CipherLab

User Guide

1564 Barcode Scanner

Setup barcodes included.

Version 0.90

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IMPORTANT NOTICES

FOR USA

This equipment 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 to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to 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.

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FOR CANADA

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of Industry Canada. 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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Cet appareil numerique respecte les limites de bruits radioelectriques applicables aux appareils numeriques de Classe B prescrites dans la norme sur le material brouilleur: "Appareils Numeriques," NMB-003 edictee par l'Industrie.

FOR HAND-HELD PRODUCT WITH RF FUNCTIONS

The 1564 unit (FCC ID: Q3N-1564) complies with FCC radiation exposure limits set forth for uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65. The unit has very low level of RF energy that it is deemed to comply without testing of specific absorption ratio (SAR).

The 3656 unit (FCC ID: Q3N-3656) complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body. It only operated in hand-held used. If you only transfer data to Host wirelessly, please keep the minimum distance 20 cm between machine & your body.

FOR PRODUCT WITH LASER

CAUTION

This laser component emits FDA / IEC Class 2 laser light at the exit port. Do not stare into beam.

SAFETY PRECAUTIONS

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

- The use of any batteries or charging devices, which are not originally sold or manufactured by CipherLab, will void your warranty and may cause damage to human body or the product itself.
- DO NOT disassemble, incinerate or short circuit the battery.
- DO NOT expose the scanner or the battery to any flammable sources.
- For green-environment issue, it's important that batteries should be recycled in a proper way.
- Under no circumstances, internal components are self-serviceable.
- The charging device uses an AC power adaptor. A socket outlet shall be installed near the equipment and shall be easily accessible. Make sure there is stable power supply for the scanner or its peripherals to operate properly.

CARE & MAINTENANCE

- Use a clean cloth to wipe dust off the scanning window and the body of the scanner as well as the charging device. DO NOT use/mix any bleach or cleaner.
- If you want to put away the scanner for a period of time, download the collected data to a host computer when in the memory mode, and then take out the battery. Store the scanner and battery separately.
- When the scanner resumes its work, make sure the battery is fully charged before use.
- If you shall find the scanner malfunctioning, write down the specific scenario and consult your local sales representative.

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INTRODUCTION

CipherLab's 1560 Series Barcode Scanners are specifically designed to answer your mobile demands. The versatile scanners are designed to help accelerate productivity while lowering the total cost of ownership. Intensive data collection jobs are made easier with fast, accurate barcode scanning in various working environments, especially in small businesses. Integrating short-distance wireless technology to small-form-factor scanners, the 1560 Series Barcode Scanners are ideal for carrying around, and thus give workers tether-free mobility anytime anywhere and get job done more efficiently. This line of scanners deliver data over a wireless personal network at a range of up to 90 meters and a prolonged battery life to keep business running. A new ordering option is provided for adapting a 2D scan engine to read both 1D and 2D barcodes.

Owing to the slim, ergonomic design, extremely low power consumption, and powerful decoding capability, the 1560 Series Barcode Scanners are the best choice for the following applications –

- Receiving in Retail
- Product labeling & Tracking
- Shelf Product Replenishment
- Mobile Point of Sale (POS)
- Mobile Inventory Management
- Order Picking & Staging
- Work-In-Process Tracking
- Material Flow Control
- Transportation & Distribution
- Warehousing
- Asset Management

This manual contains information on operating the scanner and using its features. We recommend you to keep one copy of the manual at hand for quick reference or maintenance purposes. To avoid any improper disposal or operation, please read the manual thoroughly before use.

Thank you for choosing CipherLab products!

Update

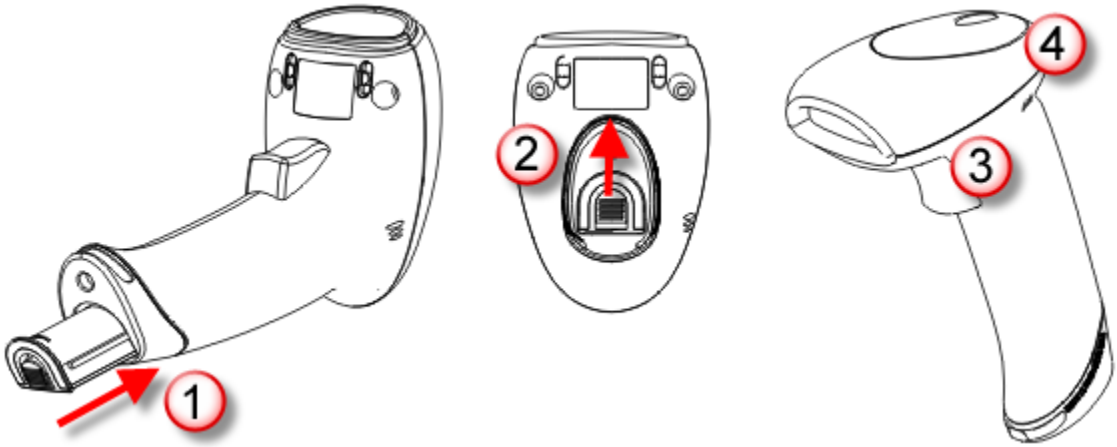
GETTING FAMILIARIZED WITH 1564 AND 3656

INSTALLING THE BATTERY TO 1564

When you first receive the package, the rechargeable battery is stored separately from the scanner. Insert the battery into the scanner first so that it can be charged when sitting in the 3656 stand.

Note: Any improper handling may reduce the battery life.

1) Hold the scanner still and insert the battery into the battery compartment at the bottom of the scanner.
2) Slide the battery latch to lock the battery in the compartment.
3) Hold down the trigger about 2 seconds to turn on the scanner.
4) The scanner will respond with a long beep and its LED will come on-off shortly.

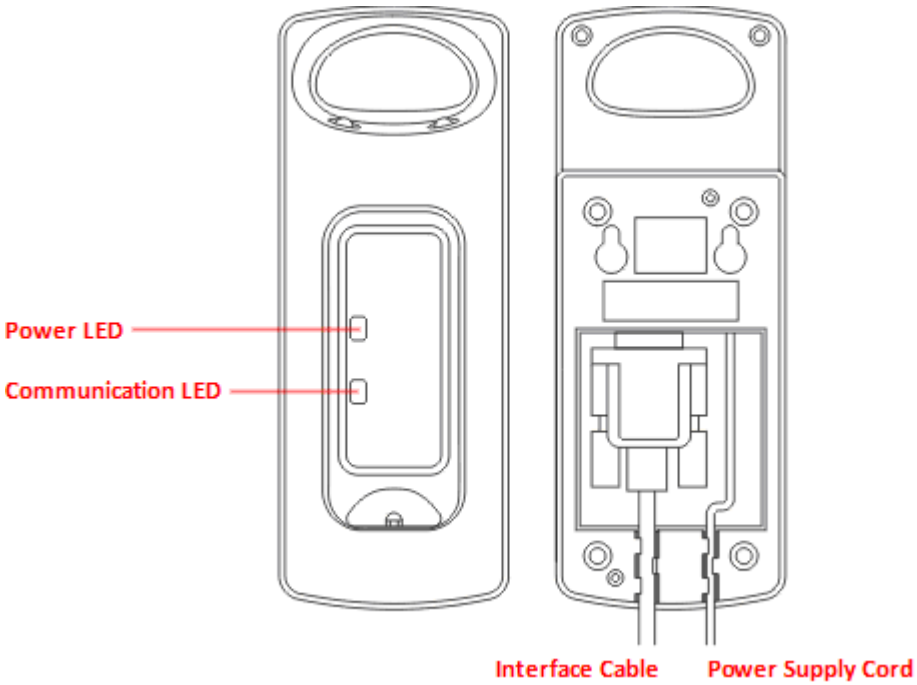


Note: (1) To turn off the scanner, remove the battery. Refer to settings of "Auto Power Off".
(2) For shipping and storage purposes, save the scanner and the battery separately. This will keep the battery in good condition for future use.
(3) When the battery charge becomes low, you will find the scanner cannot emit scan beam and its power-on beep sounds differently.

Enter Setup

SETTING UP 3656

Capable of charging 1564, the 3656 stand is specifically designed for the scanner to communicate with a host computer wirelessly. The connection between the scanners and 3656 is made easy and reliable. Refer to 3.1.1 Connect to 3656.



Two LED indicators are provided for power and communications status.

Power LED		Meaning
Red, solid	---	Power ON
---	---	Power OFF
Communication LED		**Meaning**
---	Blue, solid	Initialize
Red, solid	---	Failed to establish a USB connection
Red, solid	Blue, flashing	Serial command mode with USB Virtual COM or RS-232: wait 3 seconds for starting a serial command
Red, flashing	Blue, flashing	Serial command mode with USB HID: wait 3 seconds for pressing [Num Lock] or [Caps Lock] 5 times via keyboard
---	Blue, flashing	Wait for connection request from the scanner (Slow flash at 0.5 Hz)

---	Blue, flashing	Connected with the scanner (Fast flash at 1 Hz)
Red, solid	Blue, flashing	Failed to send data to host via USB Virtual COM (Fast flash at 1 Hz)
Red, flashing	---	Enter Download Mode

Enter Setup

CHARGING THE BATTERY VIA 3656

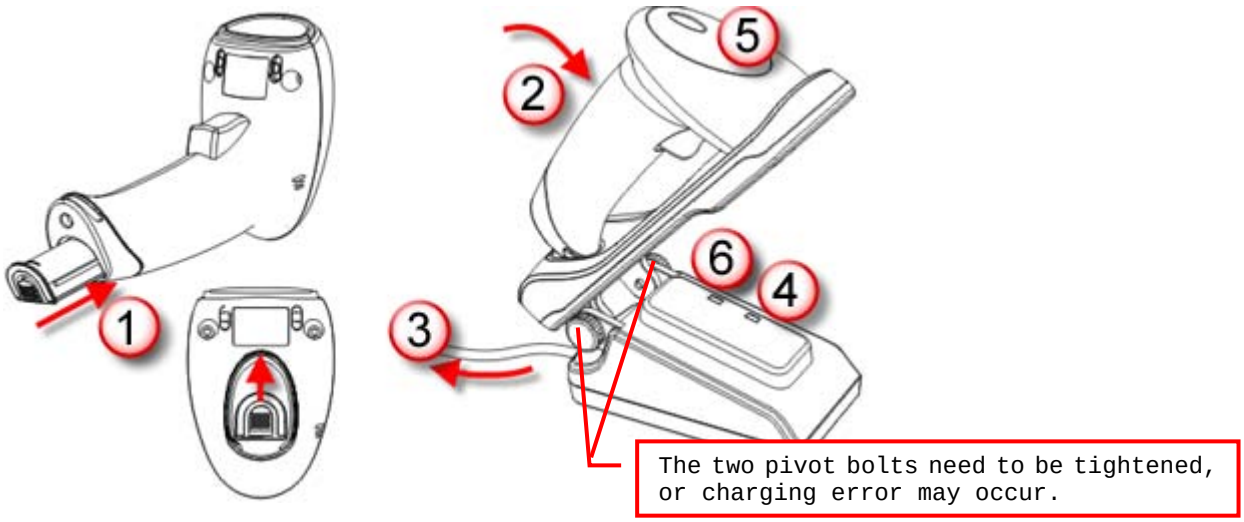
The battery may not be charged to full for shipment. When you first receive the package, you will need to charge the battery to full before using the scanner. When using the RS-232 cable, it takes approximately 5 hours to charge the battery to full (from the power adaptor).

Note: Battery charging stops when the temperature drops below 0°C or exceeds 40°C. It is recommended to charge the battery at room temperature (18°C to 25°C) for optimal performance.

1) Install the battery to the scanner.
2) Seat the scanner in the 3656 stand.
3) Connect the 3656 stand to your computer or notebook via the USB or RS-232 cable.
   - RS-232: It is necessary to connect the power supply cord.
   - USB: When the stand is solely on USB power, the current may be insufficient for it to function normally. Therefore, we suggest connecting the power supply cord.
4) The LED for power indication on 3656 will become solid red.
5) The scanner LED will be flashing red during charging.

   When the charging is done, the LED will turn off.

   When charging error occurs, the LED will turn solid red.
6) The LED for communications on 3656 will first become solid blue while initializing. Refer to the table above for details on different stage of communications.



Warning: If the two pivot bolts are not tightened properly, charging error may occur.

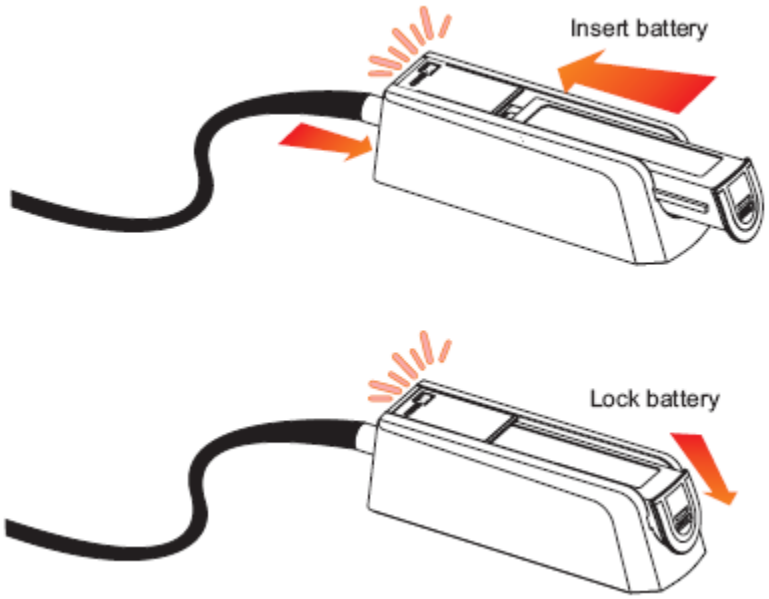
Update

CHARGING THE BATTERY VIA CHARGER

The battery charger is provided for charging the battery only. You may purchase the charger separately. It takes approximately 3 hours to charge the battery to full.

Note: Battery charging stops when the temperature drops below 0°C or exceeds 40°C. It is recommended to charge the battery at room temperature (18°C to 25°C) for optimal performance.

1) Insert the battery.
2) Lock the battery.
3) Connect the power supply cord to the charger.
4) Connect the other end of the power cord to a suitable power outlet.



Status LED		Meaning
Red, solid	---	Charger power ON (LED on for 0.5 second)
Red, solid	---	Charging battery
---	Green, solid	Charging done
Red, solid	Green, solid	Pre-charging when battery voltage under 3V (Typical)
---	---	Power or battery not ready

Enter Setup

INSIDE THE PACKAGE

The items included in the package may be different, depending on your order. Save the box and packaging material for future use in case you need to store or ship the scanner.

- Barcode Scanner: 1564
- BT Base (3656)
- Rechargeable Li-ion battery
- Product CD

Note: The CD-ROM includes this manual and Windows-based *ScanMaster* software for configuration, as well as the USB Virtual COM driver.

PRODUCT HIGHLIGHTS

- Small-form-factor and built tough to survive drop test
- Extremely low power consumption
- Firmware upgradeable
- Supports most popular barcode symbologies, including GS1-128 (EAN-128), GS1 DataBar (RSS), etc.
- Supports negative barcodes
- Supports a variety of 2D symbologies
- Supports different scan modes, including Aiming Mode and Multi-Barcode Mode[Note]
- User feedback via LED indicator and beeper
- Beeping tone and duration programmable for Good Read
- 512 KB flash memory for Memory Mode operation, storing up to 32,768 scans based on EAN-13 barcodes
- Provides up to 4 KB SRAM for reserve buffer while getting out of range over a wireless personal area network (WPAN), storing up to 256 scans based on EAN-13 barcodes
- Capable of transmitting scanned data, emulating a serial cable (BT SPP) or as keyboard input (BT HID), to a notebook computer or PDA with *Bluetooth*® wireless technology
- Programmable parameters include data output format, editing format, symbologies, etc.
- Supports OCX programming for signature capture in Decode Mode, Image Mode and Video Mode

Note: (1) In any scan mode other than Multi-Barcode Mode, a barcode acceptable to 1564 can only contain data of 20 KB at most.
(2) 1564 supports different scan modes and signature capture in Decode Mode. Two more operation modes are supported, which are Image Mode and Video Mode. Image capture occurs in all modes of operation, and it requires software applications to capture and download images to PC for decoding.

SYMBOLOGIES SUPPORTED

Most of the popular barcode symbologies are supported, as listed below. Each can be individually enabled or disabled. The scanner will automatically discriminate and recognize all the symbologies that are enabled. Refer to Chapter 3 Changing Symbology Settings for details of each symbology.

Symbologies Supported: Enable/Disable		Default	
Codabar		Enabled	
Code 93		Enabled	
MSI			Disabled
Code 128	Code 128	Enabled	
	GS1-128 (EAN-128)		Disabled
	ISBT 128	Enabled	
Code 2 of 5	Industrial 25	Enabled	
	Interleaved 25	Enabled	
	Matrix 25		Disabled
	Chinese 25		Disabled
Code 3 of 9	Code 39	Enabled	
	Italian Pharmacode		Disabled
	Trioptic Code 39		Disabled
EAN / UPC	EAN-8	Enabled	
	EAN-8 Addon 2		Disabled
	EAN-8 Addon 5		Disabled
	EAN-13	Enabled	
	EAN-13 & UPC-A Addon 2		Disabled
	EAN-13 & UPC-A Addon 5		Disabled
	ISBN		Disabled
	UPC-E0	Enabled	
	UPC-E1		Disabled
	UPC-E Addon 2		Disabled
	UPC-E Addon 5		Disabled
	UPC-A	Enabled	
GS1 DataBar (RSS)	GS1 DataBar Omnidirectional (RSS-14)		Disabled
	GS1 DataBar Truncated		Disabled
	GS1 DataBar Stacked		Disabled
	GS1 DataBar Stacked Omnidirectional		Disabled

Enter Setup

	GS1 DataBar Limited (RSS Limited)		Disabled
	GS1 DataBar Expanded (RSS Expanded)		Disabled
	GS1 DataBar Expanded Stacked		Disabled
Code 11			Disabled
Composite Code	Composite CC-A/B		Disabled
	Composite CC-C		Disabled
	Composite TLC-39		Disabled
Postal Code	US Postnet	Enabled	
	US Planet	Enabled	
	UK Postal	Enabled	
	Japan Postal	Enabled	
	Australian Postal	Enabled	
	Dutch Postal	Enabled	
	USPS 4CB/One Code/Intelligent Mail		Disabled
	UPU FICS Postal		Disabled
2D Symbologies	PDF417	Enabled	
	MicroPDF417		Disabled
	Data Matrix	Enabled	
	Maxicode	Enabled	
	QR Code	Enabled	
	MicroQR	Enabled	
	Aztec	Enabled	

Enter Setup

QUICK START

The configuration of the scanner can be done by reading the setup barcodes contained in this manual or via the *ScanMaster* software.

This section describes the procedure of configuring the scanner by reading the setup barcodes and provides some examples for demonstration.

Configuration Mode

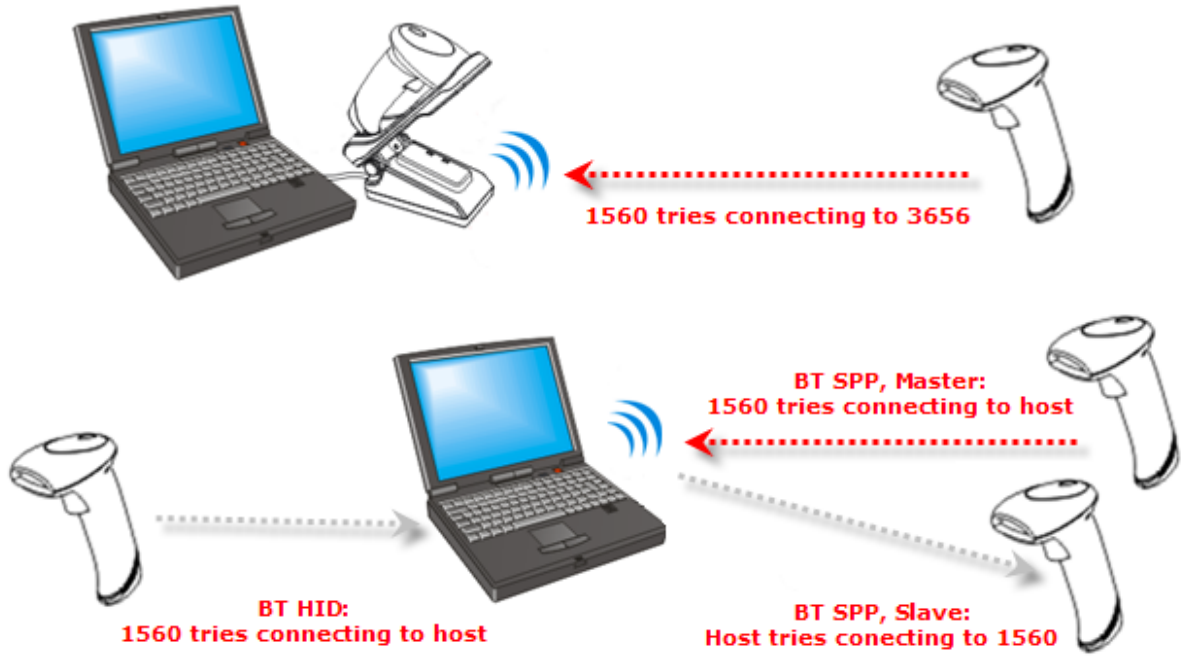
1. Hold down the trigger about 2 seconds to turn on the scanner. It will respond with a long beep and its LED will come on-off shortly.
2. Have the scanner read the “Enter Setup” barcode. It will respond with six beeps and its LED indicator will become flashing red after reading the barcode.
3. Have the scanner read more setup barcodes… Most of the setup barcodes are normal. The scanner will respond with two beeps (low-high tone). For special setup barcodes, it requires reading more than one setup barcode to complete the setting.
4. Have the scanner read the “Update” or “Abort” barcode. It will respond with six beeps and its LED indicator will become flashing red after reading the barcode.
5. The scanner will restart automatically upon reading the “Update” or “Abort” barcode. It will respond with a long beep and its LED will come on-off shortly.

Note: Refer to Appendix II Host Serial Commands for how to configure the 3656 stand by having the scanner read 3656-related setup barcodes or using serial commands.

Update

Working Mode

Upon powering up, the scanner will try to establish a connection with 3656 or a computer with *Bluetooth*® wireless technology. Refer to Chapter 3 – Setting up a WPAN Connection for details. The connection between the scanners and 3656 is made easy and reliable.



Note: If RS-232, USB Virtual COM or BT SPP is selected for output interface, the host can directly send serial commands to configure the scanner. For example, run HyperTerminal.exe and type the 6-digit command located under each setup barcode. Refer to Appendix II Host Serial Commands.

Enter Setup

ENTER CONFIGURATION MODE

For the scanner to enter the configuration mode, you must have it read the "Enter Setup" barcode, which can be located at the bottom of almost every even page of this manual.

- The scanner will respond with six beeps and its LED indicator will become flashing red after reading the barcode.

Enter Setup

For configuring scanner parameters, see “Read a Setup Barcode” below.

EXIT CONFIGURATION MODE

For the scanner to save settings and exit the configuration mode, you must have it read the “Update” barcode, which can be located at the bottom of almost every odd page of this manual. If you want to exit the configuration mode without saving any changes, have the scanner read the “Abort” barcode instead.

- Just like reading the “Enter Setup” barcode, the scanner will respond with six beeps and its LED indicator will become flashing red after reading the barcode. Wait for a few seconds for the scanner to restart itself.

Update

Abort

Update

DEFAULT SETTINGS

SAVE USER SETTINGS AS DEFAULTS

For the scanner to keep the customized settings as user defaults, you must have it read the “Save as User Defaults” barcode. This is a normal setup barcode, and the scanner will respond with two beeps (low-high tone).

- After reading the “Update” barcode, the current settings will be saved as user defaults.

Save as User Defaults

RESTORE USER DEFAULTS

For the scanner to restore the user defaults, which you have saved earlier, you must have it read the “Restore User Defaults” barcode. This is a normal setup barcode, and the scanner will respond with two beeps (low-high tone).

- After reading the “Update” barcode, all the parameters of the scanner will return to their customized values.

Restore User Defaults

RESTORE SYSTEM DEFAULTS

For the scanner to restore the factory defaults, you must have it read the “Restore System Defaults” barcode. This is a normal setup barcode, and the scanner will respond with two beeps (low-high tone). For 3656 to restore factory defaults, refer to 3656 Setup Barcodes & Serial Commands.

- After reading the “Update” barcode, all the parameters of the scanner will return to their default values. The current connection record will be cleared as well.

Restore System Defaults

Note: The system default value (if there is) for each setting is indicated by an asterisk “*”.

Enter Setup

READ A SETUP BARCODE

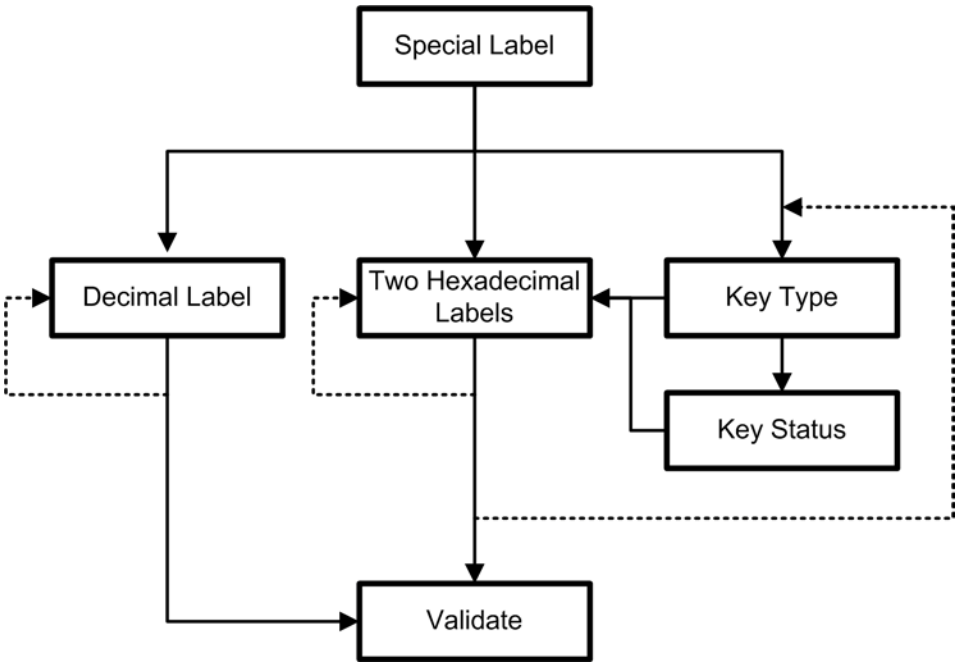
CONFIGURE PARAMETERS

For most of the scanner parameters, only one read is required to set them to new values. The scanner will respond with two beeps (low-high tone) when each parameter is set successfully.

But for a number of special parameters, multiple reads are required to complete the setting. In this case, the scanner will respond with a short beep to indicate it needs to read more setup barcodes. These special parameters may require reading one or more setup barcodes, such as

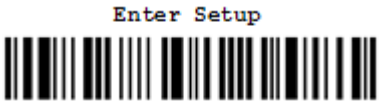
- Numeric barcodes, say, for keyboard type, inter-character delay, length qualification
- Hexadecimal barcodes, say, for character strings as prefix, suffix, etc.
- When “BT HID”, “USB HID” or “Keyboard Wedge” is configured for interface, Key Type and Key Status will then become applicable. You may decide whether or not to change key status when “Normal Key” is selected for Key Type.

To complete the configuration of these special parameters, it requires reading the “Validate” barcode, and the scanner will respond with two beeps (low-high tone) to indicate the input values are validated.



Update

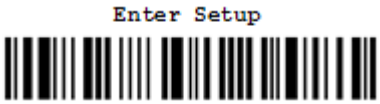
The example below shows how to save your settings as “User Default” so that you may restore user defaults at a later time:



Steps	Action	User Feedback if Successful
1	Power on the scanner…	The scanner will respond with a long beep (high tone) and its LED indicator will become solid red and go off quickly.
2	Enter the Configuration Mode… Enter Setup	The scanner will respond with six beeps (high-low tone repeats three times), and its LED indicator will be flashing red.
3	Read a Setup barcode… For example, *Enable Industrial 25 100307 Save as User Default 109986	The scanner will respond with two beeps (low-high tone) if reading a normal setup barcode.
4	Exit the Configuration Mode… Update 109999 OR Abort 109998	Same as for *Enter the Configuration Mode*.
5	The scanner will automatically restart itself…	Same as for *Power on the scanner*.
*	When any configuration error occurs…	The scanner will respond with one long beep (low tone).

Enter Setup

The example below shows how to set numeric parameters:

Steps	Action	User Feedback if Successful
1	Power on the scanner…	The scanner will respond with a long beep (high tone) and its LED indicator will become solid red and go off quickly.
2	Enter the Configuration Mode… 	The scanner will respond with six beeps (high-low tone repeats three times), and its LED indicator will become flashing red.
3	Read a Setup barcode… For example, **Normal setup barcode** **Normal setup barcode** **Special setup barcode** **Decimal barcodes**	Read the “Decimal Value” barcode(s). ▸ Refer to Appendix IV “Decimal System” The scanner will respond with two beeps (low-high tone) when the input values are validated.
4	Exit the Configuration Mode…	Same as for *Enter the Configuration Mode*.
5	The scanner will automatically restart itself…	Same as for *Power on the scanner*.

Update

The example below shows how to set string parameters:

Steps	Action	User Feedback if Successful
1	Power on the scanner…	The scanner will respond with a long beep (high tone) and its LED indicator will become solid red and go off quickly.
2	Enter the Configuration Mode… Enter Setup 	The scanner will respond with six beeps (high-low tone repeats three times), and its LED indicator will become flashing red.
3	Read a Setup barcode… For example, **Special setup barcodes** Configure Prefix 101230	The scanner will respond with one short beep if reading a special setup barcode such as “Prefix Code”, indicating the setup requires reading more barcodes.
	*Normal 109926	When “BT HID”, “USB HID” or “Keyboard Wedge” is configured for interface, Key Type and Key Status will then become applicable. You may decide whether or not to change key status when “Normal Key” is selected for Key Type. ▸ Refer to Appendix III
	Add Left Alt 109932	
	Hexadecimal barcodes 2 109902	Read the “Hexadecimal Value” barcodes for the desired character string. For example, read “2” and “B” for the scanner to prefix the character “+”. ▸ Refer to Appendix IV “Hexadecimal System”
	B 109911	
	Validate 109994	The scanner will respond with two beeps (low-high tone) when the input values are validated.
4	Exit the Configuration Mode… Update 109999 OR Abort 109998	Same as for *Enter the Configuration Mode*.
5	The scanner will automatically restart itself…	Same as for *Power on the scanner*.

Enter Setup

LIST THE CURRENT SETTINGS

The current settings of all scanner parameters can be sent to the host computer for user inspection. The listing includes pages as shown below. You can select the page of interest by having the scanner read the “List Page x” barcode. The scanner will respond with two beeps (low-high tone) and send the selected page to the host immediately.

List settings regarding Firmware Version, Serial Number, Interface, Buzzer, and Other Scanner Parameters	**List Page 1**	109950
List settings regarding Prefix, Suffix, and Length Code Setting (1/2)	**List Page 2**	109951
List settings regarding Prefix, Suffix, and Length Code Setting (2/2)	**List Page 3**	109952
List settings regarding Code ID	**List Page 4**	109953
List settings regarding: Readable Symbologies (1/2)	**List Page 5**	109954
List settings regarding: Readable Symbologies (2/2)	**List Page 6**	109955
List settings regarding Symbology Parameters (1/3)	**List Page 7**	109956
List settings regarding Symbology Parameters (2/3)	**List Page 8**	109957
List settings regarding Symbology Parameters (3/3)	**List Page 9**	109958
List settings regarding Imager Parameters, as well as Video and Signature Capture Parameters	**List Page 10**	109959

Update

List settings regarding Editing Format 1 (1/2)

List Page 11

List settings regarding Editing Format 1 (2/2)

List Page 12

List settings regarding Editing Format 2 (1/2)

List Page 13

List settings regarding Editing Format 2 (2/2)

List Page 14

List settings regarding Editing Format 3 (1/2)

List Page 15

List settings regarding Editing Format 3 (2/2)

List Page 16

List settings regarding Editing Format 4 (1/2)

List Page 17

List settings regarding Editing Format 4 (2/2)

List Page 18

List settings regarding Editing Format 5 (1/2)

List Page 19

List settings regarding Editing Format 5 (2/2)

List Page 20

Enter Setup

CREATE ONE-SCAN SETUP BARCODES

The fact is most of the scanner parameters require only one read for setting new values. To facilitate configuring the scanner, you may create One-Scan setup barcodes for use.

The requirements of a One-Scan setup barcode are:

- a prefix of the "#@" characters
- the six digits of command parameters
- a suffix of the "#"character

For example, the scanner needs reading three setup barcodes for the command parameter "109952" to take effect:

Enter Setup

List Page 3

Update

Now, it requires only one read:

One-Scan Setup Barcode for 109952

Note: The scanner will restart automatically upon reading the One-Scan setup barcode for (1) changing the interface or (2) setting memory mode, enable or disable. It will respond with a long beep and its LED will come on-off shortly.

Update

Enter Setup

Chapter 1
UNDERSTANDING THE BARCODE SCANNER

This chapter explains the features and usage of the barcode scanner.

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1.1 BATTERY

The scanner is powered by a rechargeable 3.7 V/800 mAh Li-ion battery, and it takes approximately 5 hours to charge the battery to full (from the power adaptor). However, the charging time may vary by working condition. For intensive data collection, you may purchase a spare battery for non-stop operation.

Note: The scanner can be configured to save battery power. Refer to settings of “Auto Power Off & Power-Saving”, “CCD Sensor Always Active”, “Sniff Mode”, as well as “Low Battery Alarm”.

1.1.1 HOW TO OPERATE THE SCANNER

Turn on the scanner...

After installing the battery, hold down the trigger for about 2 seconds. The scanner will respond with a long beep (high tone), and its LED will become solid red and go off quickly.

Turn off the scanner...

Remove the battery directly or let it turn off automatically in specific circumstances.

Update

1.1.2 AUTO POWER OFF & POWER-SAVING

The scanner will stay active at power-on, which may be followed by a transition from full CPU speed to low CPU speed (Power-Saving) to auto shutdown (Auto Power Off).

- Power-Saving (1~254 min.; 0= Disable): By default, it is set to stand by at full-speed for 2 minutes before it enters low-speed mode. If this feature is not desired, set it to 0.
- Auto Power Off (1~254 min.; 0= Disable): By default, it is set to automatically shut down after 10 minutes. If this feature is not desired, set it to 0.

Note: The Power-Saving setting will not take effect when a WPAN connection has been established successfully, via BT HID or SPP.

Before establishing a WPAN connection successfully…

1. The scanner will stay active for a specified period of time (2 minutes by default) for the following scenarios. Its CPU is running at full speed, and the LED is flashing blue (On/Off ratio 0.5 s: 0.5 s).

   (a) waiting for a connection request from the host (BT SPP Slave Mode)

   (b) trying to connect to the host (BT HID or BT SPP Master Mode)

   (c) trying to connect to 3656

2. If it fails to connect within 2 minutes, the scanner will become inactive to save power for the remaining period of time (the specified value minus 2 minutes). Its CPU is running at low speed, and the LED is flashing red (On/Off ratio 0.3 s: 2.5 s).

   Press the trigger to wake up the scanner when it becomes inactive, and the scanner will stay active again.

3. If it fails to connect again and again, and finally stays inactive until the specified time interval for Auto Power Off has elapsed, the scanner will automatically turn off in order to conserve battery power.

   Hold down the trigger for about 2 seconds to turn it on.

Note: For scenarios (a) and (b) in step 1, on your computer you may need to search for the scanner again.

Enter Setup

After establishing a WPAN connection successfully...

1. Once a WPAN connection is established successfully, the scanner will stay active for a specified period of time (2 minutes by default) for data transmission. Its CPU is running at full speed, and the LED is flashing blue (On/Off ratio 0.02 s: 3 s).

2. If it is idle within 2 minutes, the scanner will become inactive to save power for the remaining period of time (the specified value minus 2 minutes). Its CPU is running at low speed, and the LED is flashing red (On/Off ratio 0.3 s: 2.5 s).

   Press the trigger to wake up the scanner when it becomes inactive, and the scanner will stay active again.

   - For BT HID or SPP, there is no transition from full CPU speed to low CPU speed. However, when connecting with 3656, the scanner will go through the transition in order to save power.

3. If it is idle and finally stays inactive until the specified time interval for Auto Power Off has elapsed, the scanner will automatically turn off in order to conserve battery power. You will hear three short beeps, tone descending from high to low.

   Hold down the trigger for about 2 seconds to turn it on.

   - For BT HID, the scanner will resume connection with the host upon powering on again, as long as the host application is running. You will hear three short beeps, tone ascending from low to high. If the scanner fails to resume connection, it will try every 5 seconds to re-connect to the host unless you have the scanner read the “Reset Connection” barcode.
   - For BT SPP Slave Mode, the scanner must wait for the host to re-connect.
   - For BT SPP Master Mode, the scanner will resume connection with the host upon powering on again, as long as the host application is running. You will hear three short beeps, tone ascending from low to high. If the scanner fails to resume connection, it will try every 5 seconds to re-connect to the host unless you have the scanner read the “Reset Connection” or “Restore System Defaults” barcode.
   - With the use of 3656, the scanner will try re-connecting to 3656 unless you turn off the scanner.

Update

Auto Off after 0~254 min. (*10)

1) Read the barcode above to specify the time interval before the scanner automatically turns off.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。. For example, read "1" and "5" for the scanner to automatically turn off after being idle for 15 minutes.
3) Read the "Validate" barcode on the same page to complete this setting.

Note: Auto Power Off will not take effect when the scanner is in the configuration mode.

Power-Saving after 0~254 min. (*2)

1) Read the barcode above to specify the time interval before the scanner enters low-speed mode.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。. For example, read "5" for the scanner to enter low-speed mode after being idle for 5 minutes.
3) Read the "Validate" barcode on the same page to complete this setting.

Note: Power-Saving will not take effect when one of the following conditions is met:
(1) the scanner has already established a BT HID/SPP connection,
(2) the scanner is in the configuration mode,
(3) the scan mode is set to Test, Continuous or Alternate Mode, or
(4) the setting value of Power-Saving is greater than that of Auto Power Off.

Enter Setup

1.2 MEMORY

The collected data can be sent back to a host computer one by one via the WPAN connection or stored in flash memory when the scanner is set to Memory mode.

1.2.1 TRANSMIT BUFFER

By default, transmit buffer is enabled and for use when the scanner is out of range. Upon reading a barcode successfully within range, the scanner responds with one short beep (high tone) and its LED indicator becomes solid green and goes off quickly. However, the host computer may not receive the data immediately if getting out of range. With the 4 KB transmit buffer, the scanner can ignore the transmission status and keep on reading barcodes until the buffer is full.

When transmit buffer is enabled…

If the scanner is out of range, it will respond with two short beeps, high-low tone, upon reading a barcode successfully.

When transmit buffer is full, the scanner will respond with one long beep (low tone) and its LED indicator will become solid red and go off quickly. You are advised to get back to range.

When transmit buffer is disabled…

If the scanner is out of range, it will respond with one long beep (low tone) and its LED indicator will become solid red and go off quickly. You are advised to get back to range.

***Enable**

Disable

Note: The 4 KB transmit buffer on the scanner can hold as many as 256 scans based on EAN-13 barcodes. Data will be cleared out once the scanner is turned off or running out of battery power!

Update

1.2.2 MEMORY MODE

The scanner keeps 512 KB flash memory for memory mode operation. When the scanner is in memory mode, it means a WPAN connection is disabled.

Enable

***Disable**

Warning: No WPAN connection is allowed unless the memory mode is disabled.

Memory Data Delay

You may set a delay between each data record while transmitting data back to the server.

***None**

250 ms

500 ms

1 sec

2 sec

3 sec

5 sec

Enter Setup

8 sec

100245

Send Data

The 512 KB flash memory on the scanner can store up to 32,768 scans based on EAN-13 barcodes. When it is used up, the scanner will respond with two short beeps (high-low tone) as a warning.

You are advised to send data to the server immediately by having the scanner read the “Send Data” barcode below. It will resume connection with host automatically.

Send Data

109918

Clear Data & Confirm

Even though data has been sent back to the server, the flash memory is still occupied unless you erase the memory by having the scanner read two barcodes – “Clear Data” and “Confirm”.

1. Read the “Clear Data” barcode to clear the flash memory.
2. Read the “Confirm” barcode to confirm the action.

Clear Data

109916

Confirm

109917

Update

1.3 LED INDICATOR

The triple-color LED on top of the scanner is used to provide user feedback. For example, the LED becomes solid red and goes off quickly upon powering on or running out of transmit buffer. You may tell the difference by the beeps – you will hear a long beep of high tone when powering on the scanner, and a long beep of low tone when the transmit buffer becomes full.

Scanner LED			Meaning
Red, flashing	---	---	▸ Charging (On/Off ratio 0.5 s: 0.5 s) ▸ Configuration Mode (On/Off ratio 0.5 s: 0.5 s)
Red, solid	---	---	Charging error
Red, flashing	---	---	Flashing red (On/Off ratio 0.3 s: 2.5 s) indicates the scanner is inactive and its CPU running at low speed to save power — ▸ No WPAN connection is established after waiting for two minutes
Red, on-off	---	---	▸ Power on, with one long beep (high tone, LED on for 1 second) ▸ Data saved to buffer when transmit buffer is enabled and the scanner is out of range, with two short beeps (high-low tone) ▸ Transmit buffer full, with one long beep (low tone) ▸ Transmit buffer disabled, with one long beep (low tone) ▸ Memory full in memory mode, with two short beeps (high-low tone)
---	---	Green, on-off	Good Read, with one short beep (high tone) and beeper pitch and duration programmable
---	Blue, flashing	---	First, flashing blue (On/Off ratio 0.5 s: 0.5 s) for two minutes indicates the scanner is waiting for connection, and goes off if no connection is established, then flashing red (On/Off ratio 0.3 s: 2.5 s) indicates the scanner is inactive. It is ready for connection only while the LED is flashing blue — ▸ SPP Slave: waiting host to connect ▸ HID or SPP Master: trying to connect to host ▸ Using 3656: trying to connect to 3656
---	Blue, flashing	---	Flashing blue (On/Off ratio 0.1 s: 0.1 s) indicates the scanner receives a PIN code request from host (flashing more quickly than waiting connection).
---	Blue, flashing	---	Flashing blue (On/Off ratio 0.02 s: 3 s) indicates the scanner has established a WPAN connection successfully.
---	Blue, flashing	Green, flashing	Flashing blue and green (On/Off ratio 0.1 s: 0.1 s) indicates an error occurs while entering the PIN code. Press the trigger to get ready for re-connecting.

Enter Setup

1.3.1 GOOD READ LED

***Enable Good Read LED**

Disable Good Read LED

1.3.2 GOOD READ LED DURATION

By default, the Good Read LED stays on for 40 milliseconds. Specify a value, ranging from 1 to 254 in units of 10 milliseconds.

Good Read LED Time-out after 0.01~2.54 sec. (*40 ms)

1) Read the barcode above to specify the time interval before the Good Read LED goes off.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。. For example, read "1" and "5" for the LED to go off after 150 milliseconds.
3) Read the "Validate" barcode on the same page to complete this setting.

1.4 BEEPER

The scanner has a buzzer to provide user feedback in various operating conditions.

Beeping	Meaning
One long beep, high tone	Power on, with red LED on (1 second) and off quickly
One short beep, high tone ▸ Programmable, default to 4 KHz	Good Read, with green LED on-off quickly
Six short beeps ▸ High-low tone repeats three times	▸ Enter Configuration Mode, with red LED flashing ▸ Exit Configuration Mode
Two short beeps, low-high tone	Setup barcode read successfully
One short beep, high tone	▸ More setup barcode required ▸ Input PIN code ▸ Clear PIN code
One short beep, low tone	More barcodes required to complete the “output sequence” requirements of Multi-Barcode Editor, with green LED on-off quickly (Upon completion, same as Good Read.)
One long beep, low tone	▸ Transmit buffer full, with red LED on-off quickly ▸ Transmit buffer disabled, with red LED on-off quickly ▸ Configuration error (Wrong barcode…) ▸ PIN code input error ▸ Reject random PIN request ▸ Fail to send data in memory mode
Two short beeps, high-low tone	▸ Data saved to buffer when transmit buffer is enabled and the scanner is out of range, with red LED on-off quickly ▸ Memory Mode – Memory full, with red LED on-off quickly
Two short beeps, high tone	Low Battery Alarm
Two long beeps, high-low tone	Multi-Barcode Mode – Buffer full
Three short beeps, tone ascending from low to high	▸ WPAN connection established, with blue LED flashing ▸ WPAN connection resumed, with blue LED flashing
Three short beeps, tone ascending from high to low	WPAN connection out of range or suspended

Enter Setup

1.4.1 BEEPER VOLUME

Mute

Minimum Volume

Medium Volume

***Maximum Volume**

Update

1.4.2 GOOD READ BEEP

Frequency

8 kHz

***4 kHz**

2 kHz

1 kHz

Duration

***Shortest**

Shorter

Longer

Longest

Enter Setup

1.4.3 LOW BATTERY ALARM

By default, it will activate the beeper to give a warning when the battery charge gets low. In order to prevent data loss, you are advised to replace the battery immediately when you hear two short beeps (high tone).

No Alarm

101017

***Low Battery Alarm**

101018

Update

1.5 SEND “NR” TO HOST

This feature only works when Keyboard Wedge or RS-232 is selected for output interface. You may have the scanner send the “NR” string to the host to notify the No Read event.

Enable

***Disable**

Enter Setup

1.6 SCAN MODES

Different scan modes are supported – select the scan mode that best suits the requirements of a specific application. Refer to the comparison table below.

Scan Mode	Start to Scan				Stop Scanning			
	Always	Press trigger once	Hold trigger	Press trigger twice	Release trigger	Press trigger once	Barcode being read	Timeout
Continuous mode	✓							
Test mode	✓							
Laser mode			✓		✓		✓	✓
Auto Off mode		✓					✓	✓
Auto Power Off mode		✓						✓
Alternate mode		✓				✓		
Aiming mode				✓			✓	✓
Multi-Barcode mode			✓		✓			

Note: (1) By default, the scan mode is set to Laser mode.
(2) In any scan mode other than Multi-Barcode Mode, a barcode acceptable to 1564 can only contain data of 20 KB at most.

Update

1.6.1 CONTINUOUS MODE

The scanner is always scanning.

- After a successful decoding, the removal of barcode is required. It is not allowed to proceed to decode until the decoding delay time has passed.
- To decode the same barcode repeatedly, move away the barcode and put it back again and again for scanning.

Note: Refer to “Delay between Re-read”.

Continuous Mode

100201

Decoding Delay

Set the time interval between each decoding.

***Disable**

100227

0.5 sec

100228

1 sec

100229

2 sec

100230

1.6.2 TEST MODE

The scanner is always scanning.

- Capable of decoding the same barcode repeatedly without removing it, for testing purpose.

Test Mode

100207

Enter Setup

1.6.3 LASER MODE

The scanner will start scanning once the trigger is held down.

- The scanning won't stop until (1) a barcode is decoded, (2) the pre-set timeout expires, or (3) you release the trigger.

Note: Refer to “Scanning Timeout”.

***Laser Mode**

1.6.4 AUTO OFF MODE

The scanner will start scanning once the trigger is pressed.

- The scanning won't stop until (1) a barcode is decoded, and (2) the pre-set timeout expires.

Note: Refer to “Scanning Timeout”.

Auto Off Mode

1.6.5 AUTO POWER OFF MODE

The scanner will start scanning once the trigger is pressed.

- The scanning won't stop until the pre-set timeout expires, and, the pre-set timeout period re-counts after each successful decoding.

Note: Refer to “Delay between Re-read” and “Scanning Timeout”.

Auto Power Off Mode

Update

1.6.6 ALTERNATE MODE

The scanner will start scanning once the trigger is pressed

- The scanning won't stop until you press the trigger again.

Alternate Mode

1.6.7 AIMING MODE

The scanner will aim at a barcode once the trigger is pressed, and start scanning when the trigger is pressed again within one second.

- The scanning won't stop until (1) a barcode is decoded, and (2) the pre-set timeout expires.

Aiming Mode

Aiming Timeout

You can limit the aiming time interval (1~15). By default, the scanner time-out is set to 1 second.

Aiming Time-out after 1~15 sec. (*1)

1. Read the barcode above to specify the time interval before aiming ends. (It is set to 1 by default.)
2. Read the "Decimal Value" barcode on page **錯誤! 尚未定義書籤。**. For example, read "1" and "0" for the scanner to automatically shut down after being idle for 10 seconds.
3. Read the "Validate" barcode on the same page to complete this setting.

Enter Setup

1.6.8 MULTI-BARCODE MODE

The scanner will be scanning as long as the trigger is held down, capable of decoding one single barcode, as well as a multiple unique barcodes one at a time. While decoding a bunch of unique barcodes, if a barcode is decoded twice, its subsequent decoding will be ignored and the scanner is expecting another unique barcode.

For 1564 to decode multiple unique barcodes, the maximum output data length of all the barcodes is 10 KB after configuration. When the output length exceeds 10 KB, Multi-Barcode Mode will not take effect.

- The scanning won't stop until you release the trigger.

Multi-Barcode Mode

Note: (1) A barcode is considered unique when its Code Type or data is different from others.
(2) Multi-Barcode Mode has nothing to do with the Multi-Barcode Editor.

Update

1.7 SCANNING TIMEOUT

Specify the scanning time interval (1~254 sec.; 0= Disable) when the scan mode is set to any of the following –

- Laser mode
- Auto Off mode
- Auto Power Off mode
- Aiming mode

Scanner Time-out after 0~254 sec. (*10)

100235

1) Read the barcode above to specify the time interval before the scan engine times out.
2) Read the "Decimal Value" barcode on page **錯誤! 尚未定義書籤。**. For example, read "1" and "5" for the scanner to automatically shut down after being idle for 15 seconds.
3) Read the "Validate" barcode on the same page to complete this setting.

Enter Setup

1.8 DELAY BETWEEN RE-READ

This is also referred to as the “Blocking Time”, which is used to prevent the scanner from accidentally reading the same barcode twice when the scan mode is set to any of the following –

- Continuous mode
- Auto Power Off mode
- Alternate mode

100 ms

200 ms

***400 ms**

800 ms

1 sec

2 sec

3 sec

5 sec

Update

1.9 READ REDUNDANCY (1D)

Select the level of reading security. For example,

- If "No Redundancy" is selected, one successful decoding will make the reading valid and induce the "READER Event".
- If "Two Times" is selected, it will take a total of three consecutive successful decoding of the same barcode to make the reading valid. The higher the reading security is (that is, the more redundancy the user selects), the slower the reading speed gets.

It is obvious that the more redundancy you select, the higher the reading security is, and thus, the slower the reading speed becomes. You will have to compromise between reading security and decoding speed.

***No Redundancy**

One Time

Two Times

Enter Setup

1.10 ADDON SECURITY FOR UPC/EAN BARCODES

The scanner is capable of decoding a mix of UPC/EAN barcodes with and without addons. The read redundancy (2~30 times) allows changing the number of times to decode a UPC/EAN barcode before transmission. The more redundancy you select, the higher the reading security is, and thus, the slower the reading speed becomes. You will have to compromise between reading security and decoding speed.

Note: UPC/EAN Addon 2 and Addon 5 must be enabled individually for this setting to take effect.

Addon Security Level (*2~30)

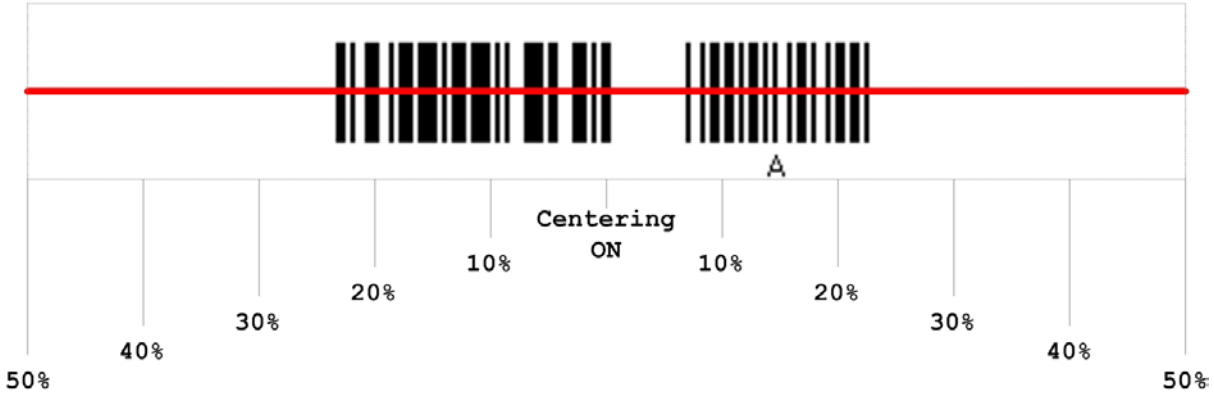
1) Read the barcode above to specify the read redundancy for UPC/EAN barcodes. (It is set to 2 by default.)
2) Read the "Decimal Value" barcode on page **錯誤! 尚未定義書籤。**. For example, read "1" and "2" for the scanner to re-read the barcode for 12 times.
3) Read the "Validate" barcode on the same page to complete this setting.

Update

1.11 EFFECTIVE DECODING AREA

By default, the effective decoding area is 100% covered by the scanned area. However, you may narrow down the decoding area to prevent reading the wrong barcode when a number of barcodes are printed closely. The scanner will only read barcodes that appear in the effective decoding area.

Read the barcode “Centering On” and specify the percentage to narrow down the decoding area. For example, read “Left 10%” and then “Right 30%” for the scanner to decode barcode “A” only.



1.11.1 POSITIONING WINDOW

Centering On

100279

***Centering Off**

100278

Enter Setup

1.11.2 ADJUSTING WINDOW

Percentage for Left Half

*Left 50%

Left 40%

Left 30%

Left 20%

Left 10%

Percentage for Right Half

Right 10%

Right 20%

Right 30%

Right 40%

*Right 50%

Update

1.12 NEGATIVE BARCODES

Normally, barcodes are printed with the color of the bars darker than that of the spaces. But for negative barcodes, they are printed in the opposite sense just like negative films. The spaces of negative barcodes are printed with a color darker than that of the bars. You can configure the scanner to be able to read negative barcodes in the following symbologies:

- All 1D symbologies
- Data Matrix
- QR Code
- Aztec

Enable

***Disable**

Enter Setup

1.13 OPERATION MODE

For 1564, it supports different scan modes and signature capture in Decode Mode. Two more operation modes are supported, which are Image Mode and Video Mode. Image capture occurs in all modes of operation, and it requires software applications, such as *ScanMaster*, to capture and download images to PC for decoding. Please refer to separate manual for OCX programming support.

For Image Mode, Video Mode or signature capture in Decode Mode, the output interface must be RS-232, USB Virtual COM or BT SPP. Both active and passive modes are supported.

- Active Mode: Application on the host will send command to instruct the scanner to stay in a specific operation mode (Image Mode/Video Mode/Signature Capture) and wait for image data. Press the trigger to capture and send an image.
- Passive Mode: First, it requires the scanner to read the setup barcodes for the desired operation — signature Capture, Image Mode or Video Mode. Then, it will passively wait for image data. Press the trigger to capture and send an image.

Signature Capture, Image Mode or Video Mode

Have the scanner read the setup barcodes in a separate but complete sequence. For example, the following sequence will allow the scanner to enter Image Mode:

But the sequence below will allow you to configure settings only:

Refer to 1.13.2 Enter/Exit Image Mode.

Refer to 1.13.4 Enter/Exit Video Mode.

Refer to 1.15 Signature Capture.

Update

1.13.1 DECODE MODE SETTINGS

By default, this is the normal operation mode. The decoder attempts to locate and decode any barcode within its field of view upon a trigger event. Refer to 1.6 Scan Modes.

Decode Aiming Pattern

Decide whether to allow the decoder to project the aiming pattern during a barcode capture.

***Enable**

Disable

Decoding Illumination

Decide whether to cause the decoder to flash illumination on every image capture to aid decoding.

- Enabling illumination usually results in superior images. The effectiveness of the illumination decreases as the distance to the target increases.

***Enable**

Disable

Decoding Autoexposure

Decide whether to manually specify the gain and exposure time (only recommended for advanced users with difficult image capture situations).

***Enable**

Disable

By default, exposure value is set to 1 ms and gain value is set to 100 when autoexposure is disabled.

Fixed Exposure in 100 µ s 2~5000 (*10)

Enter Setup

1. Read the barcode above to specify a fixed exposure value.
2. Read the "Decimal Value" barcode on page **錯誤! 尚未定義書籤。**. For example, read "1" and "5" for setting the exposure value to 1.5 ms.
3. Read the "Validate" barcode on the same page to complete this setting

Fixed Gain
1~100 (*100)

4. Read the barcode above to specify a fixed gain value.
5. Read the "Decimal Value" barcode on page **錯誤! 尚未定義書籤。**. For example, read "3" and "0" for setting the gain value to 30.
6. Read the "Validate" barcode on the same page to complete this setting.

Update

1.13.2 ENTER/EXIT IMAGE MODE

Use Image Mode to capture a high-quality image and transmit it to the host. Read the barcode below to temporarily enter this mode.

Image Mode

109920

Enter Image Mode

Have the scanner read the setup barcodes in a separate but complete sequence:

Exit Image Mode

- Once the software application finishes the task of receiving an image, the scanner returns to Decode Mode.
- If a trigger event is not activated within the Image Mode Timeout period, the decoder returns to Decode Mode.

Enter Setup

1.13.3 IMAGE MODE SETTINGS

Image Mode Timeout

Set the amount of time the decoder remains in Image Mode. The decoder exits Image Mode upon a trigger event, or when the Image Mode Timeout elapses. By default, the time-out value is set to 0 which represents 30 seconds. Values increment by 30. For example, 1 = 60 seconds, 2 = 90 seconds, etc.

Image Mode Time-out after 30~ sec. (*0)

1. Read the barcode above to specify the time interval before returning to Decode Mode. (It is set to 0 by default.)
2. Read the "Decimal Value" barcode on page **錯誤! 尚未定義書籤。**. For example, read "5" for the scanner to automatically shut down after being idle for 180 seconds.
3. Read the "Validate" barcode on the same page to complete this setting.

Image Aiming Pattern

Decide whether to allow the decoder to project the aiming pattern in Image Mode.

***Enable**

Disable

Video View Finder

Decide whether to enable Image Mode with View Finder, which the decoder behaves as a video camera until a trigger event is activated.

Enable

***Disable**

Select the number of 100-byte blocks. Values range from 800 to 12000 bytes. Selecting a smaller value transmits more frames per second; selecting a larger value increases video quality.

Video View Finder Image Size in 100 bytes 8~120 (*17)

1. Read the barcode above to specify a value.

Update

2. Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。. For example, read "1" and "5" for setting the preview image size to 1500 bytes.
3. Read the "Validate" barcode on the same page to complete this setting.

Image Capture Illumination

Decide whether to cause the decoder to flash illumination on every image capture to aid decoding.

- Enabling illumination usually results in superior images. The effectiveness of the illumination decreases as the distance to the target increases.

***Enable**

Disable

Image Capture Autoexposure

Decide whether to manually specify the gain and exposure time (only recommended for advanced users with difficult image capture situations).

***Enable**

Disable

By default, exposure value is set to 1 ms and gain value is set to 100 when autoexposure is disabled.

Fixed Exposure in 100 µ s 2~5000 (*10)

1. Read the barcode above to specify a fixed exposure value.
2. Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。. For example, read "1" and "5" for setting the exposure value to 1.5 ms.
3. Read the "Validate" barcode on the same page to complete this setting

Fixed Gain 1~100 (*100)

4. Read the barcode above to specify a fixed gain value.
5. Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。. For example, read "3" and "0" for setting the gain value to 30.
6. Read the "Validate" barcode on the same page to complete this setting.

Enter Setup

Image Brightness (Target White)

Decide whether to set the Target White value when using autoexposure. White and black are defined as 255 decimal and 0, respectively. If the value is 180, which is the factory default, the white level of the image is ~180.

Image Brightness
1~240 (*180)

1. Read the barcode above to specify a value.
2. Read the "Decimal Value" barcode on page **錯誤! 尚未定義書籤。**. For example, read "1", "2" and "0" for a value of 120.
3. Read the "Validate" barcode on the same page to complete this setting

Update

1.13.4 ENTER/EXIT VIDEO MODE

Read the barcode below to temporarily enter this mode.

Video Mode

109921

Enter Video Mode

Have the scanner read the setup barcodes in a separate but complete sequence:

Exit Video Mode

In Video Mode, the decoder behaves as a video camera as long as the trigger is active. When you release the trigger, the decoder returns to Decode Mode.

1.13.5 VIDEO MODE SETTINGS

Target Video Frame Size

Select the number of 100-byte blocks to transmit per second. Values range from 800 to 20000 bytes. Selecting a smaller value transmits more frames per second but reduces video quality; selecting a larger value increases video quality but slows transmission.

Target Video Frame Size in 100 bytes 8~200 (*22)

102215

1. Read the barcode above to specify a value.
2. Read the "Decimal Value" barcode on page **錯誤! 尚未定義書籤。**. For example, read "2" and "0" for setting the video frame size to 2000 bytes.
3. Read the "Validate" barcode on the same page to complete this setting

Enter Setup

1.14 IMAGER PREFERENCES

These settings are for Image Mode.

1.14.1 IMAGE ENHANCEMENT

This feature uses a combination of edge sharpening and contrast enhancement to produce an image that is visually pleasing.

***Off**

Low

Medium

High

Update

1.14.2 IMAGE RESOLUTION

This feature alters image resolution before compression. Multiple pixels are combined to one pixel, resulting in a smaller image containing the original content with reduced resolution. Options are –

- Full: 1280 x 1024 (uncropped image size)
- 1/2: 640 x 512 (uncropped image size)
- 1/4: 320 x 160 (uncropped image size)

***Full Resolution**

102150

1/2 Resolution

102151

1/4 Resolution

102153

Enter Setup

1.14.3 IMAGE CROPPING

This is used to crop a captured image.

- Disable Image Cropping: Present the full 1280 x 1024 pixels.
- Enable Image Cropping: Crop the image to the pixel addresses specified.

Enable

***Disable**

Note: The scanner has a cropping resolution of 4 pixels. Setting the cropping area to less than 3 pixels transfers the entire image.

Crop to Pixel Address

For image cropping, set the pixel addresses from (0,0) to (751, 479) to crop to. Columns are numbered from 0 to 751, rows from 0 to 479. Specify four values for Top, Left, Bottom, and Right, where Top and Bottom correspond to row pixel addresses, and Left and Right correspond to column pixel addresses. For example, for a 4 row x 8 column image in the extreme bottom-right section of the image, set the following values:

Top = 476, Bottom = 479, Left = 744, Right = 751

Top (0~479)

Left (0~751)

Bottom (0~479)

Right (0~751)

1. Read the barcode above one at a time to specify its value.
2. Read the "Decimal Value" barcode on page **錯誤! 尚未定義書籤。**. For example, read "4", "7" and "6" for a value of 476.
3. Read the "Validate" barcode on the same page to complete this setting

Update

1.14.4 IMAGE FILE FORMAT

Select an image format for storing captured images.

***JPEG**

BMP

TIFF

1.14.5 BITS PER PIXEL

Select the number of significant bits per pixel (BPP) to use when capturing an image. Select 1 BPP for a black and white image, 4 BPP to assign 1 of 16 levels of grey to each pixel, or 8 BPP to assign 1 of 256 levels of grey to each pixel.

Note: The decoder ignores these settings for JPEG files, which always use 8 BPP.

1 BPP

4 BPP

***8 BPP**

Enter Setup

1.14.6 JPEG IMAGE OPTIONS

Optimize JPEG images for either size or quality.

***JPEG Quality Selector**

JPEG Size Selector

JPEG Target File Size

Define the target JPEG file size in terms of 1 Kilobytes (1024 bytes). By default, it is set to 40 Kilobytes.

JPEG Target File Size 5~150 (*40)

1. Read the barcode above to specify a value.
2. Read the "Decimal Value" barcode on page **錯誤! 尚未定義書籤。**. For example, read "1", "2" and "0" for a value of 120.
3. Read the "Validate" barcode on the same page to complete this setting

JPEG Quality Value

If you selected JPEG Quality Selector, specify the JPEG quality value. By default, it is set to 65.

JPEG Quality Value 5~100 (*65)

1. Read the barcode above to specify a value.
2. Read the "Decimal Value" barcode on page **錯誤! 尚未定義書籤。**. For example, read "5" and "0" for a value of 50.
3. Read the "Validate" barcode on the same page to complete this setting

Update

1.15 SIGNATURE CAPTURE

A signature capture barcode is a special-purpose symbology, which delineate a signature capture area in a document with a machine-readable format. The recognition pattern is variable so it can optionally provide an index to various signatures. The region inside the barcode pattern is considered the signature capture area.

Decide whether to allow the decoder to capture signature in Decode Mode.

Enable Signature Capture

***Disable Signature Capture**

Enable Signature Capture

Have the scanner read the setup barcodes in a separate but complete sequence:

Disable Signature Capture

Have the scanner read only one setup barcode to complete the setting:

Enter Setup

1.15.1 SIGNATURE CAPTURE FILE FORMAT

Select an image format for storing captured signatures.

***JPEG**

BMP

TIFF

1.15.2 SIGNATURE CAPTURE BITS PER PIXEL

Select the number of significant bits per pixel (BPP) to use when capturing a signature. Select 1 BPP for a black and white image, 4 BPP to assign 1 of 16 levels of grey to each pixel, or 8 BPP to assign 1 of 256 levels of grey to each pixel.

Note: The decoder ignores these settings for JPEG files, which always use 8 BPP.

1 BPP

4 BPP

***8 BPP**

Update

1.15.3 SIGNATURE CAPTURE WIDTH & HEIGHT

The aspect ratio of the Signature Capture Width and Signature Capture Height parameters must match that of the signature capture area. For example, a 4 x 1 inch signature capture area would require a 4 to 1 aspect ratio of width to height.

Signature Capture Width 1~752 (*400)

Signature Capture Height 1~480 (*100)

1) Read the barcode above one at a time to specify its value.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。. For example, read "4", "8" and "0" for a value of 480.
3) Read the "Validate" barcode on the same page to complete this setting.

1.15.4 SIGNATURE CAPTURE JPEG QUALITY

Specify the JPEG quality value. By default, it is set to 65.

JPEG Quality Value 5~100 (*65)

1) Read the barcode above to specify a value.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。. For example, read "5" and "0" for a value of 50.
3) Read the "Validate" barcode on the same page to complete this setting.

Enter Setup

Chapter 2

SELECTING OUTPUT INTERFACE

In order to establish a proper connection between your computer and the scanner, we suggest that you follow these instructions –

1) Install the battery and hold down the trigger for about 2 seconds to turn on the scanner.
2) Have the scanner read the “Enter Setup” barcode to enter the configuration mode.
3) Have the scanner read the associated barcodes to activate the desired interface.

   See the following sections for output interfaces supported.
4) Have the scanner read the barcodes for related settings.
5) Have the scanner read the “Update” barcode to exit the configuration mode.
6) Turn on your computer or laptop and establish a WPAN connection with the scanner.

   Refer to Chapter 3 – Setting up a WPAN Connection.

Note: By default, the output interface is set to “BT HID”.

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Update

2.1 BT HID

For BT HID, refer to Chapter 3 – Setting up a WPAN Connection for related connection settings. Run any text editor on your computer, and the scanned data will be transmitted to the computer.

HID Settings	Defaults
Keyboard Type	PCAT (US)
Alphabets Layout	Normal
Digits Layout	Normal
Capital Lock Type	Normal
Capital Lock State	Off
Alphabets Transmission	Case-sensitive
Digits Transmission	Alphanumeric keypad
Inter-Function Delay	0 (ms)

2.1.1 ACTIVATE BT HID & SELECT KEYBOARD TYPE

When BT HID interface is activated, you will have to select a keyboard type to complete this setting. By default, BT HID is activated on the scanner, and the keyboard type is set to PCAT (US).

Activate BT HID & Select Keyboard Type…

1) Read the barcode above to activate BT HID and select a keyboard type.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。. Refer to the table below for the number of desired keyboard type.
3) Read the "Validate" barcode on the same page to complete this setting.

Enter Setup

BT HID

By default, the keyboard type is set to PCAT (US). The following keyboard types are supported —

No.	Keyboard Type	No.	Keyboard Type
64	PCAT (US)	71	PCAT (Belgium)
65	PCAT (French)	72	PCAT (Spanish)
66	PCAT (German)	73	PCAT (Portuguese)
67	PCAT (Italy)	74	PS55 A01-2 (Japanese)
68	PCAT (Swedish)	75	User-defined table
69	PCAT (Norwegian)	76	PCAT (Turkish)
70	PCAT (UK)		

2.1.2 RESET CONNECTION

For BT HID, you can only have the scanner connected to one computer at a time. If you want to connect the scanner to another host, you must have it read the "Reset Connection" barcode so that the current connection record will be cleared. Then, the scanner will restart itself automatically. Go through the whole process in 3.2.3 Connect to Dongle to establish a new connection.

Reset Connection 109919

Note: The "Restore System Defaults" barcode will have the current connection record cleared as well.

Update

2.1.3 KEYBOARD SETTINGS

- Alphabets Layout
- Digits Layout
- Capital Lock Type
- Capital Lock Setting
- Alphabets Transmission
- Digits Transmission

Note: BT HID does not support these functions on PDAs – (1) Capital Lock Setting: Auto Detection (2) Digits Transmission: Numeric Key

Alphabets Layout

By default, the alphabets layout is set to normal mode, also known as the standard English layout. Select French or German keyboard layout if necessary. The scanner will make adjustments when sending the "A", "Q", "W", "Z", "Y", and "M" characters according to this setting.

***Normal**

AZERTY

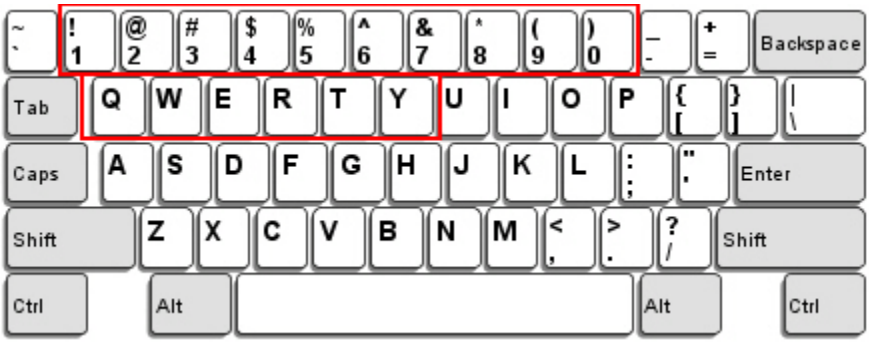
QWERTZ

Note: This setting only works when the keyboard type selected is US keyboard, such as PCAT (US). The Alphabets Layout and Digits Layout setting must match your keyboard.

Enter Setup

US Keyboard Style - Normal

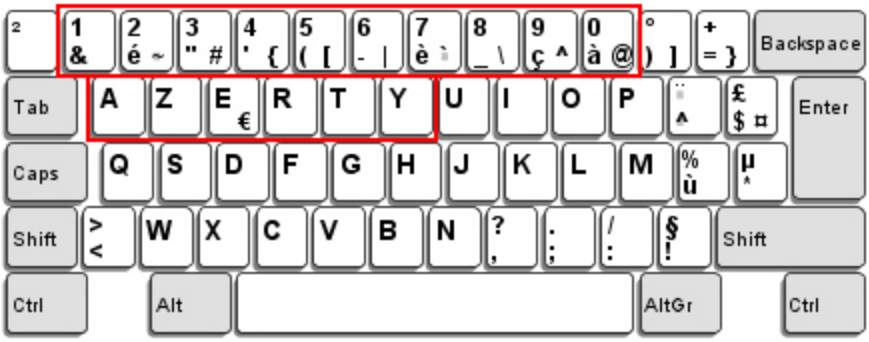
QWERTY layout, which is normally used in western countries.



- Select “Lower Row” for the “Digits Layout” setting for the upper row is for special characters.

French Keyboard Style - AZERTY

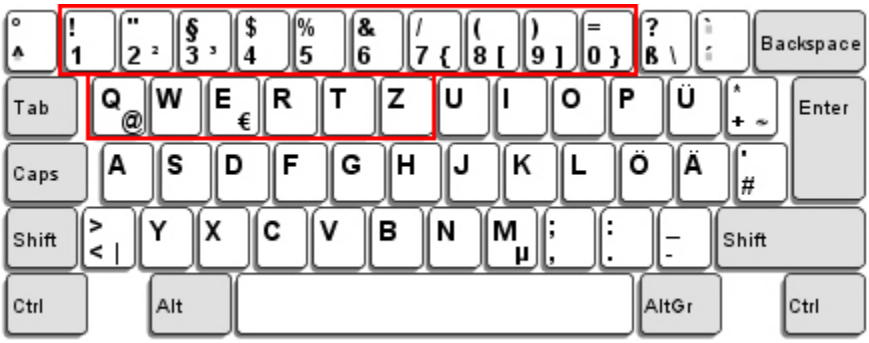
French layout; see below for French Keyboard Style.



- Select “Upper Row” for the “Digits Layout” setting for the lower row is for special characters.

German Keyboard Layout - QWERTZ

German layout; see below for German Keyboard Style.



- Select “Lower Row” for the “Digits Layout” setting for the upper row is for special characters.

Digits Layout

Select a proper layout that matches the alphabets layout. The scanner will make adjustments according to this setting.

Options	Description
Normal	Depends on the [Shift] key or [Shift Lock] setting
Lower Row	For QWERTY or QWERTZ keyboard
Upper Row	For AZERTY keyboard

***Normal**

Upper Row

Lower Row

Note: This setting is to be used with the Character Substitution setting when support to certain keyboard types (languages) is unavailable but required.

Enter Setup

Capital Lock Type & Setting

In order to send the alphabets with correct case, the scanner needs to know the status of Caps Lock on the keyboard. Incorrect settings may result in reversed case of the alphabets being transmitted.

Cap Lock Type	Description
Normal	Normal type
Capital Lock	When enabled, the keys of alphabetic characters will be interpreted as capital letters. However, this does not affect the number or punctuation keys.
Shift Lock	When enabled, the keys of alphabetic characters will be interpreted as capital letters. In addition, this affects the number or punctuation keys.

***Normal**

Shift Lock

Capital Lock

Capital Lock State	Description
Capital Lock OFF	Assuming that the status of Caps Lock on the keyboard is OFF, transmitted characters are exactly the same as in the barcode (when "case-sensitive" is selected for Alphabets Transmission).
Capital Lock ON	Assuming that the status of Caps Lock on the keyboard is ON, transmitted characters are exactly the same as in the barcode (when "case-sensitive" is selected for Alphabets Transmission). ▸ Refer to the Capital Lock Type above.
Auto Detection	The scanner will automatically detect the status of Caps Lock on the keyboard before data is transmitted; transmitted characters are exactly the same as in the barcode (when "case-sensitive" is selected for Alphabets Transmission). ▸ This setting is not supported on PDAs.

Auto Detect

Capital Lock ON

Update

***Capital Lock OFF**

Enter Setup

Alphabets Transmission

By default, the alphabets transmission is case-sensitive, meaning that the alphabets will be transmitted according to their original case, the status of Caps Lock on the keyboard, as well as the Capital Lock setting. Select [Ignore Case] to have alphabets transmitted according to the status of Caps Lock on the keyboard only.

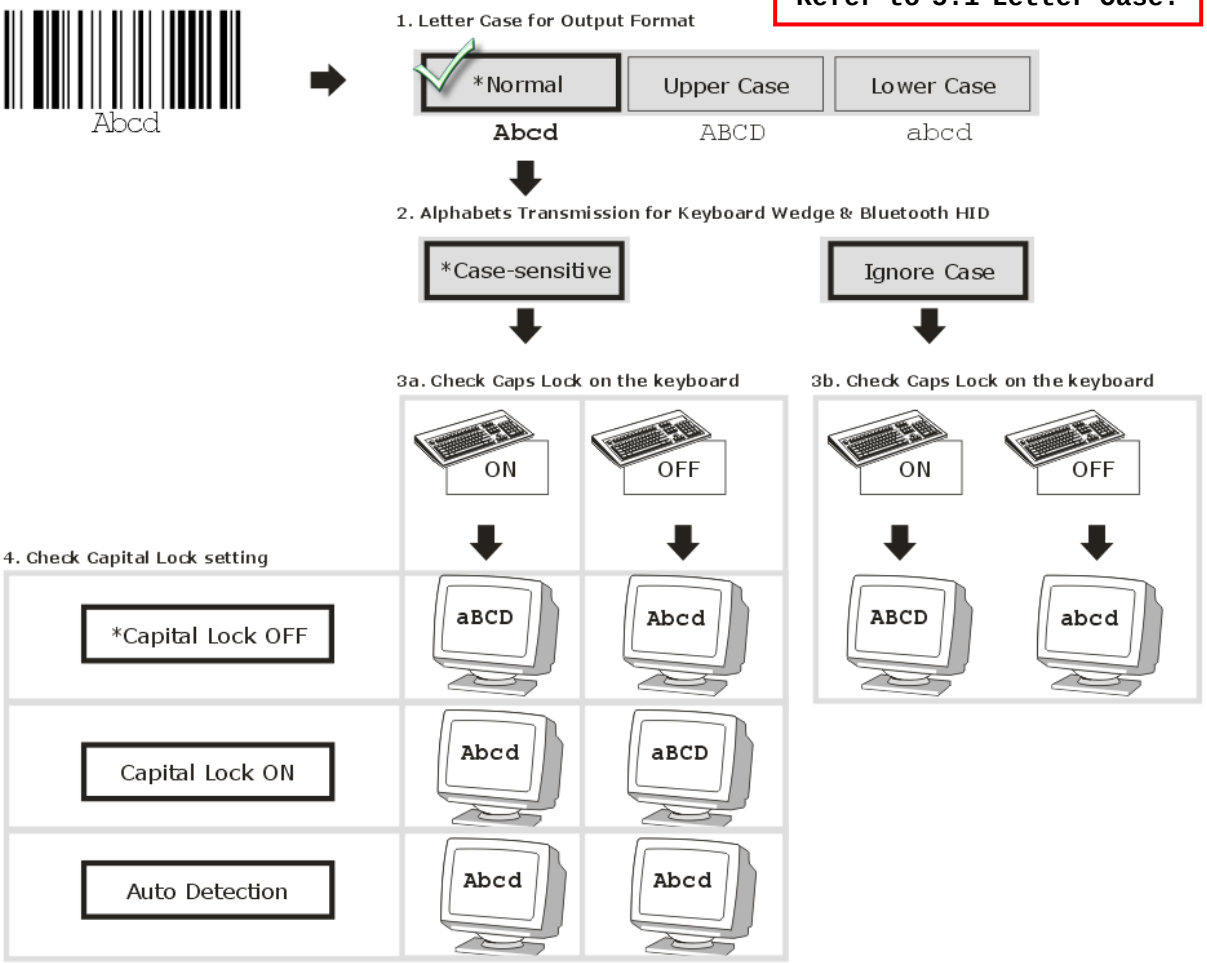
Ignore Case

100051

***Case-sensitive**

100050

Refer to 5.1 Letter Case.



Update

Digits Transmission

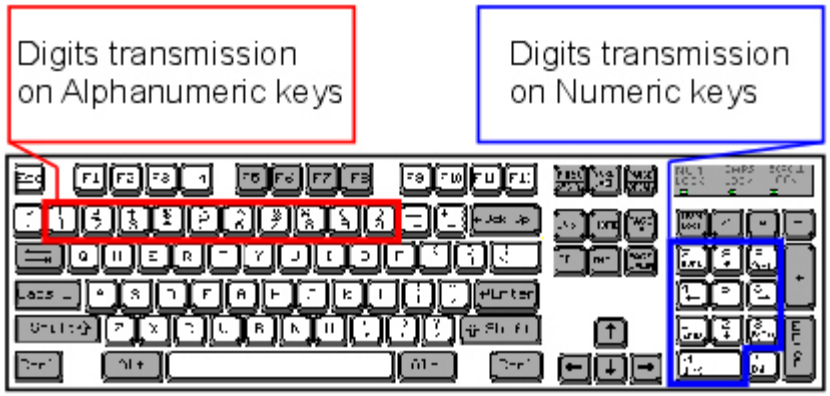
By default, the alphanumeric keypad is used for transmitting digits. Select “Numeric Keypad” if you wish to use the keys on the numeric keypad.

Numeric Key

100041

***Alphanumeric Key**

100040



Note: If you select “Numeric Keypad”, the Num Lock status of the physical keyboard should be “ON”. This setting is not supported on PDAs.

Enter Setup

2.1.4 INTER-FUNCTION DELAY

By default, the inter-function delay is set to zero. Specify a value, ranging from 0 to 254, to match the computer response time of the keyboard interface. Such delay time is inserted between every function code (0x01 ~ 0x1F) being transmitted. The longer the delay time is, the slower the transmission speed will be.

Value	Delay Time	Value	Delay Time
0	Disable	195 ~ 204	200 millisecond
1 ~ 14	10 millisecond	205 ~ 214	210 millisecond
15 ~ 24	20 millisecond	215 ~ 224	220 millisecond
25 ~ 34	30 millisecond	225 ~ 234	230 millisecond
35 ~ 44	40 millisecond	235 ~ 244	240 millisecond
45 ~ 54	50 millisecond	245 ~ 254	250 millisecond
…	…		

Inter-Function Delay… (*0~254)

100012

1) Read the barcode above to specify the inter-function delay.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。 for the desired inter-function delay (millisecond).
3) Read the "Validate" barcode on the same page to complete this setting.

2.1.5 HID CHARACTER TRANSMIT MODE

By default, HID interface sends data to the host in batch. You may have the scanner read the "By Character" barcode to process data one character at a time.

***Batch Processing**

100064

By Character

100065

Note: "By Character" transmit mode is required when working with iPhone or iPad.

Update

2.1.6 KEYPAD SUPPORT FOR IPHONE/IPAD

When the scanner has been successfully connected to iPhone or iPad for data collection, the onscreen keypad of iPhone or iPad will disappear. You may have the scanner read the "Use POWER Key to Show or Hide Keypad" barcode in advance. Then, it will allow pressing the [Power/Delete] key to show or hide the onscreen keypad.

Note: This function only works for
(1) iPhone 4 and 3GS version 4.1 or later, and (2) iPad version 4.2 or later.

***Normal**

Use POWER Key to Show or Hide Keypad

Instead of using the [Power/Delete] key, you may have the scanner read the following barcode to show or hide the keypad.

Show or Hide Keypad

When connecting the scanner to iPhone or iPad, have the scanner read the following barcode to show or hide the keypad if necessary.

Show or Hide Keypad

Enter Setup

2.2 BT SPP SLAVE

For BT SPP Slave, refer to Chapter 3 – Setting up a WPAN Connection for related connection settings.

2.2.1 ACTIVATE BT SPP SLAVE MODE

This is SPP Slave Mode.

Activate BT SPP, Slave Mode

2.2.2 INTER-FUNCTION DELAY

By default, the inter-function delay is set to zero. Specify a value, ranging from 0 to 254, to match the computer response time of the keyboard interface. Such delay time is inserted between every function code (0x01 ~ 0x1F) being transmitted. The longer the delay time is, the slower the transmission speed will be.

Value	Delay Time	Value	Delay Time
0	Disable	195 ~ 204	200 millisecond
1 ~ 14	10 millisecond	205 ~ 214	210 millisecond
15 ~ 24	20 millisecond	215 ~ 224	220 millisecond
25 ~ 34	30 millisecond	225 ~ 234	230 millisecond
35 ~ 44	40 millisecond	235 ~ 244	240 millisecond
45 ~ 54	50 millisecond	245 ~ 254	250 millisecond
…	…		

Inter-Function Delay… (*0~254)

1) Read the barcode above to specify the inter-function delay.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。 for the desired inter-function delay (millisecond).
3) Read the "Validate" barcode on the same page to complete this setting.

Update

2.2.3 ACK/NAK TIMEOUT

By default, the scanner sends data to the host without waiting for an ACK/NAK response before sending more data. Specify a value, ranging from 1 to 99 in units of 0.1 second. If no response within the specified period of time, the scanner will attempt to send the same data two more times. If all three attempts fail without any notification, data loss will occur.

ACK/NAK Time-out after … (*0~99)

1) Read the barcode above to specify the time interval for the scanner to send data and wait for a response from the host.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。. For example, read "1" and "0" for the scanner to automatically shut down after being idle for 1 second.
3) Read the "Validate" barcode on the same page to complete this setting.

ACK/NAK Error Beep

Enable Error Beep

***Disable Error Beep**

Note: We suggest enabling the error beep so that you will be notified of such data loss and have the scanner re-read data.

Enter Setup

2.3 BT SPP MASTER

As a SPP master device, the scanner will be able to resume connection with the host upon powering on again, as long as the host application is running. If the scanner fails to resume connection, it will try every 5 seconds to re-connect to the host unless you have the scanner read the “Reset Connection” or “Restore System Defaults” barcode.

For BT SPP Master, refer 3.2.2 Configure Related Settings for related connection settings.

Note: In SPP Master Mode, if it fails to re-connect within the specified period of time (2 minutes by default), the scanner will become inactive to save power. Once the re-connection is established successfully, the scanner will not go through transition from full CPU speed to low CPU speed even though it is idle during the specified time interval for Auto Power Off. It will automatically turn off when the time is up. Refer to 1.1.2 Auto Power Off & Power-Saving.

2.3.1 ACTIVATE BT SPP MASTER MODE

This is SPP Master Mode.

Activate BT SPP, Master Mode

How to connect with the target device?

Produce two setup barcodes for the target SPP slave device, just like what we do for 3656.

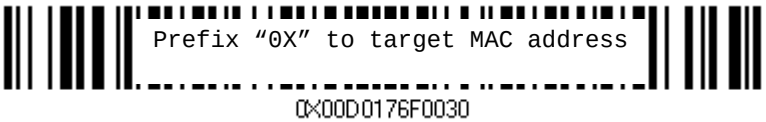
- “Set Connection”
- “MAC ID”

Note: The “MAC ID” barcode must have a prefix of two characters, either “0x” or “0X”, followed by the real MAC address of the target device.

Usage:

1. Read the “Activate BT SPP, Master Mode” barcode above and barcodes for connection settings, such as authentication and preset PIN. Skip this step if no connection settings are desired.
2. Read the “Set Connection” and “MAC ID” barcodes. The scanner will respond with one beep upon reading each of the barcodes.

Set Connection



Update

Note: Read the “Set Connection” barcode first, and then the “MAC ID” barcode within 10 seconds.

Instead of producing the “MAC ID” barcode, you may have the scanner read the setup barcodes for entering the MAC address.

- Have the scanner read the “Abort” barcode to cancel the operation at any time while reading setup barcodes for the MAC address. If the MAC address has not been completed yet, having the scanner read the “Validate” barcode can cancel the operation as well.

Enter MAC ID in Hexadecimal…

Usage:

1. Read the barcode above.
2. Read the “Hexadecimal Value” barcode on page **錯誤! 尚未定義書籤。** for the desired MAC address.
3. Read the “Validate” barcode on the same page to complete this setting.

Exit SPP Master Mode

To stop re-connection, have the scanner read “Reset Connection” or “Restore System Defaults” barcode so that the current connection record (= MAC ID) will be cleared. Then, the scanner will restart itself automatically. Go through the whole process in 3.2.3 Connect to Dongle to establish a new WPAN connection.

Reset Connection

Enter Setup

2.3.2 INTER-FUNCTION DELAY

By default, the inter-function delay is set to zero. Specify a value, ranging from 0 to 254, to match the computer response time of the keyboard interface. Such delay time is inserted between every function code (0x01 ~ 0x1F) being transmitted. The longer the delay time is, the slower the transmission speed will be.

Value	Delay Time	Value	Delay Time
0	Disable	195 ~ 204	200 millisecond
1 ~ 14	10 millisecond	205 ~ 214	210 millisecond
15 ~ 24	20 millisecond	215 ~ 224	220 millisecond
25 ~ 34	30 millisecond	225 ~ 234	230 millisecond
35 ~ 44	40 millisecond	235 ~ 244	240 millisecond
45 ~ 54	50 millisecond	245 ~ 254	250 millisecond
…	…		

Inter-Function Delay… (*0~254)

1) Read the barcode above to specify the inter-function delay.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。 for the desired inter-function delay (millisecond).
3) Read the "Validate" barcode on the same page to complete this setting.

Update

2.3.3 ACK/NAK TIMEOUT

By default, the scanner sends data to the host without waiting for an ACK/NAK response before sending more data. Specify a value, ranging from 1 to 99 in units of 0.1 second. If no response within the specified period of time, the scanner will attempt to send the same data two more times. If all three attempts fail without any notification, data loss will occur.

ACK/NAK Time-out after … (*0~99)

1) Read the barcode above to specify the time interval for the scanner to send data and wait for a response from the host.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。. For example, read "1" and "0" for the scanner to automatically shut down after being idle for 1 second.
3) Read the "Validate" barcode on the same page to complete this setting.

ACK/NAK Error Beep

Enable Error Beep

***Disable Error Beep**

Note: We suggest enabling the error beep so that you will be notified of such data loss and have the scanner re-read data.

2.3.4 SWITCH BETWEEN MASTER/SLAVE MODE

After the scanner has established a connection as a SPP slave device, you may have it read the "Activate BT SPP, Master Mode" setup barcode to switch to SPP Master Mode. This will result in easy and reliable re-connection, just like connecting with 3656.

Enter Setup

2.4 KEYBOARD WEDGE VIA 3656

The Y cable allows you to connect the scanner via 3656 to the keyboard input port of PC and you may join the keyboard as well. The scanned data will be transmitted to the host keyboard port as if it is manually entered via the keyboard. For example, run a text editor on your computer to receive the data.

Keyboard Wedge Settings	Defaults
Keyboard Type	PCAT (US)
Alphabets Layout	Normal
Digits Layout	Normal
Capital Lock Type	Normal
Capital Lock State	Off
Alphabets Transmission	Case-sensitive
Digits Transmission	Alphanumeric keypad
Alternate Composing	No
Laptop Support	Disable
Inter-Character Delay	0 (ms)
Inter-Function Delay	0 (ms)

Update

2.4.1 ACTIVATE KEYBOARD WEDGE & SELECT KEYBOARD TYPE

When Keyboard Wedge interface is activated, you will have to select a keyboard type to complete this setting.

Activate 3656 Keyboard Wedge & Select Keyboard Type…

1) Read this barcode above to activate Keyboard Wedge and select a keyboard type.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。. Refer to the table below for the number of desired keyboard type.
3) Read the "Validate" barcode on the same page to complete this setting.

Keyboard Wedge via 3656

By default, the keyboard type is set to PCAT (US). The following keyboard types are supported when using 3656 with the keyboard wedge cable provided —

No.	Keyboard Type	No.	Keyboard Type
1	PCAT (US)	16	PS55 001-2
2	PCAT (French)	17	PS55 001-82
3	PCAT (German)	18	PS55 001-3
4	PCAT (Italian)	19	PS55 001-8A
5	PCAT (Swedish)	20	PS55 002-1, 003-1
6	PCAT (Norwegian)	21	PS55 002-81, 003-81
7	PCAT (UK)	22	PS55 002-2, 003-2
8	PCAT (Belgium)	23	PS55 002-82, 003-82
9	PCAT (Spanish)	24	PS55 002-3, 003-3
10	PCAT (Portuguese)	25	PS55 002-8A, 003-8A
11	PS55 A01-1	26	IBM 3477 Type 4 (Japanese)
12	PS55 A01-2 (Japanese)	27	PS2-30
13	PS55 A01-3	28	IBM 34XX/319X, Memorex Telex 122 Keys
14	PS55 001-1	29	User-defined table
15	PS55 001-81	30	PCAT (Turkish)

Enter Setup

2.4.2 KEYBOARD SETTINGS

- Alphabets Layout
- Digits Layout
- Capital Lock Type
- Capital Lock Setting
- Alphabets Transmission
- Digits Transmission
- Alternate Composing
- Laptop Support

Alphabets Layout

By default, the alphabets layout is set to normal mode, also known as the standard English layout. Select French or German keyboard layout if necessary. The scanner will make adjustments when sending the "A", "Q", "W", "Z", "Y", and "M" characters according to this setting.

***Normal**

AZERTY

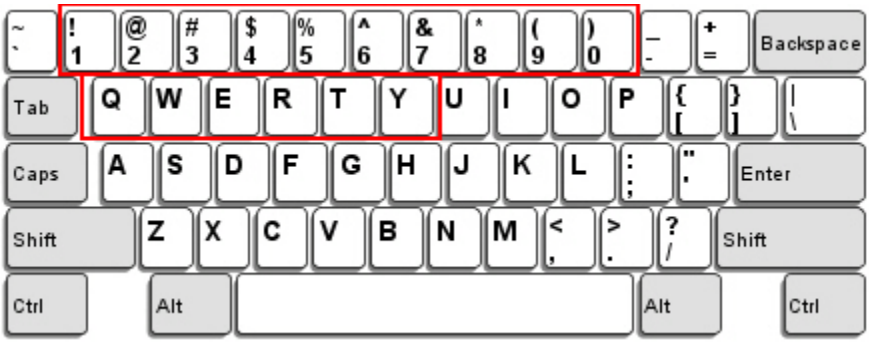
QWERTZ

Note: This setting only works when the keyboard type selected is US keyboard, such as PCAT (US). The Alphabets Layout and Digits Layout setting must match your keyboard.

Update

US Keyboard Style - Normal

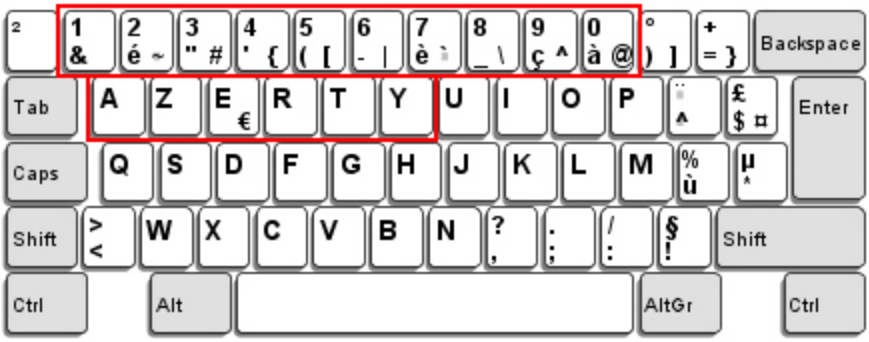
QWERTY layout, which is normally used in western countries.



- Select “Lower Row” for the “Digits Layout” setting for the upper row is for special characters.

French Keyboard Style - AZERTY

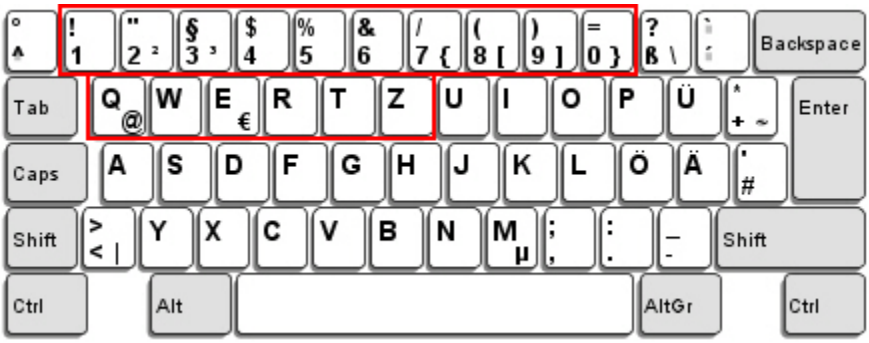
French layout; see below for French Keyboard Style.



- Select “Upper Row” for the “Digits Layout” setting for the lower row is for special characters.

German Keyboard Layout - QWERTZ

German layout; see below for German Keyboard Style.



- Select “Lower Row” for the “Digits Layout” setting for the upper row is for special characters.

Enter Setup

Digits Layout

Select a proper layout that matches the alphabets layout. The scanner will make adjustments according to this setting.

Options	Description
Normal	Depends on the [Shift] key or [Shift Lock] setting
Lower Row	For QWERTY or QWERTZ keyboard
Upper Row	For AZERTY keyboard

***Normal**

Upper Row

Lower Row

Note: This setting is meant to be used with the Alphabets Layout; and perhaps with the Character Substitution setting when support to certain keyboard types (languages) is unavailable but required.

Update

Capital Lock Type & Setting

In order to send the alphabets with correct case, the scanner needs to know the status of Caps Lock on the keyboard. Incorrect settings may result in reversed case of the alphabets being transmitted.

Cap Lock Type	Description
Normal	Normal type
Capital Lock	When enabled, the keys of alphabetic characters will be interpreted as capital letters. However, this does not affect the number or punctuation keys.
Shift Lock	When enabled, the keys of alphabetic characters will be interpreted as capital letters. In addition, this affects the number or punctuation keys.

***Normal**

Shift Lock

Capital Lock

Capital Lock State	Description
Capital Lock OFF	Assuming that the status of Caps Lock on the keyboard is OFF, transmitted characters are exactly the same as in the barcode (when "case-sensitive" is selected for Alphabets Transmission).
Capital Lock ON	Assuming that the status of Caps Lock on the keyboard is ON, transmitted characters are exactly the same as in the barcode (when "case-sensitive" is selected for Alphabets Transmission). ▸ Refer to the Capital Lock Type above.
Auto Detection	The scanner will automatically detect the status of Caps Lock on the keyboard before data is transmitted; transmitted characters are exactly the same as in the barcode (when "case-sensitive" is selected for Alphabets Transmission).

Auto Detect

Capital Lock ON

Enter Setup

***Capital Lock OFF**

Update

Alphabets Transmission

By default, the alphabets transmission is case-sensitive, meaning that the alphabets will be transmitted according to their original case, the status of Caps Lock on the keyboard, as well as the Capital Lock setting. Select [Ignore Case] to have alphabets transmitted according to the status of Caps Lock on the keyboard only.

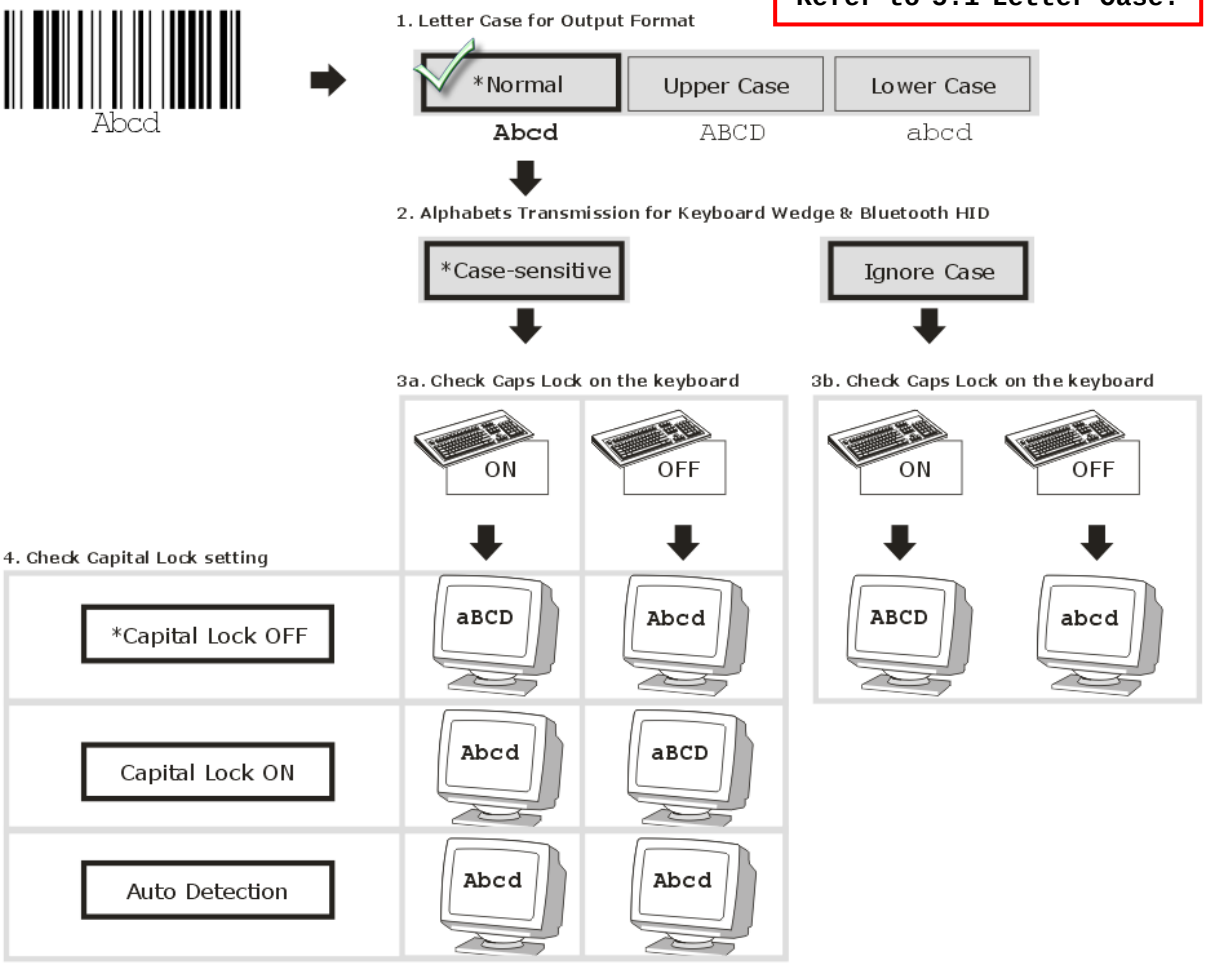
Ignore Case

100051

***Case-sensitive**

100050

Refer to 5.1 Letter Case.



Enter Setup

Digits Transmission

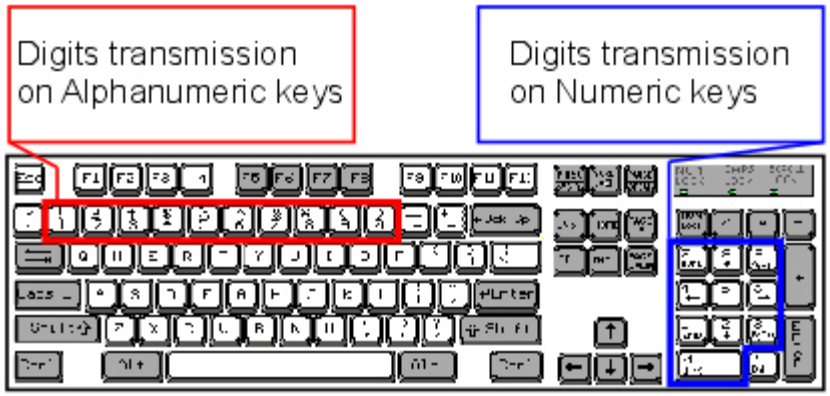
By default, the alphanumeric keypad is used for transmitting digits. Select “Numeric Keypad” if you wish to use the keys on the numeric keypad.

Numeric Key

100041

***Alphanumeric Key**

100040



Note: If you select “Numeric Keypad”, the Num Lock status of the physical keyboard should be “ON”.

Update

ALT Composing

By default, Alternate key composing is disabled. Select [Yes] to allow emulating Alternate key code of a specific keyboard character. For example, [Alt] + [065] will be sent to host for the character “A” regardless the keyboard type you are using.

Yes

100057

***No**

100056

Laptop Support

By default, laptop support is disabled. It is suggested to enable this feature if you connect the wedge cable to a laptop without an external keyboard being inter-connected.

Enable

100059

***Disable**

100058

Enter Setup

2.4.3 INTER-CHARACTER DELAY

By default, the inter-character delay is set to zero. Specify a value, ranging from 0 to 254 in units of millisecond, to match the computer response time of the keyboard interface. Such delay time is inserted between every character being transmitted. The longer the delay time is, the slower the transmission speed will be.

Inter-Character Delay… (*0~254)

1) Read the barcode above to specify the inter-character delay.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。 for the desired inter-character delay (millisecond).
3) Read the "Validate" barcode on the same page to complete this setting.

2.4.4 INTER-FUNCTION DELAY

By default, the inter-function delay is set to zero. Specify a value, ranging from 0 to 254 in units of millisecond, to match the computer response time of the keyboard interface. Such delay time is inserted between every function code (0x01 ~ 0x1F) being transmitted. The longer the delay time is, the slower the transmission speed will be.

Inter-Function Delay… (*0~254)

1) Read the barcode above to specify the inter-function delay.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。 for the desired inter-function delay (millisecond).
3) Read the "Validate" barcode on the same page to complete this setting.

Update

2.5 RS-232 VIA 3656

Use the RS-232 cable to connect the scanner via 3656 to the serial port of PC, and connect the power supply cord. The associated RS-232 parameters must match those configured on the computer. You may run HyperTerminal.exe on your computer, and the scanned data will be transmitted to the computer.

RS-232 Settings	Defaults
Baud Rate, Data Bit, Parity, Stop Bit	115200 bps, 8 bits, No parity, 1 stop bit
Flow Control	None
Inter-Character Delay	0 (ms)
Inter-Function Delay	0 (ms)
ACK/NAK Timeout	0
ACK/NAK Beep	Disable

2.5.1 ACTIVATE RS-232 INTERFACE

Activate 3656 RS-232 Interface

100001

2.5.2 BAUD RATE

***115200 bps**

100080

57600 bps

100081

38400 bps

100082

19200 bps

100083

9600 bps

100084

Enter Setup

4800 bps

2400 bps

1200 bps

600 bps

2.5.3 DATA BITS

***8 bits**

7 bits

2.5.4 PARITY

***No parity**

Even

Odd

Update

2.5.5 STOP BIT

2 stop bits

***1 stop bit**

2.5.6 FLOW CONTROL

By default, there is no flow control in use. Select the flow control (handshake) method.

Options	Description
No	No flow control
Scanner Ready	The scanner will activate the RTS signal upon powering on. After each good read, the scanner will then wait for the CTS signal to become active. Data will not be sent until the CTS signal becomes active.
Data Ready	The RTS signal will be activated after each good read. The scanner will then wait for the CTS signal to become active. Data will not be sent until the CTS signal becomes active.
Inverted Data Ready	It works the same as the Data Ready flow control except that the RTS signal level is inverted.

***None**

Scanner Ready

Data Ready

Invert Data Ready

Enter Setup

2.5.7 INTER-CHARACTER DELAY

By default, the inter-character delay is zero. Specify a value, ranging from 0 to 254 in units of millisecond, to match the computer response time. Such delay time is inserted between every character being transmitted. The longer the delay time is, the slower the transmission speed will be.

Inter-Character Delay… (*0~254)

1) Read the barcode above to specify the inter-character delay.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。 for the desired inter-character delay (millisecond).
3) Read the "Validate" barcode on the same page to complete this setting.

2.5.8 INTER-FUNCTION DELAY

By default, the inter-function delay is set to zero. Specify a value, ranging from 0 to 254 in units of millisecond, to match the computer response time of the keyboard interface. Such delay time is inserted between every function code (0x01 ~ 0x1F) being transmitted. The longer the delay time is, the slower the transmission speed will be.

Inter-Function Delay… (*0~254)

1) Read this barcode above to specify the inter-function delay.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。 for the desired inter-function delay (millisecond).
3) Read the "Validate" barcode on the same page to complete this setting.

Update

2.5.9 ACK/NAK TIMEOUT

By default, the scanner sends data to the host without waiting for an ACK/NAK response before sending more data. Specify a value, ranging from 1 to 99 in units of 0.1 second. If no response within the specified period of time, the scanner will attempt to send the same data two more times. If all three attempts fail without any notification, data loss will occur.

ACK/NAK Time-out after … (*0~99)

1) Read the barcode above to specify the time interval for the scanner to send data and wait for a response from the host.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。. For example, read "1" and "0" for the scanner to automatically shut down after being idle for 1 second.
3) Read the "Validate" barcode on the same page to complete this setting.

ACK/NAK Error Beep

Enable Error Beep

***Disable Error Beep**

Note: We suggest enabling the error beep so that you will be notified of such data loss and have the scanner re-read data.

Enter Setup

2.6 USB HID VIA 3656

For USB HID, use the USB cable to connect the scanner via 3656 to the USB port of PC and connect the power supply cord if necessary. Run any text editor on your computer, and the scanned data will be transmitted to the computer.

HID Settings	Defaults
Keyboard Type	PCAT (US)
Digits Layout	Normal
Capital Lock Type	Normal
Capital Lock State	Off
Alphabets Transmission	Case-sensitive
Digits Transmission	Alphanumeric keypad
Inter-Function Delay	0 (ms)

2.6.1 ACTIVATE USB HID & SELECT KEYBOARD TYPE

When USB HID interface is activated, you will have to select a keyboard type to complete this setting.

Activate 3656 USB HID & Select Keyboard Type…

1) Read the barcode above to activate USB HID and select a keyboard type.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。. Refer to the table below for the number of desired keyboard type.
3) Read the "Validate" barcode on the same page to complete this setting.

USB HID

By default, the keyboard type is set to PCAT (US). The following keyboard types are supported —

No.	Keyboard Type	No.	Keyboard Type
64	PCAT (US)	71	PCAT (Belgium)
65	PCAT (French)	72	PCAT (Spanish)
66	PCAT (German)	73	PCAT (Portuguese)
67	PCAT (Italy)	74	PS55 A01-2 (Japanese)
68	PCAT (Swedish)	75	User-defined table
69	PCAT (Norwegian)	76	PCAT (Turkish)
70	PCAT (UK)		

Update

Enter Setup

2.6.2 KEYBOARD SETTINGS

- Alphabets Layout
- Digits Layout
- Capital Lock Type
- Capital Lock Setting
- Alphabets Transmission
- Digits Transmission

Alphabets Layout

By default, the alphabets layout is set to normal mode, also known as the standard English layout. Select French or German keyboard layout if necessary. The scanner will make adjustments when sending the "A", "Q", "W", "Z", "Y", and "M" characters according to this setting.

***Normal**

AZERTY

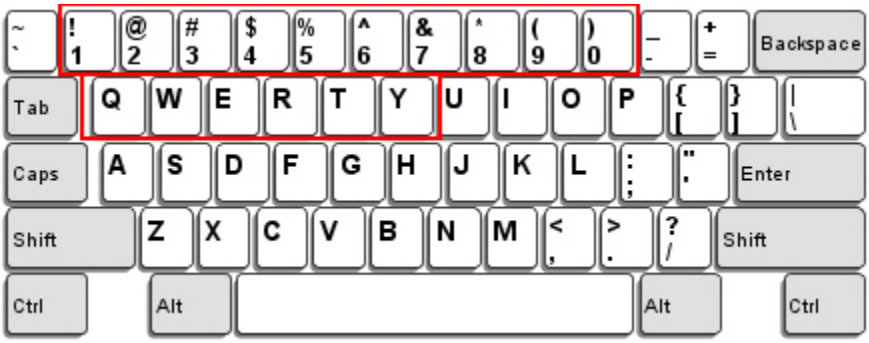
QWERTZ

Note: This setting only works when the keyboard type selected is US keyboard, such as PCAT (US). The Alphabets Layout and Digits Layout setting must match your keyboard.

Update

US Keyboard Style - Normal

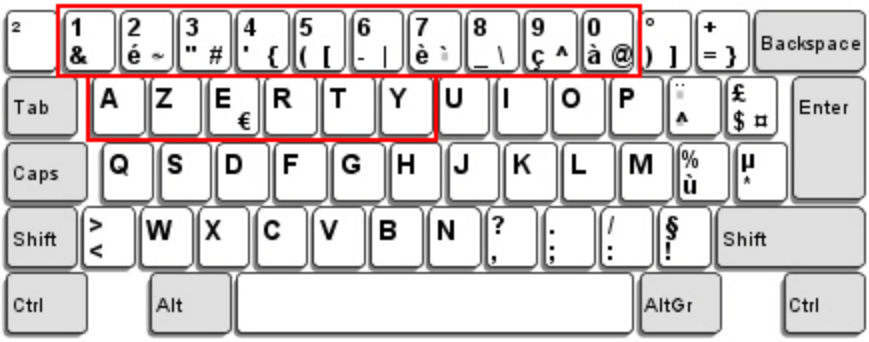
QWERTY layout, which is normally used in western countries.



- Select “Lower Row” for the “Digits Layout” setting for the upper row is for special characters.

French Keyboard Style - AZERTY

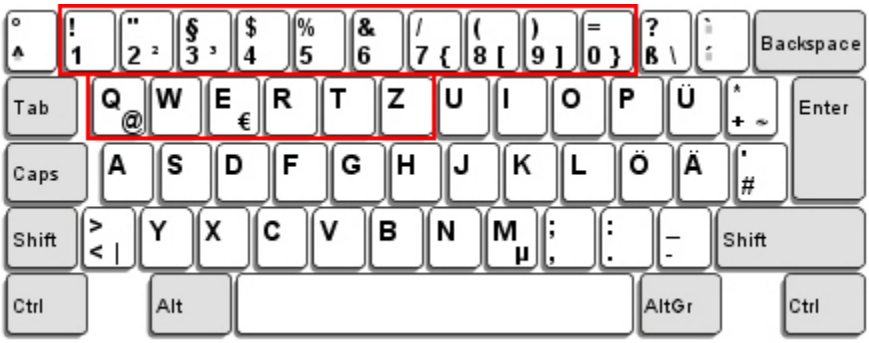
French layout; see below for French Keyboard Style.



- Select “Upper Row” for the “Digits Layout” setting for the lower row is for special characters.

German Keyboard Layout - QWERTZ

German layout; see below for German Keyboard Style.



- Select “Lower Row” for the “Digits Layout” setting for the upper row is for special characters.

Enter Setup

Digits Layout

Select a proper layout that matches the alphabets layout. The scanner will make adjustments according to this setting.

Options	Description
Normal	Depends on the [Shift] key or [Shift Lock] setting
Lower Row	For QWERTY or QWERTZ keyboard
Upper Row	For AZERTY keyboard

***Normal**

Upper Row

Lower Row

Note: This setting is to be used with the Character Substitution setting when support to certain keyboard types (languages) is unavailable but required.

Update

Capital Lock Type & Setting

In order to send the alphabets with correct case, the scanner needs to know the status of Caps Lock on the keyboard. Incorrect settings may result in reversed case of the alphabets being transmitted.

Cap Lock Type	Description
Normal	Normal type
Capital Lock	When enabled, the keys of alphabetic characters will be interpreted as capital letters. However, this does not affect the number or punctuation keys.
Shift Lock	When enabled, the keys of alphabetic characters will be interpreted as capital letters. In addition, this affects the number or punctuation keys.

***Normal**

Shift Lock

Capital Lock

Capital Lock State	Description
Capital Lock OFF	Assuming that the status of Caps Lock on the keyboard is OFF, transmitted characters are exactly the same as in the barcode (when "case-sensitive" is selected for Alphabets Transmission).
Capital Lock ON	Assuming that the status of Caps Lock on the keyboard is ON, transmitted characters are exactly the same as in the barcode (when "case-sensitive" is selected for Alphabets Transmission). ▸ Refer to the Capital Lock Type above.
Auto Detection	The scanner will automatically detect the status of Caps Lock on the keyboard before data is transmitted; transmitted characters are exactly the same as in the barcode (when "case-sensitive" is selected for Alphabets Transmission).

Auto Detect

Capital Lock ON

Enter Setup

***Capital Lock OFF**

Update

Alphabets Transmission

By default, the alphabets transmission is case-sensitive, meaning that the alphabets will be transmitted according to their original case, the status of Caps Lock on the keyboard, as well as the Capital Lock setting. Select [Ignore Case] to have alphabets transmitted according to the status of Caps Lock on the keyboard only.

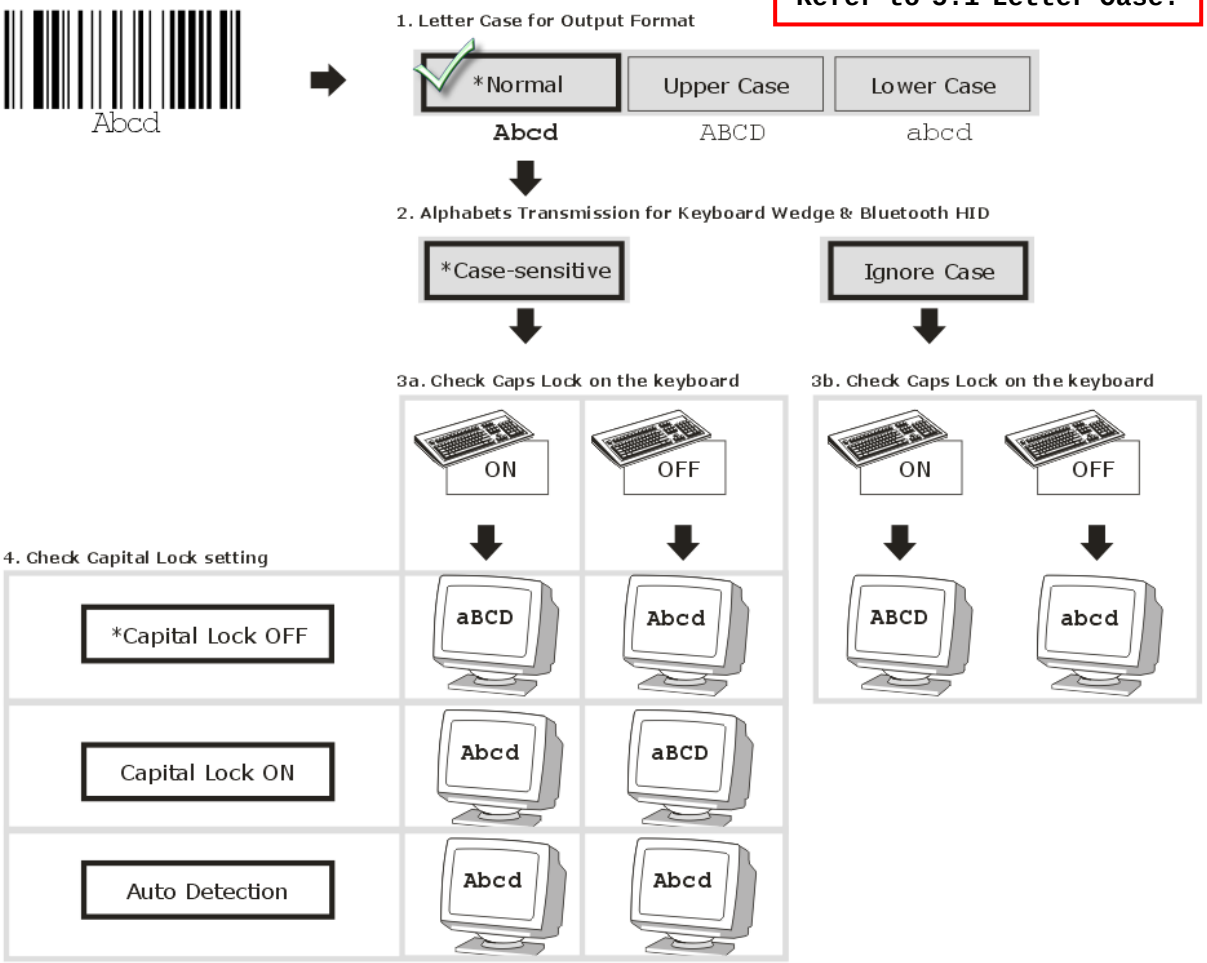
Ignore Case

100051

***Case-sensitive**

100050

Refer to 5.1 Letter Case.



Enter Setup

Digits Transmission

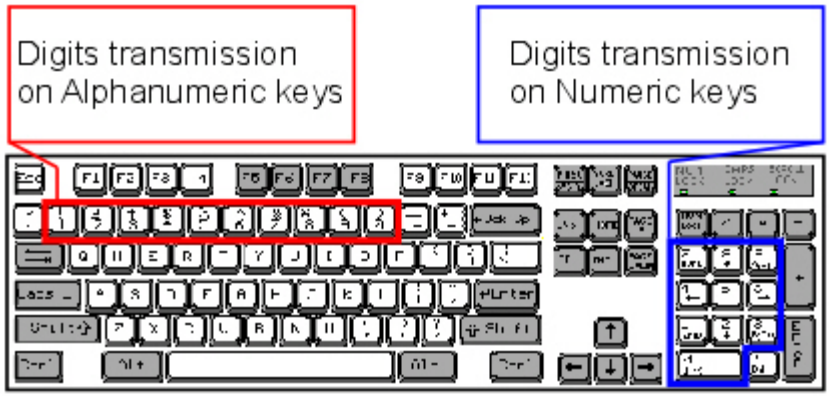
By default, the alphanumeric keypad is used for transmitting digits. Select “Numeric Keypad” if you wish to use the keys on the numeric keypad.

Numeric Key

100041

***Alphanumeric Key**

100040



Note: If you select “Numeric Keypad”, the Num Lock status of the physical keyboard should be "ON".

Update

2.6.3 INTER-FUNCTION DELAY

By default, the inter-function delay is set to zero. Specify a value, ranging from 0 to 254, to match the computer response time of the keyboard interface. Such delay time is inserted between every function code (0x01 ~ 0x1F) being transmitted. The longer the delay time is, the slower the transmission speed will be.

Value	Delay Time	Value	Delay Time
0	Disable	195 ~ 204	200 millisecond
1 ~ 14	10 millisecond	205 ~ 214	210 millisecond
15 ~ 24	20 millisecond	215 ~ 224	220 millisecond
25 ~ 34	30 millisecond	225 ~ 234	230 millisecond
35 ~ 44	40 millisecond	235 ~ 244	240 millisecond
45 ~ 54	50 millisecond	245 ~ 254	250 millisecond
…	…		

Inter-Function Delay… (*0~254)

100012

1) Read the barcode above to specify the inter-function delay.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。 for the desired inter-function delay (millisecond).
3) Read the "Validate" barcode on the same page to complete this setting.

2.6.4 HID CHARACTER TRANSMIT MODE

By default, HID interface sends data to the host in batch. You may have the scanner read the "By Character" barcode to process data one character at a time.

***Batch Processing**

100064

By Character

100065

Enter Setup

2.7 USB VIRTUAL COM VIA 3656

Use the USB cable to connect the scanner via 3656 to the USB port of PC and connect the power supply cord if necessary. You may run HyperTerminal.exe on your computer, and the scanned data will be transmitted to the computer.

Note: If you are using USB Virtual COM for the first time, you must install its driver from the CD-ROM. Driver version 5.3 or later is required. Please remove older versions!

2.7.1 ACTIVATE USB VIRTUAL COM

Activate 3656 USB Virtual COM

2.7.2 INTER-FUNCTION DELAY

By default, the inter-function delay is set to zero. Specify a value, ranging from 0 to 254, to match the computer response time of the keyboard interface. Such delay time is inserted between every function code (0x01 ~ 0x1F) being transmitted. The longer the delay time is, the slower the transmission speed will be.

Value	Delay Time	Value	Delay Time
0	Disable	195 ~ 204	200 millisecond
1 ~ 14	10 millisecond	205 ~ 214	210 millisecond
15 ~ 24	20 millisecond	215 ~ 224	220 millisecond
25 ~ 34	30 millisecond	225 ~ 234	230 millisecond
35 ~ 44	40 millisecond	235 ~ 244	240 millisecond
45 ~ 54	50 millisecond	245 ~ 254	250 millisecond
…	…		

Inter-Function Delay… (*0~254)

1) Read the barcode above to specify the inter-function delay.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。 for the desired inter-function delay (millisecond).
3) Read the "Validate" barcode on the same page to complete this setting.

Update

2.7.3 ACK/NAK TIMEOUT

By default, the scanner sends data to the host without waiting for an ACK/NAK response before sending more data. Specify a value, ranging from 1 to 99 in units of 0.1 second. If no response within the specified period of time, the scanner will attempt to send the same data two more times. If all three attempts fail without any notification, data loss will occur.

ACK/NAK Time-out after … (*0~99)

1) Read the barcode above to specify the time interval for the scanner to send data and wait for a response from the host.
2) Read the "Decimal Value" barcode on page 錯誤! 尚未定義書籤。. For example, read "1" and "0" for the scanner to automatically shut down after being idle for 1 second.
3) Read the "Validate" barcode on the same page to complete this setting.

ACK/NAK Error Beep

Enable Error Beep

***Disable Error Beep**

Note: We suggest enabling the error beep so that you will be notified of such data loss and have the scanner re-read data.

Enter Setup

Update

Chapter 3

SETTING UP A WPAN CONNECTION

The 1564 scanner can be configured to send data to a host computer wirelessly via the 3656 stand, or to a notebook computer or PDA with *Bluetooth*® wireless technology. Upon powering up, the scanner will be ready for establishing a WPAN connection.

To establish a connection via 3656 after reading "Set Connection" and "Serial No." labels …

Interface Option	Reference
Keyboard Wedge	2.4 Keyboard Wedge via 3656
RS-232	2.5 RS-232 via 3656
USB HID	2.6 USB HID via 3656
USB Virtual COM	2.7 USB Virtual COM via 3656

To establish a connection via *Bluetooth*® dongle after pairing…

Interface Option	Reference
BT HID	2.1 BT HID
BT SPP	2.2 BT SPP Slave, 2.3 BT SPP Master

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3.1 CONNECTING VIA 3656

By default, the interface of 3656 is set to “USB HID”. Use the interface cable to connect the scanner via 3656 to PC. You can have up to seven scanners connected to one computer at the same time.

Note: If you are using USB Virtual COM for the first time, you must install its driver from the CD-ROM. Driver version 5.3 or later is required. Please remove older versions!

3.1.1 CONNECT TO 3656

You can connect any scanner to 3656 by having the scanner read the two labels at the back of 3656. The scanner will respond with one beep upon reading each of the labels.

- “Set Connection” label
- “Serial Number” label

After reading these labels, the scanner will stay active for a specified period of time (2 minutes by default) trying to connect to the 3656 stand while its LED is flashing blue (On/Off ratio 0.5 s: 0.5 s). Once connected, the scanner will respond with three beeps (tone ascending from low to high), and the LED becomes flashing blue (On/Off ratio 0.02 s: 3 s). When getting out of range, the scanner will respond with three short beeps (tone descending from high to low).

Read the “Set Connection” label first, and then the “Serial Number” label. If the “Set Connection” label on 3656 is illegible, try this one —

Set Connection

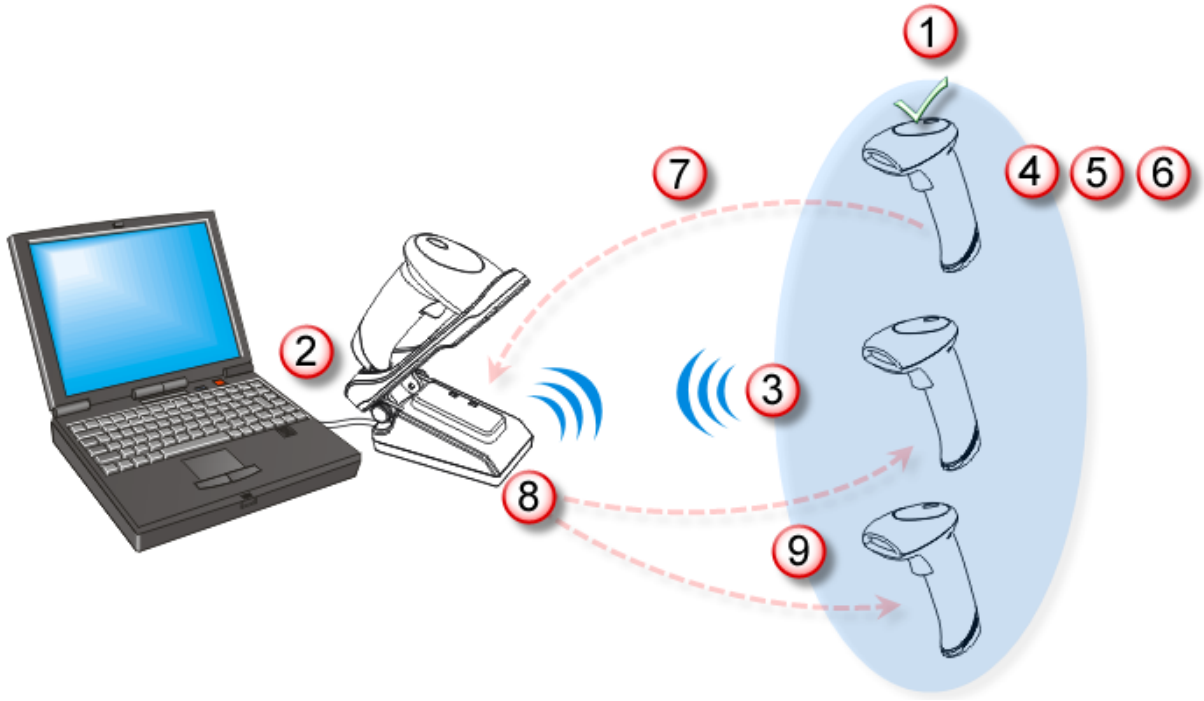
Note: The 3656 settings will overwrite the interface-related settings on the scanners that are currently connected to 3656.

Enter Setup

3.1.2 CHANGE INTERFACE

If you want to change the interface cable of 3656, use one of the scanners to configure the interface-related settings and it will pass the new settings to 3656, which will then initialize and pass the settings to any other connected scanners.

1) Have the scanner read the “Set Connection” and “Serial Number” labels at the back of 3656.
2) Within two minutes, connect the interface cable between 3656 and your computer. For USB Virtual COM, you may need to install its driver first!
3) The scanners will connect to your computer via 3656.
4) Have one scanner read the “Enter Setup” barcode to enter the configuration mode.
5) Have the scanner read the desired interface barcode and configure its related settings –
   - “Activate Keyboard Wedge & Select Keyboard Type”
   - “Activate RS-232”
   - “Activate USB HID & Select Keyboard Type”
   - “Activate USB Virtual COM”
6) Have the scanner read the “Update” barcode to exit the configuration mode.
7) After the scanner resumes connection with 3656, it will pass the interface-related settings to 3656.
8) Upon receipt of the new settings, 3656 will initialize itself.
9) Updated with new settings, 3656 will pass the settings to other connected scanners.



Update

3.1.3 CONFIGURE RELATED SETTINGS

Sniff Mode (Power-saving)

By default, this feature is enabled, meaning the scanner will listen to the wireless network at a reduced rate.

***Enable**

Disable

Enter Setup

3.2 CONNECTING VIA *BLUETOOTH*® DONGLE

3.2.1 CHANGE INTERFACE

Below is the procedure to configure the scanner before establishing a WPAN connection via *Bluetooth*® dongle.

1) Have the scanner read the "Enter Setup" barcode to enter the configuration mode.
2) Have the scanner read the desired interface barcode –
   - "Activate BT HID & Select Keyboard Type"
   - "Activate BT SPP Slave Mode"
   - "Activate BT SPP Master Mode"
3) Have the scanner read the barcodes related to WPAN settings, such as Device Name Broadcasting, Authentication & PIN Code, etc.
4) Have the scanner read the "Update" barcode to exit the configuration mode.
5) The scanner will stay active for a specified period of time (2 minutes by default) waiting for a connection request from the host (SPP Slave Mode) or trying to connect to the host (HID or SPP Master Mode). Its CPU is running at full speed, and the LED is flashing blue (On/Off ratio 0.5 s: 0.5 s).

   Once connected, when getting out of range, the scanner will respond with three short beeps (tone descending from high to low).

Update

3.2.2 CONFIGURE RELATED SETTINGS

Sniff Mode (Power-saving)

By default, this feature is enabled, meaning the scanner will listen to the wireless network at a reduced rate.

***Enable**

Disable

Note: When connecting more than two scanners to a notebook computer or PDA with *Bluetooth*® wireless technology, we suggest that you disable the power-saving setting for a more reliable connection.

Device Name Broadcasting

The scanner can be configured to hide itself from other devices equipped with *Bluetooth*® wireless technology. Simply disable the device name broadcasting setting so that it won't be discovered by any other computer or PDA. However, broadcasting must be enabled for establishing an initial connection with the scanner. For example, you can disable device name broadcasting after successfully connecting the scanner to WorkStation1. Such connection will be maintained automatically unless the scanner is removed from the paired device list (called unpairing) by WorkStation1 or any changes made to authentication and the PIN code. If you want WorkStation2 to connect to the scanner, you will have to enable device name broadcasting first.

***Enable**

Disable

Note: By default, device name broadcasting is enabled (which is required for initial connection).

Enter Setup

Authentication

When any changes are made to authentication and PIN code on the scanner side, you will have to remove the scanner from the paired device list (called unpairing) and go through the whole process to re-establish the connection.

The scanner allows up to 16 characters for a PIN code and provides two options for authentication:

Enable Authentication with Preset PIN

Have the scanner read the "Use preset PIN" barcode, and change the preset PIN if necessary. This means you will have to enter exactly the same string for your computer or PDA to connect to the scanner. If the PIN or passkey is incorrect, any connection attempt will be turned down by the scanner. See step 8 in 3.2.3 Connect to Dongle.

1. Read the "Use preset PIN" barcode to enable authentication with a preset PIN.

Use Preset PIN

2. Read one of the barcodes to specify the PIN code, in decimal or hexadecimal.

   By default, the PIN code is set to "0000". Maximum 16 characters are allowed.

Enter PIN in Hexadecimal …

Enter PIN in Decimal…

3. Read the "Decimal Value" barcode on page **錯誤! 尚未定義書籤。** or the "Hexadecimal Value" barcode on page **錯誤! 尚未定義書籤。** for the desired digits or character string.

   Read the "Clear PIN Code" barcode first if you need to re-input the PIN code.

Clear PIN Code

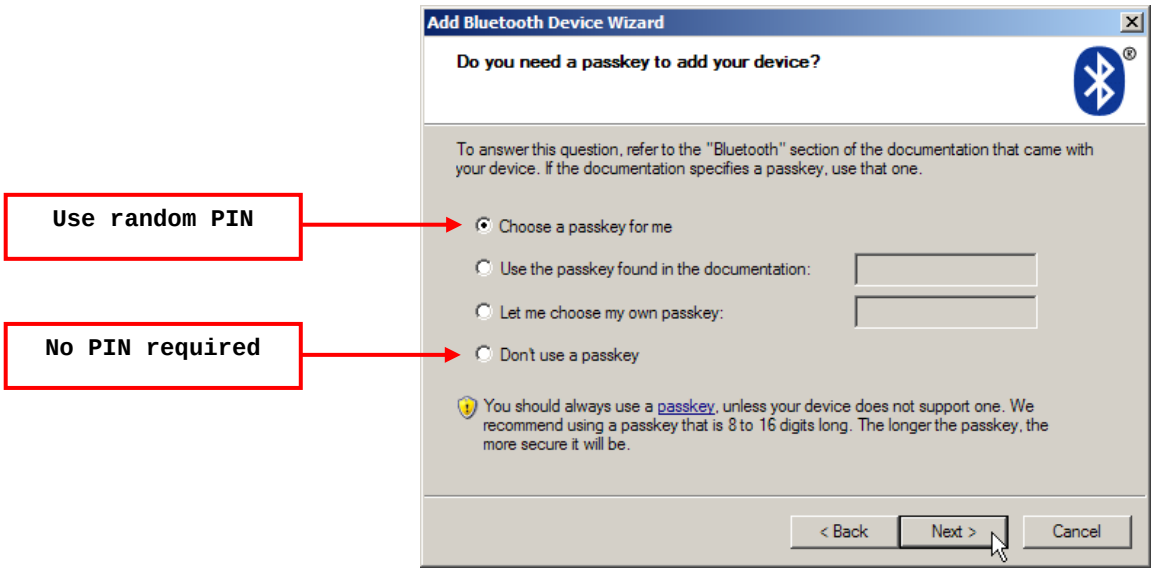
4. Read the "Validate" barcode to complete this setting.

Enable Authentication with Random PIN or No Authentication

By default, it is set to "No PIN or use random PIN", which depends on the setting of the target device. (No PIN = No authentication.)

***No PIN or use random PIN**

Update



Note: When using BT HID, some device driver may not support pre-defined PIN code for authentication. In this case, make sure you have the scanner set to “No PIN or use random PIN” before pairing. While pairing, the host PIN code will be displayed on the computer screen. Have the scanner read the setup barcode “Enter PIN Code in Decimal” or “Enter PIN Code in Hexadecimal” to input the matching PIN code. Refer to Disable Authentication or Use Random PIN.

Enter Setup

3.2.3 CONNECT TO DONGLE

The procedure goes through associating devices for establishing a WPAN connection, which is pretty much the same except for the software you are using. If your computer is running Microsoft® Windows® XP Service Pack 3 (SP3) or Windows Vista® Service Pack 1 (SP1), you can use the software support that Windows® includes, or you can use the driver that the device manufacturer provides. Now, let's try using the software support that Windows® XP Service Pack 2 includes.

BT HID Procedure

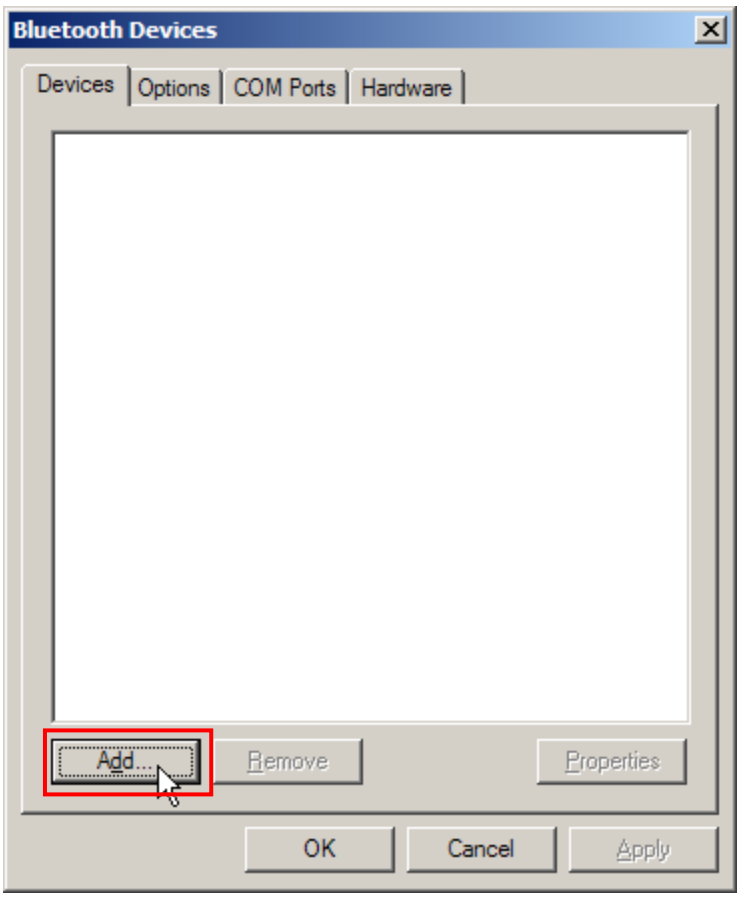
By default, BT HID is activated on the scanner, and the keyboard type is set to PCAT (US). When BT HID is re-activated, you will have to select a keyboard type to complete this setting.

The procedure is the same as for BT SPP. Refer to steps 1~11 below.

BT SPP Procedure

1. Turn on the *Bluetooth*® function on your computer, running Windows XP SP2.
2. Double-click the *Bluetooth*® icon from the lower right of the taskbar.

   Alternatively, you may go to **Control Panel** > **Bluetooth Devices**.
3. Click [Add] to search devices nearby.



Update

4. Turn on the scanner with correct WPAN settings, such as select BT SPP or BT HID, broadcasting enabled, authentication enabled, and PIN code specified, etc. Select the check box of [My device is set up and ready to be found] on your computer.

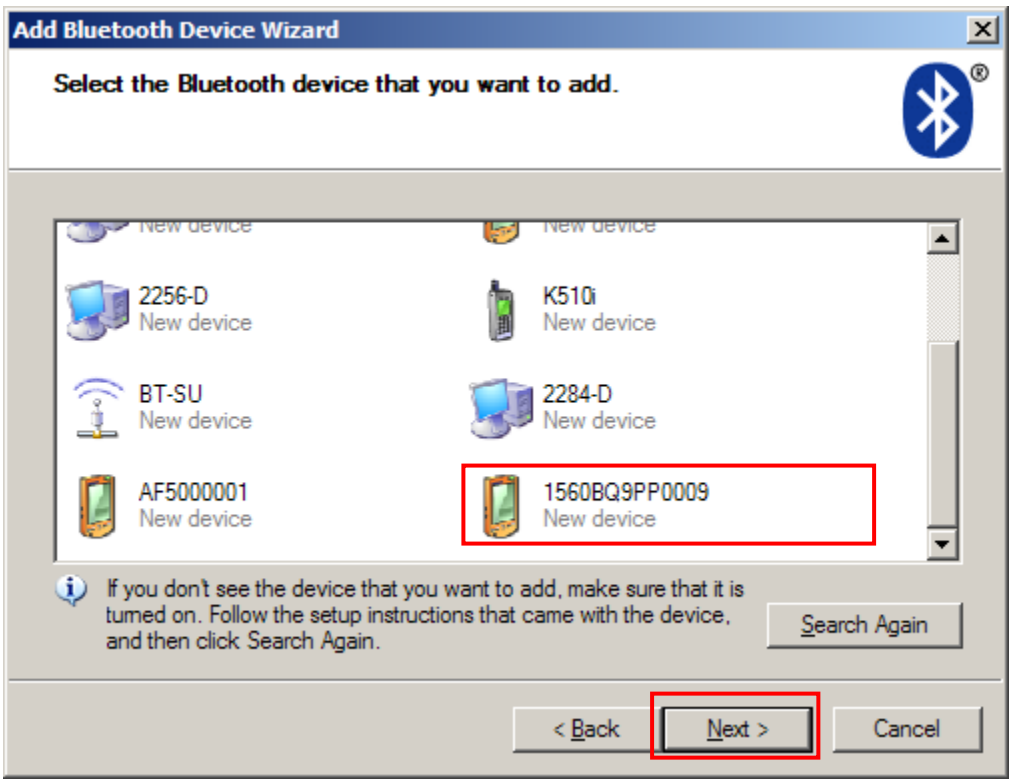
5. Click [Next].

6. Wait for a few seconds for the Wizard to search available devices nearby.

   The scanner will appear with its “serial number” as the device name. You may double-check the “Serial Number” label on the scanner to ensure connecting with the correct scanner. Select the target scanner. If the target scanner does not appear on the list, click [Search Again] to refresh the list. The scanner might enter Suspend Mode now, and you can press the trigger to have it active again (=discoverable). It will then stay active for a specified period of time (2 minutes by default) and wait for PC to establish a connection.

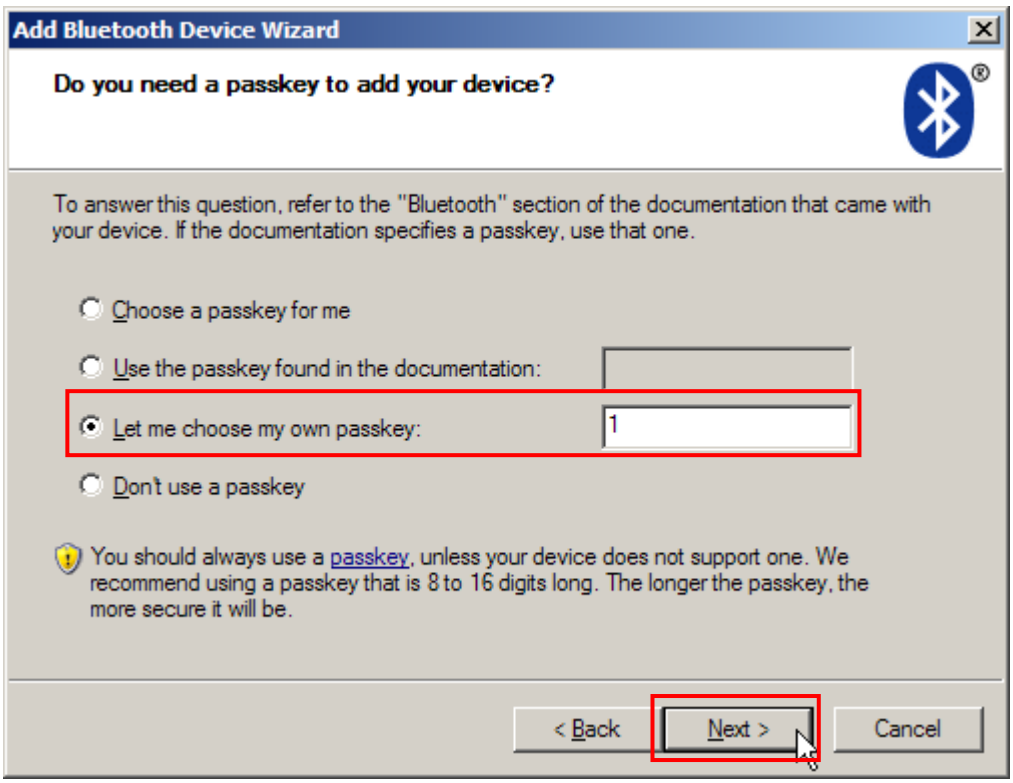
Enter Setup

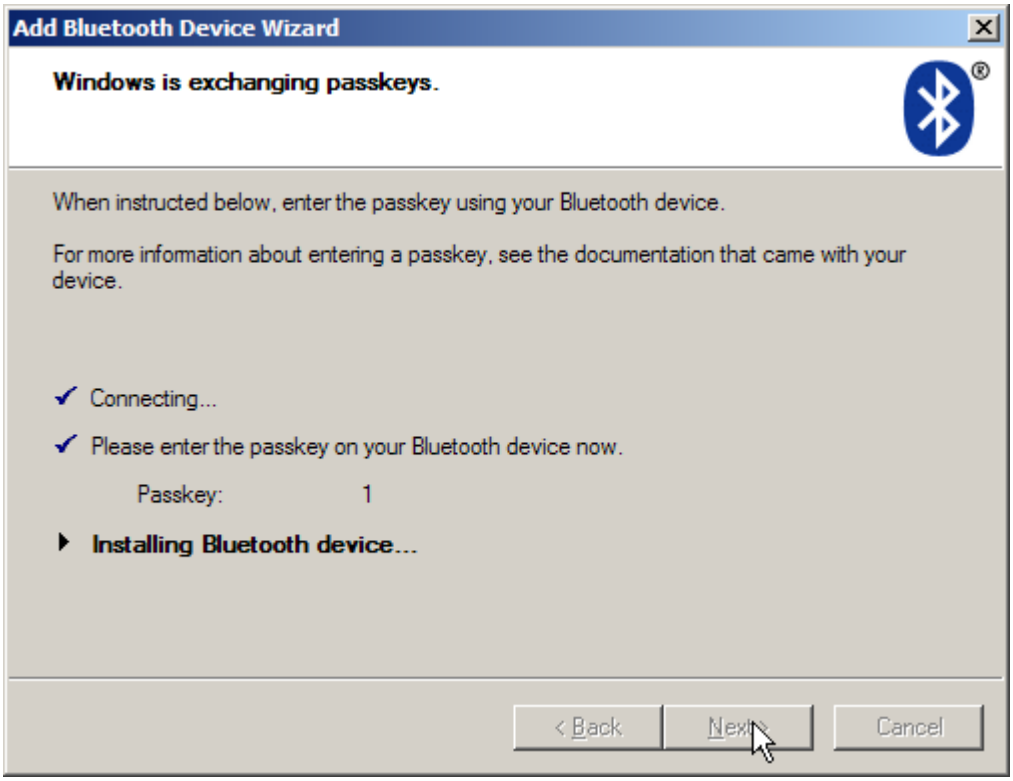
7. Click [Next].



8. Enter the passkey for authentication, which must be exactly the same as configured for the scanner.

9. Click [Next]. Wait for a few seconds for Windows to exchange passkeys.

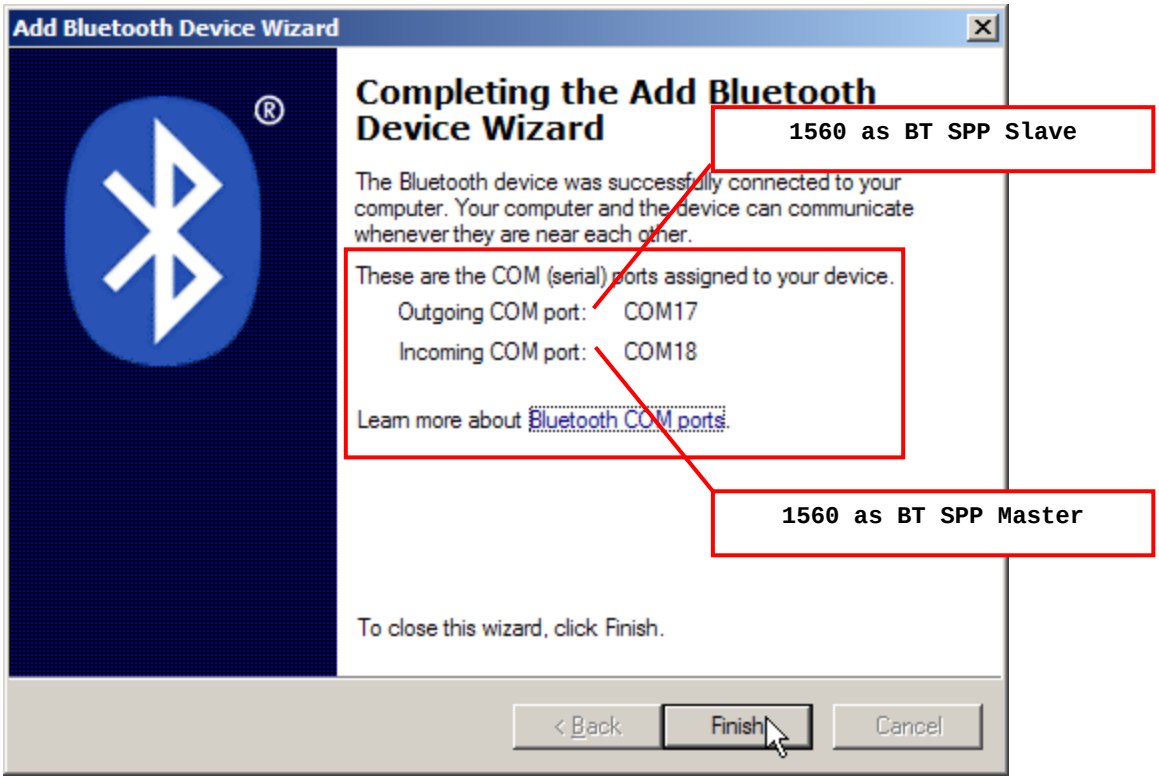




Enter Setup

Note: When Bluetooth security is enabled without providing a pre-set PIN code, dynamic input of PIN code is supported.

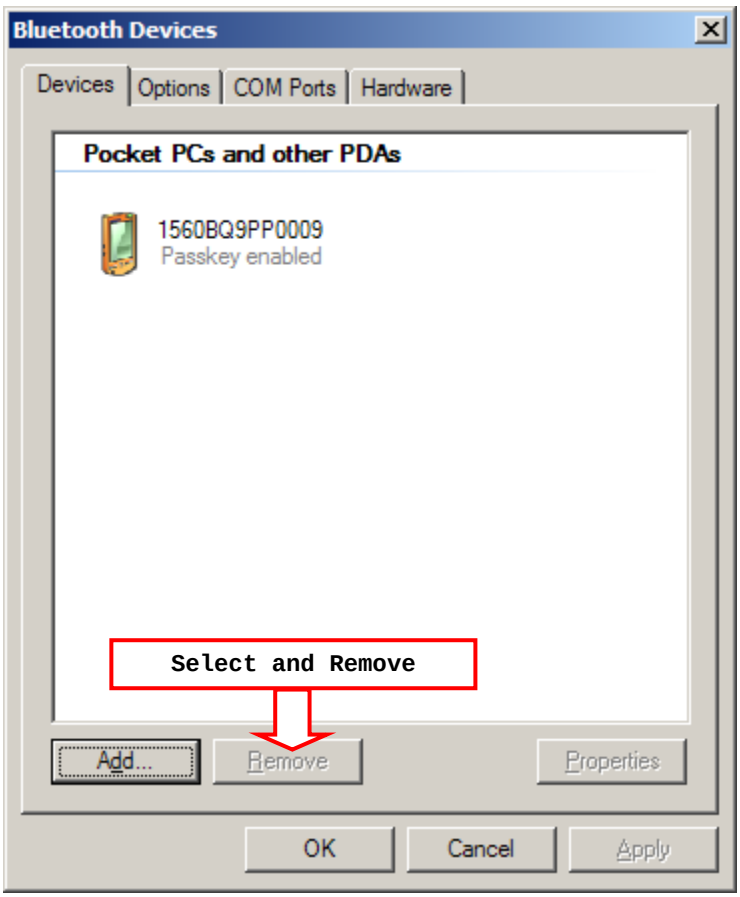
10. Click [Finish].



Update

11. Now the target scanner will be listed as shown below.

    You can have up to seven scanners connected to one computer at the same time.



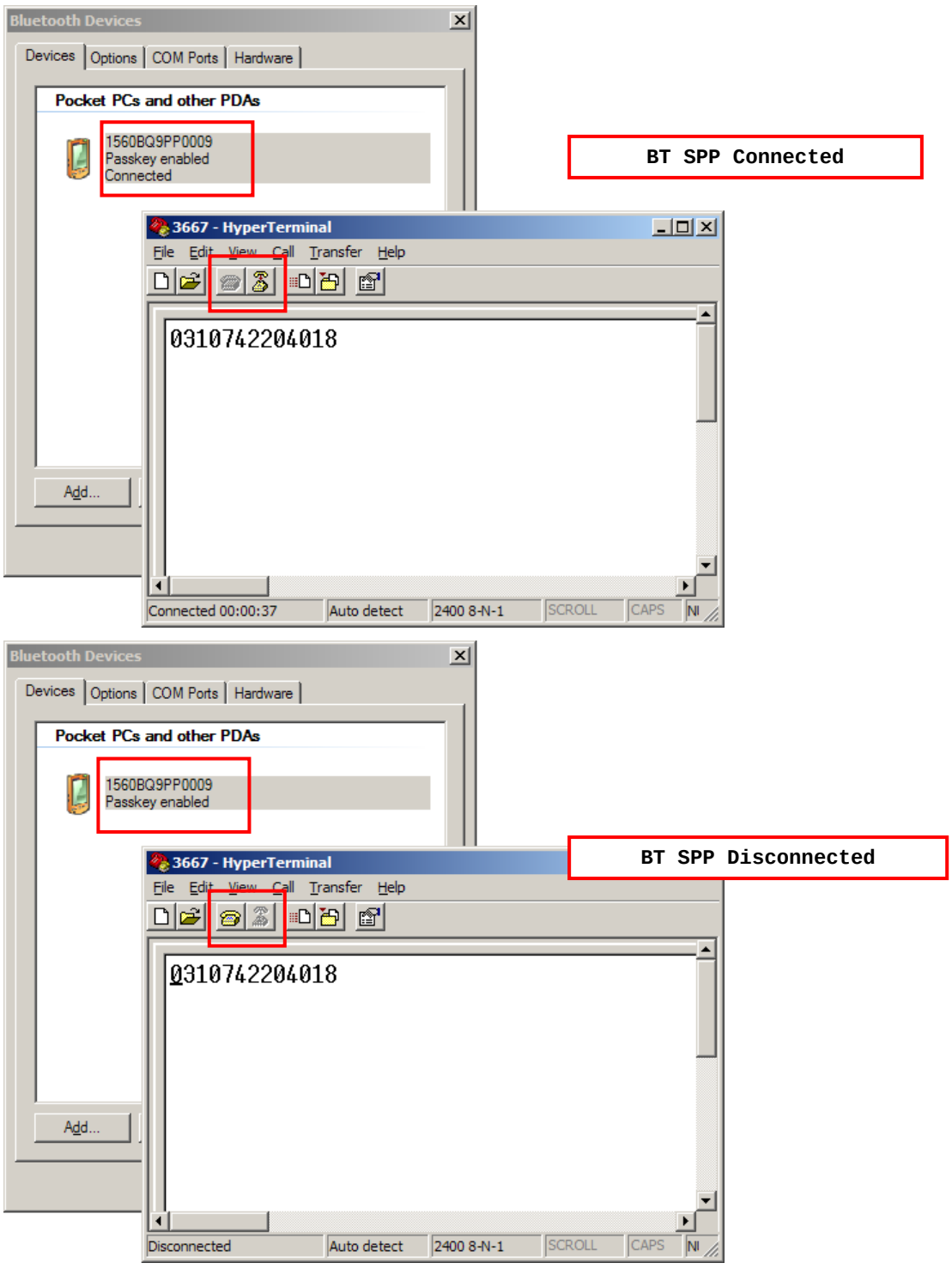
Note: When any changes are made to authentication and PIN code on the scanner side, or you want to change to use BT HID, it is suggested that you remove the scanner from the paired device list (called unpairing) and go through the whole process to re-establish the connection.

12. Run the desired application on your computer, such as HyperTerminal.exe if using BT SPP or Notepad.exe if using BT HID.

    The status of the scanner listed on the device list will be updated to “Connected”, indicating the WPAN connection is established successfully via the outgoing COM port if using BT SPP.

Note: Even though the scanner is connected to the host with authentication disabled (= no PIN code required), the host may still request a PIN code while the application is opening COM port. Dynamic input of PIN code is supported so that you may input a matching PIN code on the scanner. Refer to Disable Authentication or Use Random PIN.

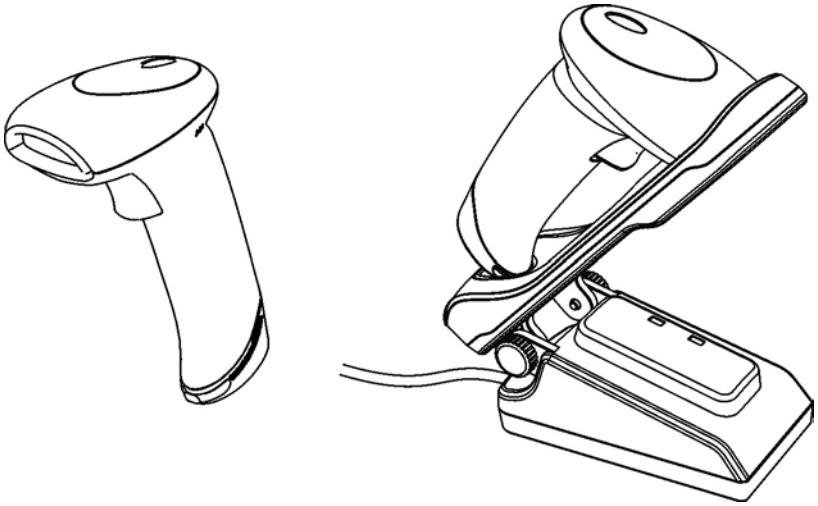
Enter Setup


Bluetooth Devices
Devices
Options
COM Ports
Hardware
Pocket PCs and other PDAs
1560BQ9PP0009
Passkey enabled
Connected
Add...
3667 - HyperTerminal
File Edit View Call Transfer Help
0310742204018
Connected 00:00:37
Auto detect
2400 8-N-1
SCROLL
CAPS
NI
BT SPP Connected
Bluetooth Devices
Devices
Options
COM Ports
Hardware
Pocket PCs and other PDAs
1560BQ9PP0009
Passkey enabled
Add...
3667 - HyperTerminal
File Edit View Call Transfer Help
0310742204018
Disconnected
Auto detect
2400 8-N-1
SCROLL
CAPS
NI
BT SPP Disconnected

Update

Enter Setup

SPECIFICATIONS



Optical Characteristics	1564
Scan Engine	2D Imager
Light Source	Visible red LED
RF Characteristics	
WPAN Module	Wireless PAN BT Class 2 compliance
Coverage (line-of-sight)	90 meters with 3656
Interface Supported	▸ Serial Port Profile (BT SPP) ▸ Human Interface Device Profile (BT HID) ▸ 3656
Physical Characteristics	
Memory	▸ 4 KB for transmit buffer ▸ 512 KB flash for memory mode
Switch	Tactile switch
Indication	Triple-color LED (Red/Green/Blue) and beeper
Weight	Approx. 170 g

Update

Electrical Characteristics		
Battery		Rechargeable Li-ion battery – 3.7 V, 800 mAh
Power Adaptor		
Input		AC 100~240 V, 50/60 Hz
Output		DC 5V ± 5% (with adaptor via 3656 or battery charger)
Environmental Characteristics		
Temperature	Operating	0 °C to 50 °C
	Storage	-20 °C to 60 °C
Humidity (Non-condensing)	Operating	10% to 90%
	Storage	5% to 95%
Resistance		
Impact Resistance		1.2 m, 5 drops per 6 sides
Splash / Dust Resistance		IP 30
Electrostatic Discharge		± 15 kV air discharge, ± 8 kV contact discharge
Programming Support		
Configuration via Setup Barcodes		Use setup barcodes or host serial commands.
Software		Windows®-based ScanMaster
Firmware upgradeable		Download firmware updates via the download utility.
Accessories (√ means "supported")		
Rechargeable Li-ion Battery		√
Battery Charger		√
3656 Stand		√

Note: The 3656 stand is not only capable of charging the 1564 scanner, but specifically designed for the scanner to communicate with a host computer wirelessly.

Enter Setup