



**BS8050-3V Piranha (1D)**

**Barcode Scanner**

**User Guide**

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## Revision History

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# Table of Contents

<b>Revision History .....</b>	<b>- 3 -</b>
<b>Preface.....</b>	<b>1</b>
Introduction.....	1
Chapter Descriptions.....	1
Safety Instructions.....	1
<b>Chapter 1 Getting Started.....</b>	<b>2</b>
Introduction.....	2
Unpacking .....	2
Piranha Scanner .....	3
Functions of the Buttons .....	4
Charging the Battery .....	5
Connecting the Piranha to Smartphone/Tablet .....	6
LED Notifications.....	8
Turning the Piranha On/Off.....	9
Scanning Instructions.....	10
Scanning 1D Barcode.....	10
<b>Chapter 2 System Settings.....</b>	<b>11</b>
Introduction.....	11
Restore Factory Defaults .....	11
Operating Modes.....	11
Query Scanner Information.....	13
Query/Delete the Data in FLASH.....	13
Sound Notifications .....	14
Vibration Notifications .....	15
Terminating Character Suffix.....	16
Inter-Character Delay for Bluetooth HID.....	17
Delete Bluetooth Pairing .....	17
Automatic/Manual Power-Off.....	18
Time Stamp .....	20
Set Date Format.....	20
Set Date & Time.....	21

Parameters of USB HID-KBW .....	22
USB Country Keyboard Types.....	22
Convert Case .....	23
Inter-Keystroke Delay for KBW .....	23
Upgrade the Firmware .....	24
<b>Chapter 3 Symbolologies .....</b>	<b>27</b>
Introduction.....	27
1D Symbolologies .....	27
Code 39.....	27
Transmit Code 39 Start/Stop Character .....	27
Code 39 FULL ASCII .....	27
Code 128 .....	28
UCC/EAN-128.....	28
EAN-8.....	28
EAN-13.....	28
ISSN.....	29
ISBN.....	29
UPC-E .....	29
UPC-A .....	29
Interleaved 2 of 5 .....	30
Matrix 25 .....	30
Industrial 25 .....	30
Codabar .....	30
Code 93.....	31
GS1 Databar (RSS).....	31
Code 11 .....	31
Plessey.....	31
MSI-Plessey .....	32
<b>Appendix .....</b>	<b>33</b>
Factory Defaults Table .....	33
Digit Barcodes .....	36



# Preface

## Introduction

This manual provides detailed instructions for setting up and using the NLS-BS80 barcode scanner (hereinafter referred to as “the **BS80**” or “the **scanner**”).

## Chapter Descriptions

- ✧ *Chapter 1, Getting Started* : This chapter provides information on getting the scanner up and running for the first time.
- ✧ *Chapter 2, System Settings* : This chapter describes the barcode programming procedure and shows you how to configure system parameters.
- ✧ *Chapter 3, Symbologies* : This chapter lists all compatible symbologies and describes how to configure the relevant parameters.
- ✧ *Appendix* : This chapter offers factory defaults table and a bunch of frequently used programming barcodes.

## Safety Instructions

**Read the operating instructions carefully and especially observe the safety information. If you do not follow the safety instructions on proper handling in this manual, we assume no liability for any resulting personal injury or damage to property.**

- ✧ Don't put the scanner in places with excessively high temperatures, such as exposure to direct sunlight.
- ✧ Don't use the scanner in extremely humid area or drastic temperature change.
- ✧ The rechargeable battery is permanently built into the scanner and cannot be replaced.
- ✧ Never damage the rechargeable battery. Damaging the casing of the rechargeable battery might cause an explosion or a fire!

# Chapter 1 Getting Started

## Introduction

The Piranha is a wireless pocket barcode scanner equipped with 1D or 2D scan engine to meet different needs. It is a great space-saver for busy or limited workspaces. It also supports iOS, Android, and Windows devices through Bluetooth HID or SPP communication.

An illustrated introduction to the Piranha is included in this chapter. If you have the scanner at hand, make good use of it to develop a better understanding of this manual. This chapter is written for normal users, maintenance staff and software developers.

## Unpacking

Open the package and take out the scanner and its accessories. Check to make sure everything on the packing list is present and intact. If any contents are damaged or missing, please keep the original package and contact your dealer immediately for after-sale service.



---

# BS80 Scanner



1	Charging/Battery LED	2	Good Read LED
3	Data LED	4	Scan/Power Button
5	Delete/Reset Button	6	Function Button/Function LED
7	Micro USB Port	8	Product Label
9	Scan Window: Please remove the protective sticker from the window before use.		

---

---

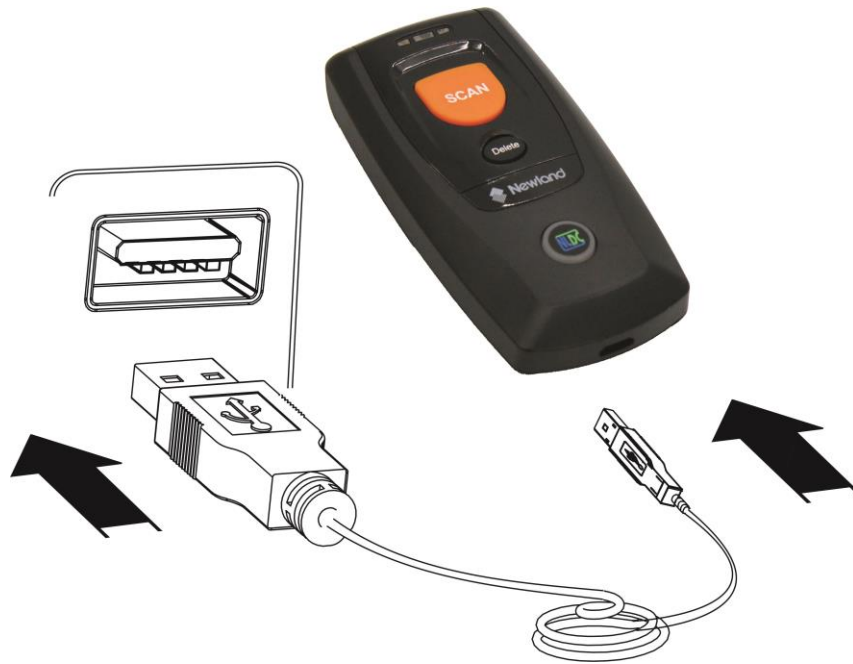
## Functions of the Buttons

Scan/Power Button
<ul style="list-style-type: none"><li>*Press the button to scan barcode when the scanner is on.</li><li>*Hold down the button for 3 seconds to power it on when the scanner is off.</li></ul>
Delete/Reset Button
<ul style="list-style-type: none"><li>*Press the button to remove the corresponding data from the USB storage area of FLASH memory in the USB mode before scanning the barcode to be deleted.</li><li>*Hold down the button for 7 seconds to reset it when the scanner is on.</li></ul>
Function Button
<ul style="list-style-type: none"><li>*Press the button to turn on the HID keyboard of the connected iOS device in the Wireless mode.</li><li>*Hold down the button for 5 seconds to unpair paired Bluetooth device from the scanner in the Wireless mode, to make the scanner discoverable by other Bluetooth device.</li><li>*Hold down the button for 3 seconds to start data transmission via USB in the USB mode (Make sure that the scanner is connected to PC first.)</li></ul>
Scan/Power Button + Function Button
<ul style="list-style-type: none"><li>*Hold down the two buttons at the same time for 3 seconds to toggle between the Wireless mode and USB mode when the scanner is on.</li></ul>
Delete/Reset Button + Function Button
<ul style="list-style-type: none"><li>*Hold down the two buttons at the same time for 7 seconds to upgrade the firmware via USB after clicking the “Start” button of the firmware upgrade utility on PC that the scanner is connected to.</li></ul>
Scan/Power Button + Delete/Reset Button
<ul style="list-style-type: none"><li>*Press the two buttons at the same time to check the battery level with the Charging/Battery LED when the scanner is on.</li></ul>

---

## Charging the Battery

Charge the scanner by connecting it to a host device with USB cable, as shown below.

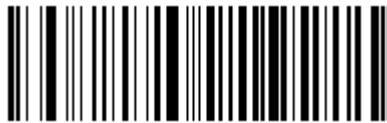


Note: Low battery may result in failure or misoperation of the scanner. Before your first use, charge the battery for 3-4 hours.

---

## Connecting the BS80 to Smartphone/Tablet

1. Make sure your device has HID or SPP profile.
2. Turn off the Power-Saving mode of your smartphone/tablet first. If the red Function LED on the scanner illuminates, hold down the Scan/Power button and Function button at the same time for 3 seconds or scan the barcode below to switch to the Wireless mode.



Wireless Mode (Default)

3. Scan the appropriate barcode below to choose HID or SPP profile before connecting to smartphone/tablet. If you don't know what profile your device is, please try HID profile first, then SPP profile.



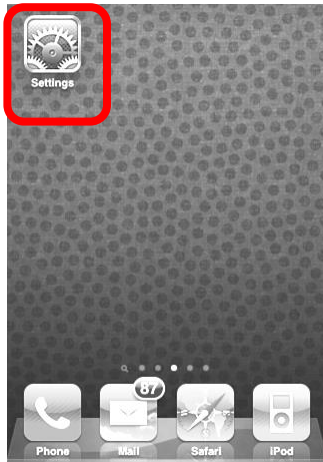
HID (Default)



SPP

4. Complete the following connection procedure (example: pairing with iPhone). If the Piranha does not appear in the search results in step (5), you might need to delete existing pairing information on the scanner by holding down the Function button on the scanner for 5 seconds (see ***Functions of the Buttons*** in this chapter) or by scanning the **Delete Bluetooth Pairing** barcode (see ***Delete Bluetooth Pairing*** in Chapter 2).

(1) Click "Settings".



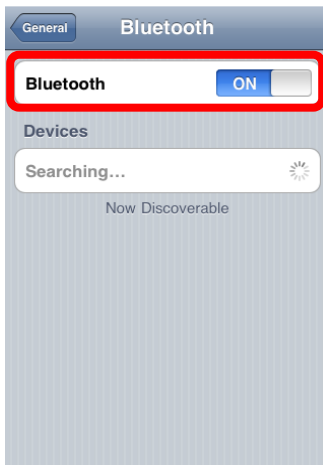
(2) Click "General".



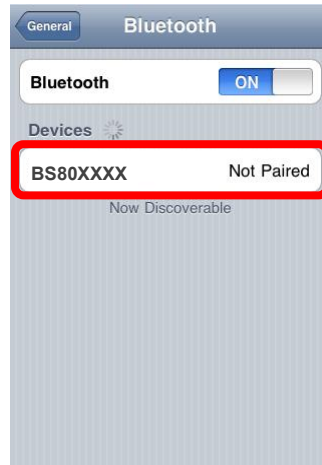
(3) Click "Bluetooth".



(4) Turn it on and search the devices.



(5) Select "BS80XXXX" to connect.



(6) The "Connected" message means the connection is OK.



5. After the connection is completed, the blue Function LED on the scanner will illuminate.
6. Before using WordPad file or relative APP, please set keyboard language of the device to USA language. Then, scan the barcodes and the barcode data will show on the cursor side. If the data cannot send to smartphone/tablet, please scan the **Restore Factory Defaults** barcode.

**Note:** This product complies with Bluetooth standards. The device that communicate with this product must support the same SPP or HID. For other Bluetooth devices with other profiles, we cannot guarantee a connection before the product has been tested.

The communication speed and range of the product may vary due to obstacles and radio wave condition between the product and device to which it is connected. Condition on the host device may also affect the communication speed and range of the scanner.

---

## LED Notifications

Charging/Battery LED	
Red LED on	Charging in progress.
Green LED on	Fully charged.
Red and green LEDs flash alternately	Battery not found.
Red LED flashes	Low battery alert.
<b>If the scanner is on and it is not connected to PC via USB cable, pressing the Scan/Power button and Delete/Reset button at the same time can display the battery level with the Charging/Battery LED.</b>	
Green LED on	Battery level is high.
Red and green LEDs on	Battery level is medium.
Red LED on	Battery level is low.

When the battery voltage is too low, the scanner will beep with flashing red Charging/Battery LED. Please charge it immediately before the scanner shuts down mandatorily. When it shuts down, please charge it fully before turning it back on.

Good Read LED	
Green LED flashes	Good read.
Data LED	
Red LED flashes	There is data in FLASH memory.
Red LED on	FLASH memory depleted.
Function LED	
Blue LED flashes slowly with long off state	Bluetooth turned on, but no Bluetooth connection established and the Piranha not found.
Blue LED flashes slowly with long on state	Bluetooth turned on, but no Bluetooth connection established and the Piranha found.
Blue LED on	Bluetooth connection established.
Blue LED flashes quickly	Data transmission via Bluetooth in progress.
Red LED on	USB mode enabled.
Red LED flashes quickly	Batch data transmission via USB in progress.

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## Turning the Piranha On/Off

**Turn the scanner on:** Press the Scan/Power button.

**Turn the scanner off:** By default, the scanner automatically powers off if no operation is performed on the scanner for 30 minutes. You can adjust the auto power-off time. You can also turn off the scanner by scanning the **Power Off** barcode. For more information, see **Automatic/Manual Power-Off** section in Chapter 2.

---

# Scanning Instructions

## Scanning 1D Barcode

Adjust the scan angle (Do not read barcode at vertical degree) or the distance between barcode and the scanner to ensure that the length of the scan line is roughly 8mm greater than that of the barcode, as shown below.



Right	Wrong



## Chapter 2 System Settings

### Introduction

This chapter describes how to configure the basic system parameters on the scanner.

### Restore Factory Defaults



**Restore Factory Defaults**

### Operating Modes

The scanner provides two operating modes: Wireless mode (Bluetooth mode) and USB mode.

#### 1. Wireless mode



**Wireless Mode (default)**

When the scanner is in the Wireless mode, scanning the following barcodes can switch between Bluetooth HID and SPP profiles. When the scanner is in the USB mode, scanning the following barcodes can switch between USB HID-KBW and USB COM Port Emulation.



**Wireless Mode: HID (default)**  
**USB Mode: USB HID-KBW (default)**



**Wireless Mode: SPP**  
**USB Mode: USB COM Port Emulation**

---

There are two data transmission modes: Synchronous mode and Asynchronous mode.

(1) Synchronous mode: When you scan barcodes, the data will be sent to smartphone/tablet directly. If you are out of Bluetooth service range, scanned data will be lost.

(2) Asynchronous mode: When you are out of Bluetooth service range, scanned data will be saved in the FLASH memory. Once you are back to service range, the data will be sent to smartphone/tablet automatically. The scanner will automatically remove it from the FLASH memory after smartphone/tablet receives the data.



**Synchronous Mode**



**Asynchronous Mode (default)**

## **2. USB mode**

When you scan barcodes, the data will be saved in the FLASH memory. You can sync the data acquired in USB mode from the FLASH memory to your PC by following the procedure described below.

Data transmission from FLASH to PC via USB:

Step 1: Install the required driver on your PC.

Step 2: Connect the scanner to your PC with USB cable. The scanner beeps when the connection between them is established.

Step 3: Open Notepad or Office Word on your PC and make sure that your cursor is always positioned in it. Hold down the Function button on the scanner for 3 seconds or longer to start data transmission from the FLASH memory to your PC. To suspend or resume the transmission, press the Function button briefly. The scanner beeps when the transmission is completed.



**USB Mode**

### **Note:**

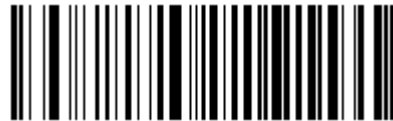
1. When the scanner switches from one operating mode to the other, it beeps along with corresponding LED notification (For more information, see **LED Notifications** in Chapter 1)
2. Besides the method mentioned above, you can also hold down the Scan/Power button and Function button at the same time for 3 seconds to toggle the Wireless mode and USB mode.

---

## Query Scanner Information



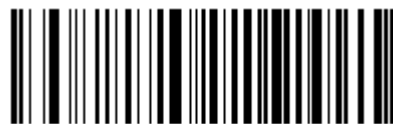
**Query the Firmware & Hardware Versions of Scanner**



**Query the Firmware Version of Scan Engine**



**Query the Manufacture Date of Scanner**



**Query the Serial Number of Scanner**

## Query/Delete the Data in FLASH

The FLASH memory is divided into a USB storage area (used to save the data acquired in the USB mode) and a Bluetooth storage area (used to save the data acquired in Bluetooth asynchronous mode). You should note that removing data from the USB storage area may take a longer time.



**Delete All Barcodes in FLASH**



**Query the Number of Barcodes in USB Storage Area**



**Only Delete Barcodes in USB Storage Area**



**Query the Number of Barcodes in Bluetooth Storage Area**



**Only Delete Barcodes in Bluetooth Storage Area**

---

---

## Sound Notifications

Turn sound notifications on or off by scanning the appropriate barcode below. After this feature is enabled, the scanner beeps when one of the following events occurs:

1. The scanner is turned on.
2. The scanner resets.
3. A barcode is decoded (including good read for removing barcode data from the FLASH memory).
4. The scanner switched to the Wireless mode or USB mode.
5. Transmitting data via Bluetooth failed.
6. iOS soft keyboard is turned on or off.
7. Data transmission via USB starts.
8. Data transmission via USB is interrupted.
9. Data transmission via USB is completed.
10. The paired Bluetooth device is unpaired from the scanner.
11. The scanner is turned off.
12. USB connection between the scanner and the host established.
13. USB connection between the scanner and the host lost.
14. Bluetooth connection between the scanner and the host established or lost.



**Sound Notifications On (default)**



**Sound Notifications Off**

---

## Vibration Notifications

Turn vibration notifications on or off by scanning the appropriate barcode below. After this feature is enabled, the scanner vibrates when one of the following events occurs:

1. A barcode is decoded (including good read for removing barcode data from the FLASH memory).
2. The scanner switched to the Wireless mode or USB mode.
3. iOS soft keyboard is turned on or off.
4. The paired Bluetooth device is unpaired from the scanner.
5. Data transmission via USB starts.
6. The scanner is turned off.



**Vibration Notifications On**



**Vibration Notifications Off (default)**

---

## Terminating Character Suffix



Append CRLF as Terminating Character Suffix (default)



Disable Terminating Character Suffix

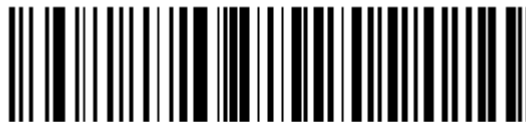
---

## Inter-Character Delay for Bluetooth HID

Select an appropriate inter-character delay to avoid data loss during transmission. This parameter is only valid in the Bluetooth HID mode.



5ms



15ms (default)



25ms



35ms



45ms



Query Inter-Character Delay

## Delete Bluetooth Pairing



Delete Bluetooth Pairing

---

## Automatic/Manual Power-Off

By default, the scanner automatically powers off if no operation is performed on the scanner for 30 minutes. This feature can help to extend battery life.



**Query Auto Power-Off Timer**

**Set the auto power-off timer:** Scan the **Set Auto Power-Off Timer** barcode then one of the timers listed below.



**Set Auto Power-Off Timer**



**5 Minutes**



**10 Minutes**



**20 Minutes**



**30 Minutes (default)**



**60 Minutes**



**Permanent**



---

You can power off your scanner manually by scanning the barcode below.



**Power Off**

**Note:** After the Power Off barcode is scanned, the scanner emits a long beep and then turns off.

---

## Time Stamp

You can decide whether to send date and time or not by enabling or disabling time stamp.



**Enable Time Stamp (default)**



**Disable Time Stamp**

## Set Date Format



**Format 1: mm/dd/yyyy**  
(example: 01/23/2011)



**Format 2: dd/mm/yyyy**  
(example: 23/01/2011)

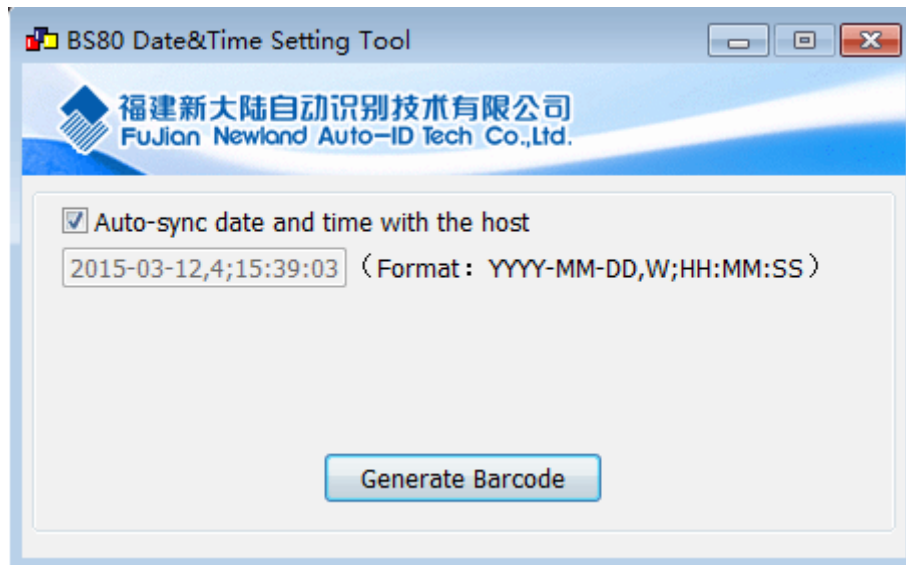


**Format 3: yyyy/mm/dd (default)**  
(example: 2011/01/23)

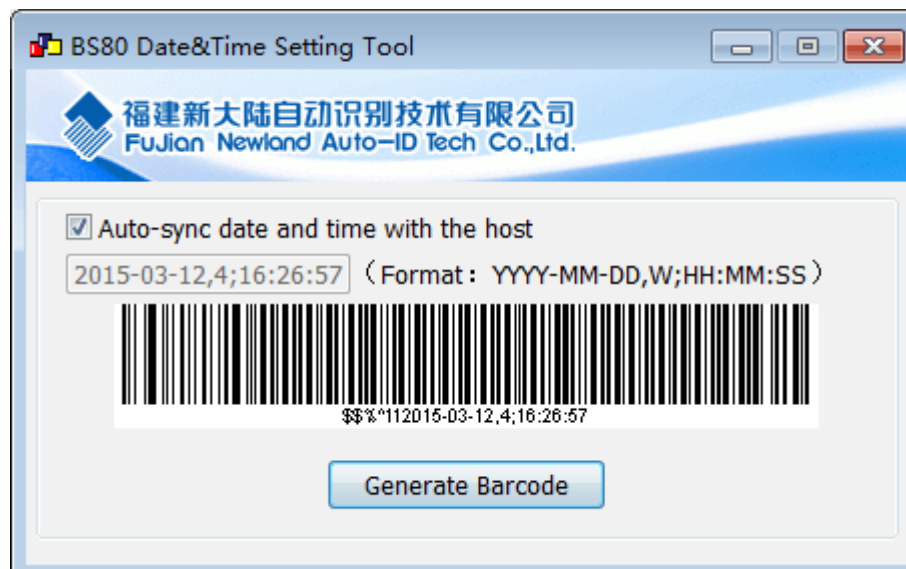
---

## Set Date & Time

Step 1: Double click on BS80Setting.exe to Piranha Date&Time Setting Tool. Then check the “Auto-sync dateand time with the host” item on it.



Step 2: After the time in the box is in sync with the system clock, click the “Generate Barcode” button.



Step 3: Scan the barcode generated to set the date and time on the scanner.

**Note:** You need to run this tool on the Windows XP or WIN7 operating system.

---

---

# Parameters of USB HID-KBW

## USB Country Keyboard Types



**US English (default)**



**Japan**



**Denmark**



**Finland**



**France**



**Turkey\_F**



**Italy**



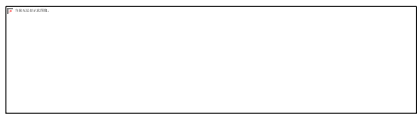
**Norway**



**Spain**



**Turkey\_Q**



**U.K.**

---

## Convert Case



No Case Conversion (default)



Convert All to Upper Case



Convert All to Lower Case



Invert Upper and Lower Case Characters

## Inter-Keystroke Delay for KBW

To set the inter-keystroke delay, scan the following barcode and a digit barcode (0~F).

Note: 0~F corresponds to 3ms (default), 8ms, 13ms, 18ms, 23ms, 28ms, 33ms, 38ms, 43ms, 48ms, 53ms, 58ms, 63ms, 68ms, 73ms and 78ms respectively.



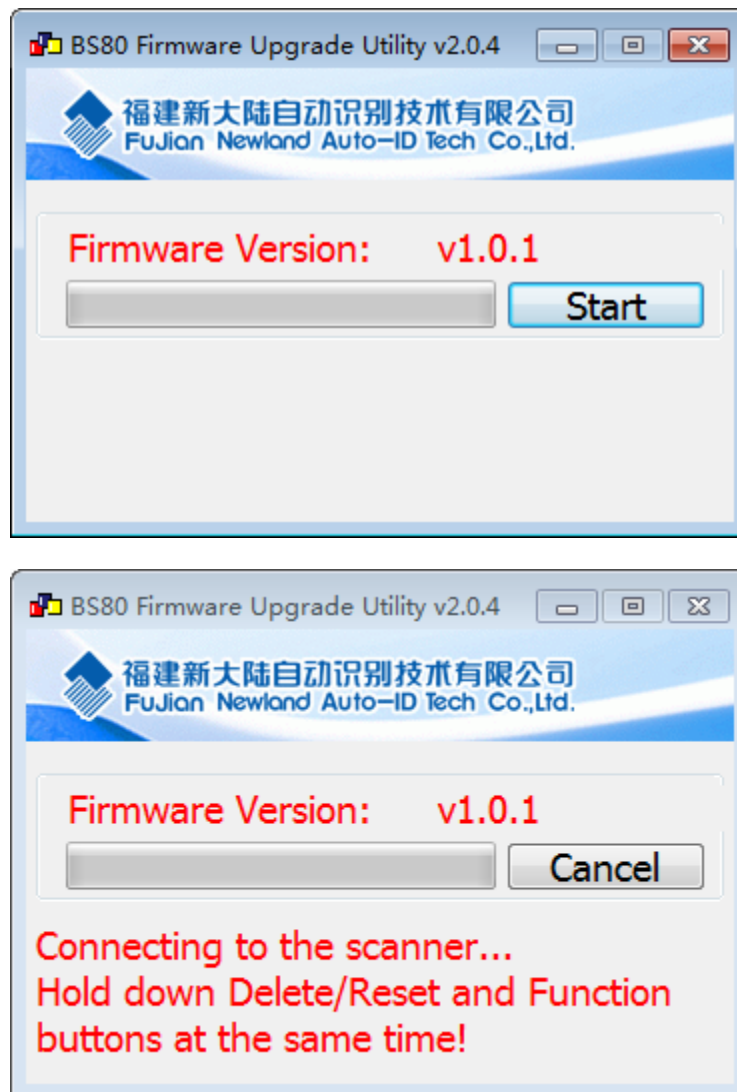
Inter-Keystroke Delay for KBW

---

## Upgrade the Firmware

Step 1: Install the driver: Run the CDC - Virtual COM Driver v1.1.0 program and then follow the on-screen instructions to complete the installation processs. (Skip this step if it is already installed on your PC.) Make sure that the driver is properly installed. You cannot upgrade the firmware without it.

Step 2: Run the BS80Update program. Then click “Start”.



Step 3: Turn on the scanner and connect it to your PC with the USB cable.

---

---

Step 4: Hold down the Function button and the Delete/Reset button on the scanner at the same time for 7 seconds to upgrade the firmware. The red and blue Function LEDs flash alternately during the updating process.

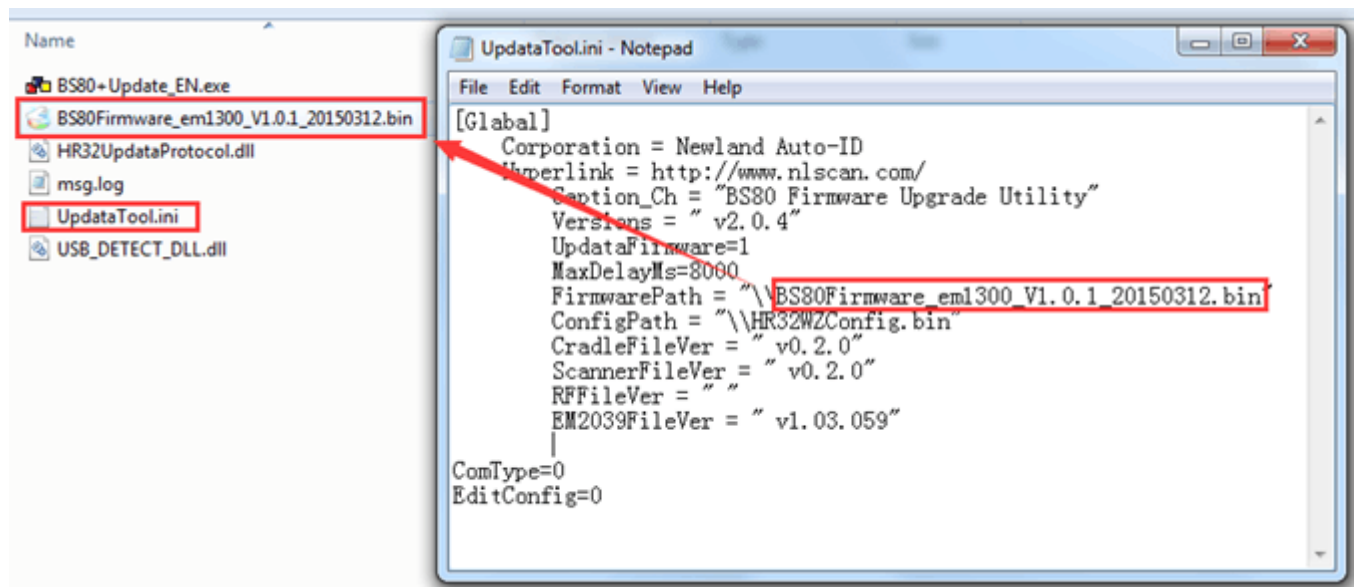


Step 5: Wait for the “Firmware upgraded!” window to pop up and click “OK” to exit the program.



Note: If this utility does not operate normally, check to see if the FirmwarePath in the UpdataTool.ini file is correct (its value should be identical with the name of the .bin file). If there is a higher version of firmware, replace the .bin file.

---





## Chapter 3 Symbologies

### Introduction

Every symbology (barcode type) has its own unique attributes. This chapter provides programming barcodes for configuring the scanner so that it can identify various barcode symbologies. It is recommended to disable those that are rarely used to increase the efficiency of the scanner.

### 1D Symbologies

#### Code 39



Enable (default)



Disable

#### Transmit Code 39 Start/Stop Character



Enable (default)



Disable

#### Code 39 FULL ASCII



Enable (default)



Disable

---

## Code 128



Enable (default)



Disable

## UCC/EAN-128



Enable (default)



Disable

## EAN-8



Enable (default)



Disable

## EAN-13



Enable (default)



Disable

---

## ISSN



Enable (default)



Disable

## ISBN



Enable (default)



Disable

## UPC-E



Enable (default)



Disable

## UPC-A



Enable (default)



Disable

---

---

## Interleaved 2 of 5

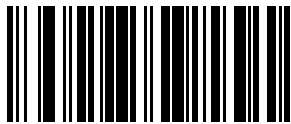


Enable (default)

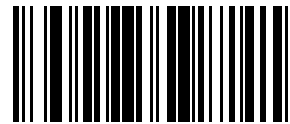


Disable

## Matrix 25



Enable (default)



Disable

## Industrial 25



Enable (default)



Disable

## Codabar



Enable (default)



Disable

---

## Code 93



Enable (default)



Disable

## GS1 Databar (RSS)



Enable (default)



Disable

## Code 11



Enable (default)



Disable

## Plessey



Enable (default)



Disable

---

---

## MSI-Plessey



Enable (default)



Disable

## Appendix

### Factory Defaults Table

Parameter	Factory Default	Remark
<b>System Settings</b>		
Operating Mode	Wireless mode (Bluetooth mode)	
Bluetooth Profile	HID	
USB Interface Type	USB HID-KBW	
Data Transmission Mode for Bluetooth	Asynchronous mode	
Sound Notifications	Enabled	
Vibration Notifications	Disabled	
Terminating Character Suffix	Append CRLF as Terminating Character Suffix	
Inter-Character Delay for Bluetooth HID	15ms	
Auto Power-Off Timer	30 minutes	
Time Stamp	Enabled	
Date Format	Format 3: yyyy/mm/dd	
USB Country Keyboard Types	US English	USB HID-KBW
Convert Case	No Case Conversion	USB HID-KBW
Inter-Keystroke Delay for KBW	3ms	USB HID-KBW

Parameter	Factory Default	Remark
<b>Symbologies</b>		
<b>Code 39</b>		
Code 39	Enabled	
Transmit Start/Stop Character	Enabled	
Code 39 Full ASCII	Enabled	
<b>Code 128</b>		
Code 128	Enabled	
<b>UCC/EAN-128</b>		
UCC/EAN-128	Enabled	
<b>EAN-8</b>		
EAN-8	Enabled	
<b>EAN-13</b>		
EAN-13	Enabled	
<b>ISSN</b>		
ISSN	Enabled	
<b>ISBN</b>		
ISBN	Enabled	
<b>UPC-E</b>		
UPC-E	Enabled	
<b>UPC-A</b>		
UPC-A	Enabled	
<b>Interleaved 2 of 5</b>		
Interleaved 2 of 5	Enabled	
<b>Matrix 25</b>		
Matrix 25	Enabled	
<b>Industrial 25</b>		
Industrial 25	Enabled	
<b>Codabar</b>		
Codabar	Enabled	



---

<b>Code 93</b>		
Code 93	Enabled	
<b>GS1 Databar (RSS)</b>		
GS1 Databar (RSS)	Enabled	
<b>Code 11</b>		
Code 11	Enabled	
<b>Plessey</b>		
Plessey	Enabled	
<b>MSI-Plessey</b>		
MSI-Plessey	Enabled	

---

---

# Digit Barcodes

0 ~ 9



0



1



2



3



4



5



6



7



8



9

---

A ~ F



A



B



C



D



E



F

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