WBS-2W&WBS-2D Wireless Barcode Scanner User Manual

Notice

✧ 1. Please carefully read the User Manual before using the barcode scanner.

2. All software, including firmware, furnished to the user is on a licensed basis.

3. The right is reserved to make changes to any software or product to improve reliability, function, or design.

4 The material in this manual is subject to change without notice.

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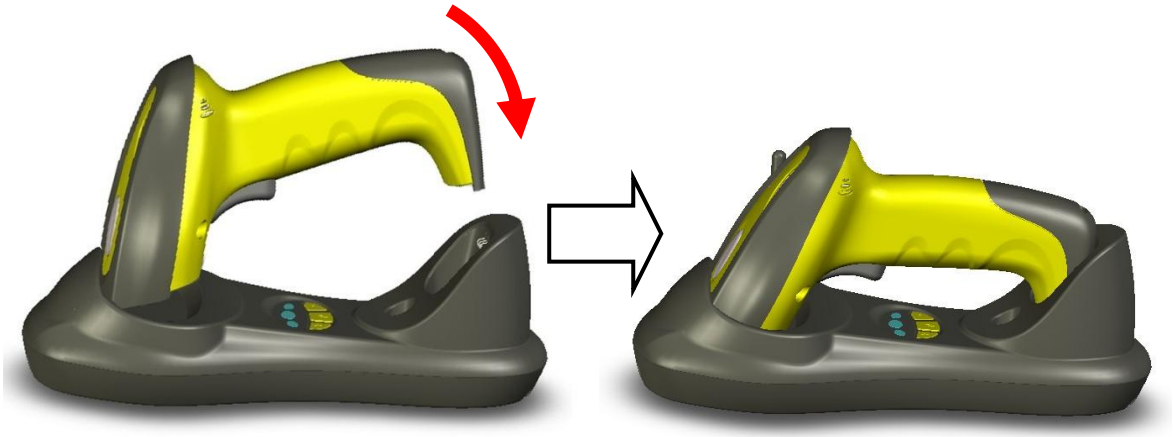
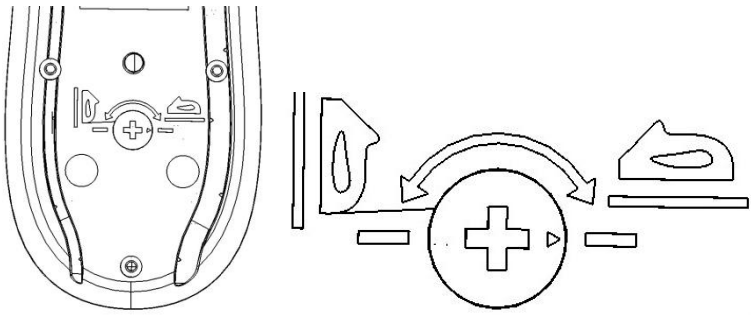
Put the scanner onto the cradle like below picture



Get the scanner from cradle

Cradle Wall Hanging mode adjust

The wall hanging mode adjustment knob at the bottom of the cradle is used to adjust the strength of the base to clamp the scanner. When the cralde is hung on the wall, it needs a greater elasticity than lying on the table to clamp the scanner placed on the cradle. In this case, please rotate the adjustment knob to the arrow and when the cradle is placed on the desktop.Please rotate the knob to ,To make it easier to pick and put



Wall hanging mode adjustment

USB installation

The scanner's standard configuration is equipped with a USB data cable. Connect the USB cable of the cradle as shown below:

1. Connect RJ45 to the data cable connector on the cradle.
2. Plug the other cable side to the host usb port (such as a computer, POS, etc.).
3. The host will automatically detect the scanner. If properly recognized by the system, the cradle indicator light will change from red to blue.。

USB cable

P/S 2 Installation

P/S 2

The wireless scanner can also be connected to the host through the keyboard port. The keyboard port data cable of the scanner is an optional accessory. It is a Y-shaped cable with a 10-pin RJ45 on one end and a 6-pin plug and a 6-pin plug on the other end. The installation method is as follows:

1. Turn off the power of the host (such as a computer) and unplug the keyboard cable.
2. Insert one end of the Y cable RJ45 into the data cable connector on the cradle.
3. Connect the 6-pin plug on the other end of the cable to the keyboard of the device (Note: If you do not need to connect the keyboard, set the “Power-on detection” function to enable the keyboard port of the scanner. This setting is in this user manual. Keyboard interface" in the chapter).
4. Connect the 6-pin plug to the keyboard port of the main unit.
5. Check that all connections are correct.
6. Turn on the power of the host. If the connection is correct, the indicator light of the base will change from red to blue.

Serial data cable installation

The installation method of the scanner RS232 serial data cable is as follows:

1. Turn off the power of the host (such as a computer).
2. Plug one end of the cable crystal plug into the data line connector on the base.
3. Connect the other end to the device's 9-pin serial interface.
4. If the device (pin 9 of the serial interface) does not provide power, connect an external 5 volt power supply to the cable.
5. Turn on the power of the main unit and the external power adapter. If the connection is correct, the indicator light of the base will change from red to blue.。

RS232 cable

Note: When using the serial data cable, the external power adapter should be connected to the serial data cable instead of the power connector of the base.

Charging

The wireless scanner has a built-in lithium battery that provides power to the scanner. The scanner needs to be charged when the battery is running low. The scanner can be charged by put scanner on the cradle

Tip:

1. During use, if the scanner's power indicator is green and blinks continuously, or automatically shuts down immediately after power-on, the scanner is running low on power. At this point, you should charge in time.
2. When charging on the cradle, the power indicator light red indicates charging, and the power indicator is yellow after charging is completed.
3. The battery level of the scanner is queried in real time by scanning the "Battery Power Query" barcode. This barcode is in the “Restore Factory Settings and Information Query” chapter of this user manual.
4. If you need scanner to continue charging after the host (such as a computer or POS) is turned off, the cradle needs to be connected to an external power adapter.

Pair

Adaptive frequency hopping and encrypted wireless communication between the scanner and the cradle. Therefore, when you use scanner in the first time, you need to pair first. The pair process is the process by which the scanner and the cradle exchange encryption keys for wireless communication parameters. Please follow the steps below to pair:

1. Power on the cradle (connected to a computer or connected to an external power)
2. Put scanner on cradle
3. Press and hold the pair button (middle button) on the cradle for a few seconds until you hear the scanner "beep" to complete the pair.

Tips:

1. If you need a cradle to support multiple scanners, just pair each scanner to this cradle(cradle can support up to 99pcs scanner)
2. Need to cancel the pair. You can set the bar code "Communication parameters to restore default settings" by scanning (see chapter Wireless Communication Settings).

Indicator&Button

Scanner Indicator

Status	Left	Right
Scan Success	Bright Red 1sec	Bright Red 1sec
Power on	Green	
Low Power	Green flashing	
Charging	Red flashing	
Finish charge	Yellow	
All data transfer to cradle		Green
Data stored In Scanner		Red
Data memory full		Red flashing

Cradle Indicator

Cradle Indicator	Mean
Right （Green）	Flashing: identifying interface On: interface if identified
Middle（Red）	Flashing: Receiving barcode data On: Data is sending to PC
Left （Green)	Reserve

Cradle Button

Button	Position(Mark)	Function
Channel Decrease	Right Button (-)	Set the communication channel, each time you press the channel number minus 1. Long press to decrease continuously.
Pair	Middle (P)	Press and hold the button for 4 seconds to match the communication parameters of the scanner and cradle.Matching the successful scanner to make a "beep" sound。
Channel increase	Left Button (+)	Set the communication channel, press each channel number plus 1. Long press to increase continuously.

Scanning

The scanner triggers scanning barcodes by both manual and continuous scanning.

Manual mode: The user press the scan trigger on the scanner to start scanner to read.

Continuous Scanning mode: the scan engine is always scanning and decoding. The module will read the barcode which gets into the scanning area automatically. Only when the barcode that has been read gets out of the scanning area, the module can read the next barcode.

Tip: The user can set the scanner's working mode through the "Scan Mode Settings"chapter of this user manual.

When the scanner is triggered, the scanner turns on the illumination and emits red light. When used, the LED illumination light should be completely covered by the read bar code. As shown in below pictures

the Scan Line on the bar code

Programming instruction

The scanner is programmed by scanning the setting barcode in the Manual. There are two kinds of Programming instructions. One of them programmed with Parameter and the other one of them without Parameter.

Programming without Parameter

When programming without parameter, only one setting barcode is need to be scanned. For example, shut down the beeper of the scanner just scan the bar code directly. When it is programmed successful, the scanner issue a “beep beep” sound, but issue a “beep beep beep” sounds when programmed fails.

Mute

Set Defaults And Information Display

Set Factory Defaults

If the barcode scanner does not work properly due to the settings, please set factory default

Default

Note: Restoring the factory settings does not change the communication parameters of the wireless scanner. To restore the communication parameters to their default settings, scan the “Communication Parameters Recovery Defaults” (located in the Wireless Communication Settings chapter of this user manual).

Information query

Scanner serial number query

Host Serial number Display

Communication Information and Battery Power Display

The following two barcodes are only for the wireless barcode scanner. “Battery Power Display” is used to query the power of the wireless battery of the wireless scanner in real time. The "Barcode Gun Communication Channel and ID Number Query" is used to query the current communication parameters.

Battery Power Display

Communication Channel and ID Number or Scanner Display

Interface selection

This scanner supports interfaces such as keyboard wedge, RS-232 serial wedge, and USB interface. Typically, cradle is able to identify the cradle port type automatically. In extreme cases, cradle port may need setting manually if the cradle fails to identify it by PC.

Automatic Identification*

USB

PS/2 Keyboard

RS232

Scan mode setting

Manual mode: Press the button and the scanner turns on the light and starts decoding. After decoding is complete, the scanner automatically turns off the light and signals it.

Manual mode*

Auto-detection scanning Mode: The scanner will start scan Automatically if any object enter the scan area. The laser light of scanner stops scanning when there is a successful reading or no code is decoded after the Stand-by duration elapsed. Once the laser light stops scanning, the present object must be remove away from the scan area to enable Auto-detect sensor.

Select Auto-detection scan

Continuous Scanning mode: the scan engine is always scanning and decoding. The module will read the barcode which gets into the scanning area automatically. Only when the barcode that has been read gets out of the scanning area, the module can read the next barcode.

Select Continuous Scanning mode

Note: Auto-scan mode is only used for bar code scanners with auto-sensing.

Stand automatic mode （Reserve）

By default, when the scanner with auto-sensing is placed on the stand, the scanner automatically turns on the auto-sensing function. The user can also choose to turn off this feature. Please scan the following two barcodes to turn the stand auto mode on or off.

Stand automatic mode on

Stand automatic mode off

Keyboard wedge

When the scanner (cradle) is connected to the host using the keyboard port, you can use this chapter to set the relevant communication parameters. Under normal circumstances, most of the hosts can communicate using the default parameters. For some special hosts, you may need to adjust some specific parameters to communicate properly.

Note: All settings in this chapter will only take effect after pair

Emulated keyboard type

IBM AT,PS/2 *

Other（Reserved）

Keyboard layout

USA*

Italian

French

Turkish F

Turkish Q

Clock period

According to the PS2 protocol, the clock is provided by the device, e.g. keyboard or scanner, with the period between 60us to 200us.

60 us

80 us*

100 us

200 us

Delay-after-compound-key

0 ms*

10 ms

20 ms

40 ms

80 ms

Numeric key

Alphabetic key *

Numeric keypad

Alt+ keypad

Power-on simulation

All of the PCs check the keyboard status during power-on self test. It simulates keyboard timing and passes keyboard present status to the PC during power-on.

Enable

Disable *

Inter-character delay

This delay is inserted after each data character transmitted。

0 ms*

5 ms

10 ms

20 ms

40 ms

80 ms

Inter-byte delay

1 ms*

2 ms

4 ms

8 ms

Caps Lock reversion

Enable Caps Lock *

Disable Caps Lock

Caps Lock override

Enable

Disable*

USB interface

Unlike the common barcode readers that use the P/S2 to USB port, the scanner integrates USB communication circuits and protocols, and automatically recognizes the connection method, thus enabling flexible and reliable data communication. Change the parameters of the USB device according to the specific host.

Note: All settings in this chapter will only take effect after pair

USB device type

Set the type of USB device. By default, it is "HID Emulation Keyboard". Since most devices already have an integrated USB HID device driver, you don't need to install additional software to use the scanner.

HID Keyboard*

Virtual RS232 Port（reserved）

IBM Table Top USB

IBM Hand-Held USB

USB OPOS Hand-Held

Note:If want to use USB virtual COM,need to install drier.

USB Keyboard layout

USA*

German

French

Other

USB Keystroke Delay

No delay*

20 ms

40 ms

USB CAPS Lock Override

Enable*

Disable

USB Ignore Unknown Characters

Enable

Disable*

Emulate Keypad

Enable

Disable*

Simulated Caps Lock

Enable

Disable*

USB Keyboard FN 1 Substitution

Enable

Disable*

RS-232 Interface

When using the RS232 serial port, the parameters such as the baud rate and handshake protocol of the device must be set to be consistent with the host. Otherwise, communication will not be possible.

Note: All settings in this chapter will only take effect after pair

Baud Rate

2400

4800

9600*

19200

38400

57600

115200

Handshaking

No handshake protocol: The scanner only uses RXD and TXD two data lines for communication, and when there is data to be transmitted, it is sent directly to the other party in the agreed format without any form (including software or hardware). . This is the default mode of operation for this device.

None*

Standard RTS/CTS：Scan the bar code below to select Standard RTS/CTS Hardware Handshaking.

Standard RTS/CTS

RTS/CTS Option 1: When RTS/CTS Option 1 is selected, the scanner asserts RTS before transmitting and ignores the state of CTS. The scanner de-asserts RTS when the transmission is complete.

RTS/CTS Option 1

RTS/CTS Option 2: When Option 2 is selected, RTS is always high or low (user-programmed logic level). However, the scanner waits for CTS to be asserted before transmitting data. If CTS is not asserted within Host Serial Response Time-out, the scanner issues an error indication and discards the data

RTS/CTS Option 2

RTS/CTS Option 3: When Option 3 is selected, the scanner asserts RTS prior to any data transmission, regardless of the state of CTS. The scanner waits up to Host Serial Response Time-out for CTS to be asserted. If CTS is not asserted during this time, the scanner issues an error indication and discards the data. The scanner de-asserts RTS when transmission is complete.。

RTS/CTS Option 3

ACK/NAK: When this option is selected, after transmitting data, the scanner expects either an ACK or NAK response from the host. When a NAK is received, the scanner transmits the same data again and waits for either an ACK or NAK. After three unsuccessful attempts to send data when NAKs are received, the scanner issues an error indication and discards the data.

ACK/NCK

ENQ: When this option is selected, the scanner waits for an ENQ character from the host before transmitting data. If an ENQ is not received within the Host Serial Response Time-out, the scanner issues an error indication and discards the data. The host must transmit an ENQ character at least every Host Serial Response Time-out to prevent transmission errors.

ENQ

ACK/NAK with ENQ: This combines the two previous options. For re-transmissions of data, due to a NAK from the host, an additional ENQ is not required.

ACK/NCK with ENQ

XON/XOFF: An XOFF character turns the scanner transmission off until the scanner receives an XON character. There are two situations for XON/XOFF: • XOFF is received before the scanner has data to send. When the scanner has data to send, it waits up to Host Serial Response Time-out for an XON character before transmission. If the XON is not received within this time, the scanner issues an error indication and discards the data. • XOFF is received during a transmission. Data transmission then stops after sending the current byte. When the scanner receives an XON character, it sends the rest of the data message. The scanner waits up to 30 seconds for the XON

XON/XOFF

RTS Line State

If you select the hardware handshake protocol, including all forms of RTS/CTS, you need to set the RTS handshake signal active level according to the actual situation of the host.

Host:Low RTS *

Host:High RTS

Host Serial Response Time-out

2 sec（Default）

5sec

7.5sec

10sec

Data Bits

7 bit

8 bit*

Stop Bit Select

1 Stop Bit（Default）

2 Stop Bit

Parity

None*

Odd

Even

MART

SPACE

Inter character Delay

This parameter specifies the inter character delay inserted between character transmissions

0 ms

5 ms

25 ms

50 ms

75 ms

99 ms

COM command support(only use in wired barcode scanner)

Host can control scanner through COM command,command form:

0X16	Command	parameter 1	parameter 2	Check

Note:check=(command+parameter 1+parameter 2)MOD 256

Details

Code	Parameter1	Parameter 2	Function
0xF1	0x00	0x00	Start scan
0xF2	0x00	0x00	in manual scan mode
0xF3	0x00	0x00	in auto scan mode
0XF4(Reserve)	0x01:Strandard sleep* 0x02:Deep sleep	0x00	Sleep mode

Enable

Disable*

Global Settings

Note:The settings in this chapter will affect all types of barcodes setting

Enable Element amendment *

Note: default on and off is shown in Appendix 2.

Output only printable characters

Enable

Disable*

Save Power

Enable*

Disable

Anti-white bar code reading settings

Anti-white bar code reading settings only support some special code

Enable

Disable*

Global Insert String

Before the barcode data is output, the user can insert one or two strings at the appropriate position of the barcode data as needed. The barcode scanner stores G1~G4 and G5() and G6() with 6 preset characters to choose from.

For the contents and insertion position of G1~G6, please set it in the chapter "Barcode Editing".

Select the insertion string, please scan the "Global Insert String 1" to start the setting, then scan the string number to be inserted (1 to 6 corresponds to G1 to G2; 0 means no insertion), and finally scan the "finish setting" barcode to complete the setup.

Note: If the setting is successful, you can hear the beep. If the setting is not successful, the scanner sounds "dudu".

Global Insert String 1(1 Digits；0~6; 0*)

Global Insert String 2(1 Digits；0~6; 0*)

Note: 1. This setting will override the settings for all types of code insertion strings!

2.If the value of the global insertion string 1 or 2 is set to 0, the insertion string is empty, means it is not inserted. Set Example 1: Insert the character 'AB' after the first digit of all barcodes

Step1.Set G1 content

1.1 Scan

Start Setting G1 Chars(0~16 chars，2bit/char；00~FF； 00*)

Find the Appendix 6 ASCII table, the code for the character "A" is "41", and the code for "B" is "42". Go to Appendix 10 of this user manual for the parameter barcode (last page). Scan parameter barcodes "4", "1", "4", "2".

4

1

4

2

1. 3. Scan finish setting

Finish setting

Step 2 Set G1 position

Start G1 position（2bit；00~99； 00*）

0

1

Finsh setting

Step 3，Select G1 as the global insertion string 1：

Global Insert String 1(1 Digits；0~6; 0*)

0

1

Finish setting

The setup is complete. After the above settings, all barcodes are scanned and the scanner automatically inserts the character "AB" after the first character of the barcode. For example, if the original barcode data is "123456", after setting, the output data of the barcode scanner is "1AB23456".

Setting example 2: On the basis of setting example 1, the last two bits of data are truncated for all bar codes.

Step1, set to truncate end content string G6. G6 can be set to any string, or a specific string.

1. Scan

Start setting G6 Chars（0~16 chars，2bit/char；00~FF； 00*）

2. scan parameter code(4times F)

F

F

F

F

Note: "FF" here stands for any character. If you need to truncate a specific character, replace FF with the ASCII value of the modified character (query in Appendix 6)。

3. Scan "finsih setting"

Finish setting

Step 2, select G6 as the global insert string 2 (you can also use the global insert string 1 to set the end truncation character function, but will override the insert function of setting instance 1.)

Global Insert String 2(1 Digits；0~6; 0*)

6

Finish setting

The setup is complete. After the above settings, all barcodes are scanned, and the scanner automatically inserts the character "AB" after the first character of the barcode and truncates the last two digits of the barcode. For example, if the original barcode data is "123456", after setting, the output data of the barcode scanner is "1AB234".

Scanner start delay setting

For some older computer, due to compatibility issues, after the barcode scanner is connected, the boot may not work properly. If the computer does not start properly after the scanner is connected, set the startup delay for a certain period of time.

Minimum delay*

5 Sec

10 sec

20 sec

Indication

Volume of beeper

High*

Middle

Low

Mute

Beep tone

High tone

Middle tone*

Low Tone

LED Indicator(Reserve)

Enable LED Indicator

Disable

Vibrator setting

Large vibration*

Middle

Low

Disable

Wire Less Communication Setting

Unpair the scanner from Cradle

Unpair the scanner from cradle

Note: Scan unpair the scanner from cradle,if need working normally,scanner need pair again

Pair Scanner with Cradle

Pairing is the process by which a scanner initiates communication with a cradle. The scanner with the cradle pairing as follows:

1. Connect the scanner to the cradle with the Charging Cable. 2. Press the "Pairing Button" until the Scanner issued a "beep beep" sound.

NOTE: A host is able to work with as more as 99 scanners at the same time.

Clear the Buffer of Scanner

Scan the setting bar code below will clear the bar code data save in the scanner buffer.

Clear the Buffer of Scanner

Wire Less Channel

Set wireless channer(2 digits,00~99；00*)

Scanner ID

Set the Scanner ID（2 Digits；00~99；00*）

Add Scanner ID as Prefix

If this item is enabled, the scanner will add its ID as prefix of every barcode. E.g. When scan the bar code “12345”,if the ID of the scanner is “15”,and the output barcode data will be “ID1512345”.

NOTE: The ID of a scanner can be set manually or assigned by the host automatically. Every scanner work with the same Host can"t be with the same ID.

Enable Add Scanner ID as Prefix

Disable Add Scanner ID as Prefix *

Power off Interval

Power Off Interval（2 Digits；00~99seconds；30seconds*）4

Scan the setup bar code "Shut down the Scanner Immediately" and the scanner immediately turns off the power. If there is have data do not sent before the shutdown, the scanner will automatically save it in memory and try to send it to the cradle after tower-on again

Shut down the Scanner Immediately

RF operating mode:

NO-Store Mode: Do not batch data. The scanner attempts to transmit every scanned barcode. If the transmission is failed, the barcode data is ignored and issued a "beep beep beep" sound.

Auto-store Mode: The scanner starts storing barcode data when it loses its connection to a host (for example, when a user holding the scanner walks out of range). Data transmission is triggered by reestablishing the connection with hsot (for example, when a user holding the scanner walks back into range).

Manual Transmission Mode : Data transmission is triggered by scanning “**Start transfer Bar Code Data”**

Auto-Store Mode*

NO-Store Mode

Manual Transmission Mode

Start transfer Bar Code Data (for Manual Transmission Mode)

Adjacent data transmission interval setting

When continuously scanning barcodes or uploading data in batches, it is possible that the upload speed of the scanner exceeds the speed which the host receives and processes data, cause data lossing. This situation is easy to occur when the host is running large management software. In this case, the speed of data upload can be reduced, so that the host has enough time to receive and process the data uploaded by the scanner.

Strat Adjacent data transmission interval setting(2 bit,0.0~9.9 sec；0.5 sec*）4

Wireless communication power setting

The communication power of the wireless scanner affects the distance of its communication. Please set the appropriate communication power according to the use.。

Wireless communication power - Big（16dBm）

Wireless communication power -Middle（8dBm）

Wireless communication power - small（0dBm）

Note: The wireless communication power of the scanner must be within the scope permitted by local law. Users who do not know the relevant regulations can consult the local radio management department.

Suffix Quick Setup

CR *L0

LF

CR & LF

None

Barcode data format

The full format of the barcode is as follows

Prefix	Barcode type name	Front	Code identifier	Data character length	Bar code character	Code identifier	Rear	Suffix

The bar code character refers to the character data of the bar code read by the bar code scanner, and the data is not subjected to any setting. Users can edit the bar code content according to the format shown above. For example, the CODE128 barcode is "pos001". If the leading "58" is added, the scanner reads the output of the barcode as "58pos001".

Prefix

The prefix setting consists of two parts, one is whether to start the prefix character, and the other is the prefix character content. The prefix of the barcode can be any ASCII character from 0 to 8 digits. Here's how to turn on and set the prefix character:

1. Read "Transmit Prefix"
2. Find the ASCII value of the prefix character in the appendix, each character corresponds to 2 as a hexadecimal number. For example, "AB" corresponds to "41 42"”
3. Go to the Digital Pages section of this manual and enter the ASCII characters of the prefix characters.
4. Scan "Finish setting",hear "beep" sound means setting successful

5 scan "Open Prefix chars" to finish prefix setting

Transmit Prefix

Do Not Transmit Prefix *

Scan Prefix（0~16 Chars，2 Digits /Char；00~FF； 00*）

Prefix：add prefix "ABC" steps as below:

1. Scan prefix to set

Scan Prefix（0~8 Chars，2 Digits /Char；00~FF； 00*）

2. Check appendix will know the ASCII of "ABC" is“41 42 43”
3. Should read code :4、1、4、2、4、3 one by one

4

1

4

2

4

3

Finish setting

4. Scan "Finish setting",if you hear "beep“ sound means seting successful.
5. Scan “Open Prefix” to set,finish add prefix setting

Open Prefix Chars

Suffix

The default Suffix is CR。

Transmit Suffix *

Do Not Transmit Suffix

Scan Suffix（0~16Chars，2 Digits /Char；00~FF； 0D*）

Preamble

Transmit Preamble

Do Not Transmit Preamble *

Set 0-8 Chars

Scan preamble（0~16 Chars，2 Digits /Char；00~FF；00*）

Postamble

Transmit Postamble

Do Not Transmit Postamble *

Scan Postamble（0~16 Chars，2 Digits /Char；00~FF； 00*）

Code ID

Transmit Proprietary ID

Transmit AIM ID

Do Not Transmit Code ID*

Code ID position

Before code data *

After code data

Code length transmission

Transmit Code length

Do Not Transmit Code length *

Lower-Upper conversion

Disable*

Upper (data only)

Lower (data only)

Upper (whole string)

Lower (whole string)

Insert String G1 Setting

The insert string G1 is a set of strings set by the user, and its length can be 0 to 16 characters (the length of 0 indicates that G1 is an empty string). G1 can be inserted anywhere in the bar code character of a specific code (set in "Insert String Array 1" or "Insert String Array 2" for each code system, or inserted anywhere in all code systems (in Set in the "Global Insert String Group" in the "Global Decoding Parameter Settings" chapter.

The string group that has the same function as G1 is G2, G3, and G4. The setting method of G1 string content is as follows:Set the contents of G1:

1. Scan the setting bar code "Scan insert string G1"

2. Find the ASCII of G1 charactor in appendix,every charactor have 2bit hex.Such as wang to set G1 to "AB" the corresponding ASCII value is "41 42"
3. Find the setting number page,Enter the ASCII value of the prefix character in turn。
4. Scan "Finsh setting",if hear "beep" sound means setting successful

Setting position of G1：

5. scan "Scan the Position of G1"
6. By scanning the parameter barcode, the two-digit position parameters are sequentially input. For example, if you want to insert G1 after the second character of the barcode, scan the parameter barcodes 0 and 2 in sequence.
7. Scan "Finsh setting",if hear "beep" sound means setting successful

The setting method of G2, G3, and G4 is the same as G1.

Scan Inert String G1（0~16 Chars，2 Digits /Char；00~FF； 00*）

Scan the Position of G1（2 Digits；00~99； 00*）

Insert String G2 Setting

Scan Inert String G2（0~16 Chars，2 Digits /Char；00~FF； 00*）

Scan the Position of G2（2 Digits；00~99； 00*）

Insert String G3 Setting

GG3 is also used as the string to be replaced when the replace function is enabled.

Scan Inert String G3（0~16 Chars，2 Digits /Char；00~FF； 00*）

Scan the Position of G3（2 Digits；00~99； 00*）

Insert String G4 Setting

G4 is also used as the string to replace G3 in a bar code data when the replace function is enabled.

Scan Inert String G4（0~16 Chars，2 Digits /Char；00~FF； 00*）

Scan the Position of G4（2 Digits；00~99； 00*）

FN1 substitution string setting

The FN1 character (0x1D) in an UCC/EAN128 barcode, or a Code 128 barcode, or a GS1 DataBar barcode can be substituted with a defined string.

Enable FN1 Substitution

Disable FN1 Substitution *

Scan FN1 substitution string setting（0~4 Chars，2 Digits /Char；00~FF； 00*）

Truncate ending G5 string setting

The bar code scanner has the function to truncate specific or arbitrary end characters of barcode data. The character can be truncated specified ending bar code data by setting the G5 character. In G5, 0XFF can be used as a single-character wildcard (that is, 0xFF means any character).

The number of G5 repetitions indicates truncating times of G5. If the repetitions is '00', the leading character truncation operation is not performed. A repetition number: '99' indicates that all the leading G5 character are truncated.

Scan G5 String（0~22 Chars，2 Digits /Char；00~FF； 00*）

Scan Repeat of a G5 String (2 Digits；00~99； 01*）

Truncate ending G6 string setting

The bar code scanner has the function to truncate specific or arbitrary end characters of barcode data. The character can be truncated specified ending bar code data by setting the G6 character. In G6, 0XFF can be used as a single-character wildcard (that is, 0xFF means any character).

The number of G6 repetitions indicates truncating times of G6. If the repetitions is '00', the leading character truncation operation is not performed. A repetition number: '99' indicates that all the leading G6 character are truncated.

Scan G6 String（0~16 Chars，2 Digits /Char；00~FF； 00*）

Scan Repeat of a G6 String (2 Digits；00~99； 01*）

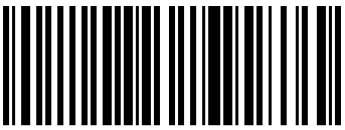
Replace String Setting

Replace G3 string to G4 string in barcode data.

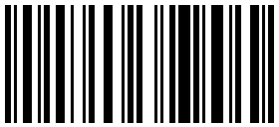
Enable

Disable *

Test Bar Code



000123450000



1234567890

8765 4325

Appendix

Appendix 1 Specification

Power	DC 5V±0.25 V
Current	360 mA(operation),72mA(Standby)
Speed	
Angle	±60°、±65°、±42°
Resolution	5mil
Ability	Check Appendix 3
Indicator	Beeper ,LED
Distance	200m Default,500m（long distance mode)
Interface	USB、PS2,RS-232,USB virtual COM
Scan way	handheld
Dimension	
Weigth	
Type	RJ-45
Material	ABS+PC/TPU,ABS+PC,PC
Termpature	-10° C to 50° C（Operation）;-40° C to 60° C（storage）
Humidity	5% to 95%（Non）
Sealing	WBS-2W is IP54,WBS-2D is IP52
Anti drop	withstand multiple 2.0m drops to concrete
Setting way	read setting barcode one by one
Certification	CE

Appendix 2 Default setting for each barcode

Table 2 Default setting for each barcode

Code Type		Code Type	
UPCA	**Default Open**	Composite Code-A	Default Close
UPCE	**Default Open**	Composite Code-B	Default Close
EAN8	**Default Open**	Composite Code-C	Default Close
EAN13	**Default Open**	PDF417	**Default Open**
Code128/GS1-128	**Default Open**	Micri PDF417	**Default Open**
Code 39	**Default Open**	Data Matrix	**Default Open**
Code 93	**Default Open**	QR	**Default Open**
Code 32	Default Close	Micro QR	**Default Open**
Code 11	Default Close	Aztec	Default Close
Codabar	**Default Open**	MaxiCode	Default Close
Plessey	Default Close		
MSI Plessey	**Default Open**		
Interleaved2of5	**Default Open**		
IATA2of5	**Default Open**		
Martix 2of5	Default Close		
Straight2of5	Default Close		
Pharmacode	Default Close		
GS1 DataBar14	**Default Open**		
GS1 DataBar 14 Stacked	Default Close		
GS1 DataBar Expanded	**Default Open**		
GS1 DataBar Expanded Stacked	Default Close		
GS1 DataBar Limited	**Default Open**		

Note:

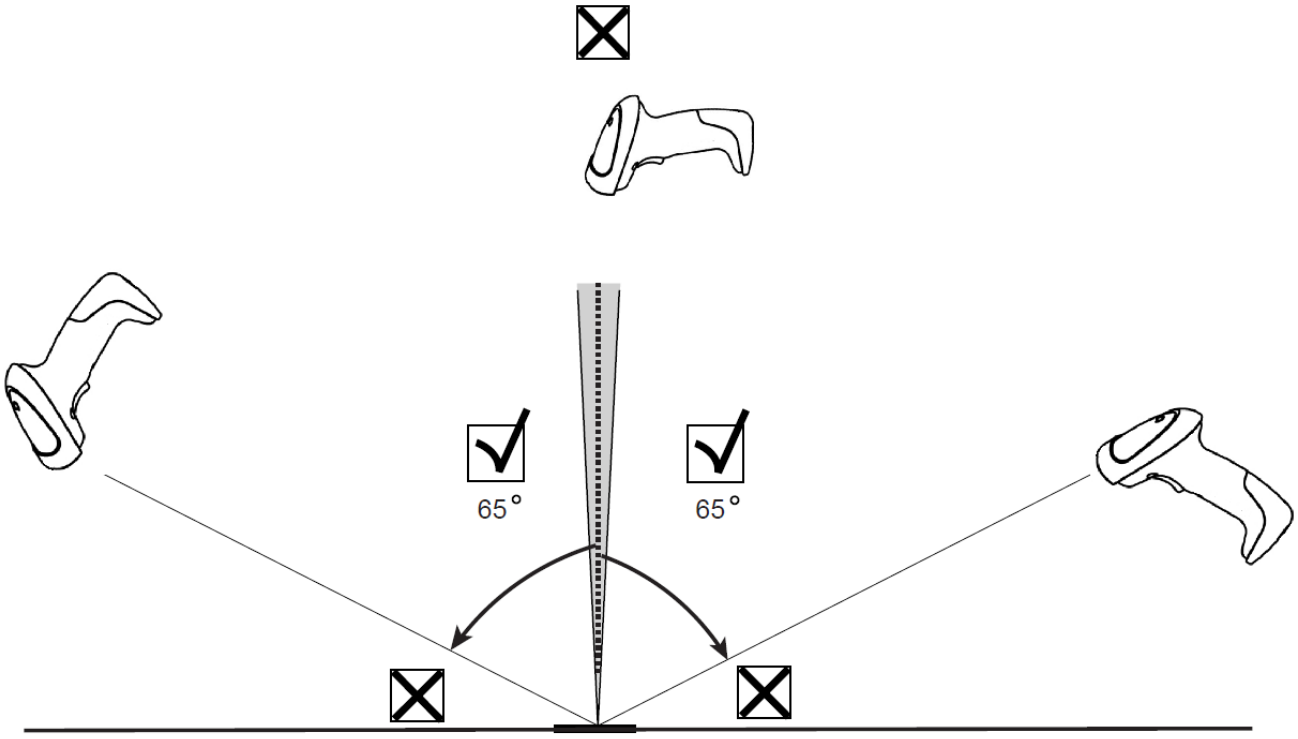
1.The settings for ISBN/ISSN and EAN-13 must be the same

2. UPC-A、UPC-E、EAN-13、EAN-8、ISBN/ISSN、China post、GS1 DataBar、GS1 DataBar Truncated,GS1 DataBar Expanded Fixed-length barcodes.

3.The settings for GS1 DataBar Truncated and GS1 DataBar must be the same.

Appendix 3 Read Angle

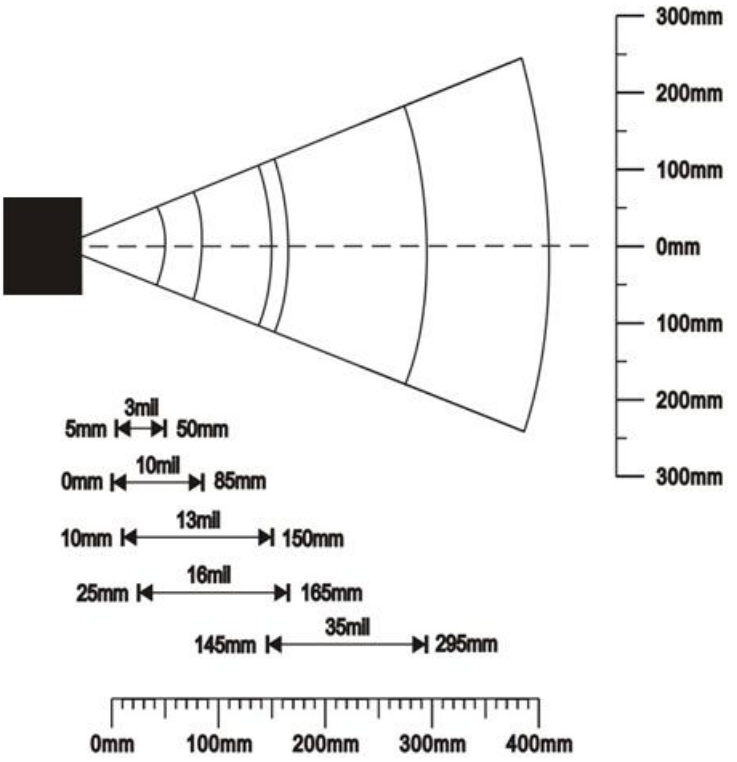
Please follow the below angle to read barcode



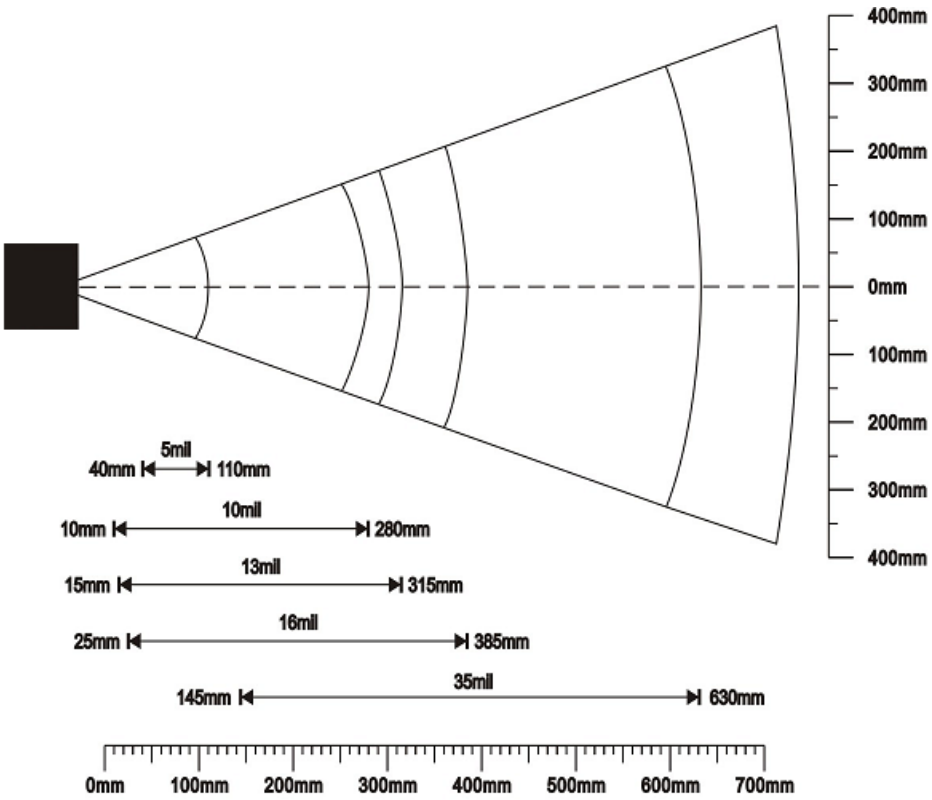
Scanner read angle

Appendix 4 Decode zone

High-Density series



Long-Range series



Appendix 5 Test barcode

EAN-8

EAN-13

UPC-A

UPC-E

Code 128

UCC/EAN 128

Code 39

Code 93

Codabar

Interleaved 2 of 5

Industrial 2 of 5

Matrix 2 of 5

Code 11

MSI/Plessey

UK/Plessey

ISBN/ISSN

China Post

GS1 Databar (GS1 Databar Truncated)

GS1 Databar Limited

GS1 Databar Expanded

Appendix 6 ASCII Table

Table 3 Function Keys

H / L	PS2/USB		RS-232	
	0	1	0	1
0	Null		NUL	DLE
1	Up	F1	SOH	DC1
2	Down	F2	STX	DC2
3	Left	F3	ETX	DC3
4	Right	F4	EOT	DC4
5	PgUp	F5	ENQ	NAK
6	PgDn	F6	ACK	SYN
7		F7	BEL	ETB
8	Bs	F8	BS	CAN
9	Tab	F9	HT	EM
A		F10	LF	SUB
B	Home	Esc	VT	ESC
C	End	F11	FF	FS
D	Enter	F12	CR	GS
E	Insert	Ctrl+	SO	RS
F	Delete	Alt+	SI	US

Table 4 Chars

H / L	2	3	4	5	6	7
0	SP	0	@	P	`	p
1	!	1	A	Q	a	q
2	“	2	B	R	b	r
3	#	3	C	S	c	s
4	$	4	D	T	d	t
5	%	5	E	U	e	u
6	&	6	F	V	f	v
7	‘	7	G	W	g	w
8	(	8	H	X	h	x
9	)	9	I	Y	i	y
A	*	:	J	Z	j	z
B	+	;	K	[	k	{
C	,	<	L	\	l	|
D	-	=	M	]	m	}
E	.	>	N	^	n	~
F	/	?	O	_	o	DEL

Example:ASCII “！ ” = “21”

Appendix 7 Questions and Solutions

Question 1: The scanner presses the button without illumination, or automatically shuts down immediately after power on, or the blue indicator light flashes.

The battery is exhausted, please charge.

Question 2: The scanner can scan the barcode, but the computer does not display the data.

In this case, please find the solution according to the phenomenon described in the following table:

If the scanner indicator light is in red, the data is not being uploaded to the cradle.	The cradle cable is not connected, or When using serial port, no connect the power supply.	Connect cradle to PC or serial port connect power supply
	No pair,or the communication parameters are changed after matching.	Pair again
If the scanner indicator light is in blue, the data has been uploaded to the cradle.	The cradle interface is not connected properly, or the settings are incorrect.	Reconnect the data cable and scan "Defaults". If the data still cannot be uploaded normally, manually set the interface type through the User Manual.
	Or the interface is not compatible	Test it for another computer.

Question 3: After scanning the barcode, the scanner sound "beep" alarm.

The scanner's memory is full and you cannot continue to store barcode data. The reason for this may be：

a. The scanner is out of the receiving range of the cradle, so the data cannot be uploaded. In this case, as soon as you approach the cradle, the scanner data can be automatically uploaded.

b. The scanner and cradle do not pair, or the communication parameters are changed after pair. Please pair and data will automatically upload data.

c. The cradle is not connected to the computer. If you are using a serial port interface, it is possible that the voltage on the serial line is not connected.

Problem 4: The scanner scans normally, but the bar code data shows a significant delay.

a. The radio waves in the same channel are busy. Please change the wireless channel and then pair

b. The time interval for uploading data can be set shorter through the User Manual. The default interval is 0.5 sec.

Problem 5: The scanner scans normally, but the data output is incorrect.

a. The cable interface is loose and reconnected.

b. If use PS2 cable and the data output is garbled, the data reception speed of the device may not match the scanner.。

Question 6: The scanner cannot decode some barcodes.

a. The barcode is defective. Try to scan the same type barcode to see if it can be interpreted.。

b. The distance between the scanner and the barcode is not suitable. Please move the barcode closer or farther away.

c. For bar codes with poor print quality, the preferred reading distance is 5-15 cm.。

Question 7: Other situations cannot be decoded.

a. Turn off the device; properly connect the device to the scanner; turn on the device, pair again, scan and restore the default settings.Then test again.

b. If the problem still cannot be solved, please contact the dealer or manufacturer.

Appendix 8 Change Battery

Appendix 9 Simple maintenance method

1. Smudges and dust on the scanning window will affect the scanner normal operation. When cleaning, use a good quality tissue and wipe gently. Then blow it off.If you use poor quality paper for a long time, it will damage the surface of the scanning window and affect the reading effect.

2. The scanner housing can be wiped with a soft cloth. If necessary, add a small amount of detergent to the water, using soft cloth to wipe 。

Appendix 10 Parameter bar code

0

1

2

3

4

5

6

7

8

9

A

B

C

D

E

F

Finish Setting