖ ‖‖‖‖‖‖‖ ‖ ‖‖

30min

‖‖ ‖‖‖‖‖‖‖ ‖ ‖‖

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2.9 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

2.10 Good Read Indicator

Default Beeps *

One Beep

22

2.11 Sound Frequency Setting

2048 Hz

2700 Hz

2.12 Battery Display

Display Battery Capacity

2.13 HID Keyboard Case

Normal Letter Case *

All Upper Case

All Lower Case

Case Inversion

2.14 HID Keyboard Language

USA *

German

France

Italy

Canadian

Spain

Brazil

Sweden

Portugal

Belgium

Turkey-F

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

Turkey-Q

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

Italian14

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

Netherlands

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Poland

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Finland

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Latin America

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

Serbia

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Hungary

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Denmark

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Norway

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Japan

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

2.15 GS Characters Conversion

None *

‖█‖█‖█‖█‖█‖█‖

GS Converts To <GS>

‖█‖█‖█‖█‖█‖█‖

GS Converts To |

‖█‖█‖█‖█‖█‖█‖

GS converts to]

‖█‖█‖█‖█‖█‖█‖

GS Converts To ^]

‖█‖█‖█‖█‖█‖█‖

2.16 Center Mode

Off *

‖█‖█‖█‖█‖█‖█‖

On

‖█‖█‖█‖█‖█‖█‖

26

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

Please scan factory default barcode first, then scan the serial port barcode to return to factory default for all symbologies.

Factory Default

Serial Port

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

3.2 Codabar

<div align="center">

Enable *

</div>

<div align="right">

Disable

</div>

3.2.1 Codabar Start / Stop Character

Do Not Transmit Codabar Start/Stop Character *

<div align="right">

Transmit Codabar Start/Stop Character

</div>

3.2.2 Set Length Range For Codabar

Minimum Length（0~50bit）

<div align="right">

Maximum Length（0~50bit）

</div>

29

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

33

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）

||| ||| ||| ||| ||| ||| ||| |||

3.5 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）

39

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

41

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

42

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 *

3.14 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
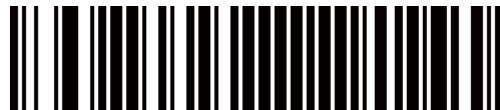
Custom UPC/EAN/JAN add on code

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

|| || ||| || |||| ||| ||| ||| |||

49

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 *
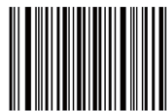
Hide the first 1 bit

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

54

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**

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FS	GS	RS

US	SP	!

"	#	$

%	&	.

(	)	*

+	,	-

.	/	0

1	2	3

4	5	6

7	8	9

:	;	<

=	>	?
‖‖‖‖‖‖‖	‖‖‖‖‖‖‖	‖‖‖‖‖‖‖

@	A	B
‖‖‖‖‖‖‖	‖‖‖‖‖‖‖	‖‖‖‖‖‖‖

C	D	E
‖‖‖‖‖‖‖	‖‖‖‖‖‖‖	‖‖‖‖‖‖‖

F	G	H
‖‖‖‖‖‖‖	‖‖‖‖‖‖‖	‖‖‖‖‖‖‖

I	J	K
‖‖‖‖‖‖‖	‖‖‖‖‖‖‖	‖‖‖‖‖‖‖

L	M	N
‖‖‖‖‖‖‖	‖‖‖‖‖‖‖	‖‖‖‖‖‖‖

O	P	Q
‖‖‖‖‖‖‖	‖‖‖‖‖‖‖	‖‖‖‖‖‖‖

R	S	T
‖‖‖‖‖‖‖	‖‖‖‖‖‖‖	‖‖‖‖‖‖‖

U	V	W
‖‖‖‖‖‖‖	‖‖‖‖‖‖‖	‖‖‖‖‖‖‖

X	Y	Z
‖‖‖‖‖‖‖	‖‖‖‖‖‖‖	‖‖‖‖‖‖‖

[	\	]
‖‖‖‖‖‖‖	‖‖‖‖‖‖‖	‖‖‖‖‖‖‖

^

-

'

a

b

c

d

e

f

g

h

i

j

k

l

m

n

o

p

q

r

s

t

u

v

w

x

y

z

[

l

]

~

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)
‖‖‖‖‖‖‖	‖‖‖‖‖‖‖	‖‖‖‖‖‖‖

61

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)

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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