

REFERENCE MANUAL

BARCODE SCANNERS

DOC Version 2.20



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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 numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques," NMB-003 édictée par l'Industrie.

FOR HAND-HELD PRODUCT WITH RF FUNCTIONS

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. It only operated in hand-held used. If you only transfer data to Host by WLAN/Bluetooth, please keep the minimum distance 20cm between machine & your body.

FOR PRODUCT WITH LASER

Per FDA and IEC standards, the scan engines described in this manual are not given a laser classification. However, the following precautions should be observed:

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 and communication cradle 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 mobile computer 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 cradle. DO NOT use/mix any bleach or cleaner.
- ▶ For the 1166/1266 scanner, 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.

RELEASE NOTES

VERSION	DATE	NOTES
2.20	Dec. 03, 2007	New Word template applied <ul style="list-style-type: none">▶ New: 3667 Bluetooth Cradle for 1166/1266▶ Modified: Auto-Sense mode supported on 1100 only.▶ Modified: Appendix I – Reading Performance removed.
2.16	Mar. 30, 2007	▶ New: Appendix I – Reading Performance
2.15	Nov.06, 2006	▶ Modified: add notice for BT SPP and HID power saving – Please disable power saving when connecting more than two 1x66 scanners to Bluetooth dongle. <ul style="list-style-type: none">▶ Modified: Remove wording of the four volume levels for the Buzzer setting.
2.14	Sep. 20,2006	▶ Modified: add scanner LED indication for “Sleeping” mode, “Connected” status, and “Not Connected” status.
2.13	Jun. 29,2006	▶ Modified: Transmit Buffer refers to SRAM, not Flash Memory.
2.12	Mar. 03, 2006	▶ New: Bluetooth HID supports Japanese keyboard.
	Apr. 28, 2006	▶ Modified: Remove the volume levels for the Buzzer setting.
2.11	Jan.27, 2006	The flow control has to set to No Flow Control when updating settings via Scanner Manager.
2.10	Jan.18, 2006	▶ Modified: Bluetooth HID doesn’t support the following functions on PDAs running Windows CE – Capital Lock Setting: Auto Detection, Digit Transmission: Numeric Key, and Alt Composing. <ul style="list-style-type: none">▶ Modified: add information of Bluetooth HID keyboard interface.▶ New: Firmware version V4.20
2.00	Dec. 30, 2005	▶ New: Bluetooth HID supported <ul style="list-style-type: none">▶ New: Firmware version V4.10
1.00	Oct. 31, 2005	First release.

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INTRODUCTION

CipherLab Barcode Scanners provide convenient and versatile solutions to meet your business needs. The tethered handheld 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 retail, industrial, manufacturing, and enterprise environments. Integrating Bluetooth technology to our popular scanners, the Bluetooth scanners give workers tether-free mobility and get job done more efficiently. This line of scanners has a range of up to 100 meters and a prolonged battery life – over 45 hours or over 32,000 scans for 1166, and over 36 hours or 26,000 scans for 1266. The difference between 1166 and 1266 is the barcode scan engine installed inside the scanner. The 1166 scanner uses CCD linear imager, whereas the 1266 scanner uses a Laser engine.

Owing to the compact design, extremely low power consumption, and powerful decoding capability, CipherLab 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

The complete documentation for the CipherLab Barcode Scanners is divided into two documents, this reference manual and a configuration manual; the latter contains setup barcodes for SmartScan configuration. This manual contains information on operating the scanner and its programmable 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!

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.

FOR TETHERED SCANNERS – 1000, 1090+, 1100, 1105, 1200

- ▶ Barcode Scanner
- ▶ Power Supply Cord & Communication Cable
- ▶ Manual & Driver CD

FOR BLUETOOTH SCANNERS – 1166, 1266

- ▶ Barcode Scanner
- ▶ Rechargeable Li-ion battery
- ▶ Power Supply Cord
- ▶ Charging & Communication Cradle 3666 or 3667, optional
- ▶ Manual & Driver CD
- ▶ 3667 Bluetooth Software CD

Note: (1) The output interface of the communication cable (for the cradle as well) depends on your order. For USB Virtual COM (Part #308), find the associated driver on the CD.
(2) The Manual & Driver CD includes this Reference Manual, the SmartScan manual, Windows-based *ScanManager* software for configuration, as well as 308 driver.

ACCESSORIES & INTERFACE OPTIONS

Rich choices of output interfaces are available for you to enhance the total performance of the scanner.

ACCESSORIES (PART NO.)	<i>Contact Scanners</i>		<i>Value Scanners</i>			<i>Bluetooth Scanners</i>	
	1000	1090+	1100	1105	1200	1166	1266
Auto-Sense Stand			√				
Holder			√	√	√		
Rechargeable Li-ion Battery						√	√
3666 Bluetooth Cradle						√	√
3667 Bluetooth Cradle						√	√
USB HID Cable (307)		√	√	√	√	√	√
USB Virtual COM Cable (308)		√	√	√	√		
IBM 4683/4694 Cable (346)		√	√	√	√	√	√
RS-232 Cable		√	√	√	√	√	√
Keyboard Wedge Cable		√	√	√	√	√	√
Wand Emulation Cable		√	√	√	√		
ASSEMBLY OPTIONS	1000	1090+	1100	1105	1200	1166	1266
USB HID (307)	√						
USB Virtual COM (308)	√						
IBM 4683/4694 (346)	√						
RS-232	√						
Keyboard Wedge	√						
Wand Emulation							

Note: The 3666 Bluetooth Cradle provides a charging slot for battery and output interface options of communication cables – RS-232, Keyboard Wedge, and USB HID.

PRODUCT HIGHLIGHTS





- ▶ Ergonomic design and built tough to survive drop test.
- ▶ Most popular barcode symbologies are supported, including Reduced Space Symbology (RSS).
- ▶ Negative barcodes are also supported.
- ▶ Eight scan modes are supported.
- ▶ User feedback includes dual-color LED indicator and buzzer.
- ▶ Beeping tone programmable for Good Read.
- ▶ Choices of output interfaces, including RS-232, Keyboard Wedge, Wand Emulation, USB HID, USB Virtual COM, IBM 4683/4694, etc.
- ▶ Extremely low power consumption.
- ▶ The 1166/1266 scanner provides 128 KB flash memory for batch mode operation, storing up to 8192 scans.
- ▶ The 1166/1266 scanner provides 4 KB SRAM for reserve buffer, storing up to 256 scans while getting out of range during a Bluetooth connection
- ▶ Bluetooth Serial Port Profile (SPP) supported – for example, the 1166/1266 scanner can transmit the scanned data to a Bluetooth-enabled computer or PDA.
- ▶ Bluetooth Human Interface Device (HID) supported – for example, the 1166/1266 scanner can transmit the scanned data to a Bluetooth-enabled computer or PDA, as keyboard input.
- ▶ Programmable parameters include data output format, editing format, symbologies, etc.
- ▶ Firmware upgradeable for the 1166/1266 scanner or 3666 cradle.

SmartScan CONFIGURATION

The configuration of the scanner can be done by reading the setup labels contained in the separate SmartScan manual or via the *ScanManager* software.

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

Note: If RS-232 or Bluetooth SPP is selected for output interface, the host can directly send serial commands to configure the scanner.

STEPS	ACTION	USER FEEDBACK IF SUCCESSFUL
1	Power on the scanner...	The scanner will respond with a long beep (high tone).
<p>Note: Upon powering up, the 1166/1266 scanner will try to establish a connection with the Bluetooth cradle 3666/3667 or a Bluetooth device such as the Bluetooth dongle. Refer to Chapter 2 – Setting up Bluetooth Connections for details.</p>		
2	Enter the Configuration Mode...	The scanner will respond with six beeps (high-low tone repeats three times), and its LED indicator will become blue.
	 Enter Setup	
3	Read a Setup label... For example,	The scanner will respond with two beeps (high-low tone) if reading a normal label.
	 Enable Interleaved 25	
4	Exit the Configuration Mode...	Same as for <i>Enter the Configuration Mode</i> .
	 OR  Update Abort	
5	The scanner will automatically restart itself...	Same as for <i>Power on the scanner</i> .
*	When any configuration error occurs...	The scanner will respond with one long beep with a low tone.

ENTER CONFIGURATION MODE

For the scanner to enter the configuration mode, you must have it read the "Enter Setup" label, which can be located at the bottom of almost every even page of the SmartScan manual. The scanner will respond with six beeps and its LED indicator will become blue after reading the label.

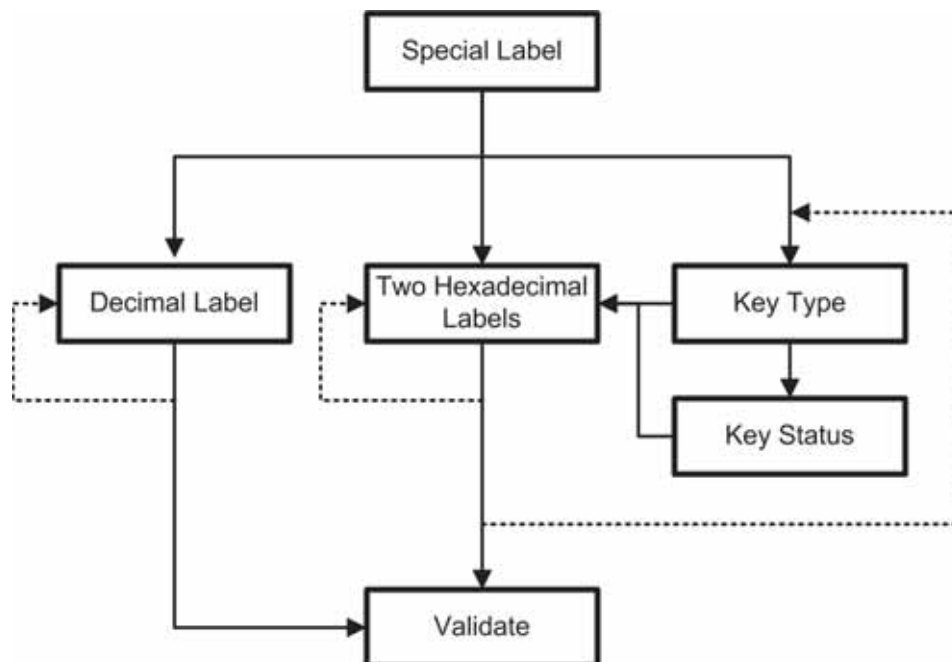
READ A SETUP LABEL

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 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 labels. These special parameters may require reading one or more (1) numeric labels, say, for keyboard type, inter-character delay, length qualification, or (2) hexadecimal labels, say, for character strings as prefix, suffix, etc.

Note: When "Keyboard Wedge" is configured for interface, Key Type and Key Status will then become applicable. You may decide whether or not to apply Key Status when "Normal Key" is selected for Key Type.










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



NUMERIC PARAMETERS

STEPS	ACTION	USER FEEDBACK IF SUCCESSFUL
1	Power on the scanner...	The scanner will respond with a long beep (high tone).
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 blue.
3	Read a Setup label... For example,	The scanner will respond with two beeps (high-low tone) if reading a normal label.
	<div style="border: 1px solid red; padding: 2px; display: inline-block;">Normal label</div>  Enable Interleaved 25	
	<div style="border: 1px solid red; padding: 2px; display: inline-block;">Normal label</div>  Select Max./Min. Length Qualification	
	<div style="border: 1px solid red; padding: 2px; display: inline-block;">Special label</div>  Max. Length	The scanner will respond with one short beep if reading a special label such as "Max. Length", indicating the setup requires reading more labels.
	<div style="border: 1px solid red; padding: 2px; display: inline-block;">Decimal label or labels</div>  1  5  Validate	The scanner will respond with two beeps (high-low tone) when the input values are validated.
4	Exit the Configuration Mode...  Update OR  Abort	Same as for <i>Enter the Configuration Mode</i> .

CHARACTER STRING PARAMETERS

STEPS	ACTION	USER FEEDBACK IF SUCCESSFUL
1	Power on the scanner...	The scanner will respond with a long beep (high tone).
2	Enter the Configuration Mode...	The scanner will respond with six beeps (high-low tone repeats three times), and its LED indicator will become blue.
	 Enter Setup	
3	Read a Setup label... For example,	The scanner will respond with one short beep if reading a special label such as "Prefix Code", indicating the setup requires reading more labels.
	<div style="border: 1px solid red; padding: 2px; display: inline-block;">Special label</div> <div style="margin-left: 20px;">  Prefix Code </div>	
	 <Normal>	When "Keyboard Wedge" is configured for interface, Key Type and Key Status will then become applicable.
	 Add Left Alt	<ul style="list-style-type: none"> ▶ You may decide whether or not to apply Key Status when "Normal Key" is selected for Key Type.
	<div style="border: 1px solid red; padding: 2px; display: inline-block;">Hexadecimal labels</div> <div style="margin-left: 20px;">  2  B  Validate </div>	<p>Read the "Hexadecimal Value" label for the desired character string. For example, read "2" and "B" for the scanner to prefix the character "+".</p> <p>The scanner will respond with two beeps (high-low tone) when the input values are validated.</p>
4	Exit the Configuration Mode...	Same as for <i>Enter the Configuration Mode</i> .
	 Update OR  Abort	

LIST THE CURRENT SETTINGS

The current settings of all scanner parameters can be sent to the host computer for user inspection. The listing includes ten pages as shown below. You can select the page of interest by reading the "Page x" label.

Page 1:	Interface, Buzzer, and Scanner Parameters
Page 2:	Prefix, Postfix, and Length Code Setting
Page 3:	Code ID
Page 4:	Readable Symbologies
Page 5:	Symbology Parameters (1/3)
Page 6:	Symbology Parameters (2/3)
Page 7:	Symbology Parameters (3/3)
Page 8:	Editing Format 1
Page 9:	Editing Format 2
Page 10:	Editing Format 3

RESTORE DEFAULTS

For the scanner to restore the defaults, you must have it read the "Restore Default Settings" label. The scanner will issue two beeps after reading the label, and all the parameters of the scanner will return to their default values.

EXIT CONFIGURATION MODE

For the scanner to exit the configuration mode, you must have it read the "Update" label, which can be located at the bottom of almost every odd page of the SmartScan manual. If you want to exit the configuration mode without saving any changes, have the scanner read the "Abort" label instead. Just like reading the "Enter Setup" label, the scanner will respond with six beeps and its LED indicator will become blue after reading the label. Wait for a few seconds for the scanner to restart itself.

USING THE BARCODE SCANNER

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

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1.1 BATTERY (1166/1266 ONLY)

The 1166/1266 scanner is powered by a rechargeable 3.7 V/700 mAh Li-ion battery, and it takes approximately 2 hours to fully charge it. However, the charging time may vary by working condition. During normal operation, the 1166 scanner can work for over 50 hours or 35,000 scans (based on EAN-13 barcodes), and the 1266 scanner can work for over 36 hours or 26,000 scans (based on EAN-13 barcodes). For intensive data collection, you may purchase a spare battery for non-stop operation.

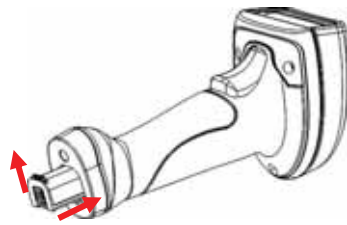
1.1.1 INSTALLING THE BATTERY

When you first receive the package, the rechargeable battery is stored separately from the scanner. Unless you have the cradle for charging the battery directly, you will have to insert the battery into the scanner first.

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) The scanner will respond with a long beep and its LED will come on and off shortly.
-

Note: For shipping and storage purposes, save the scanner and the battery separately. This will keep the battery in good condition for future use.



Push up to lock the battery.



1.1.2 CHARGING THE BATTERY

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.

Note: It takes approximately 2 hours to charge the battery to full. However, it takes approximately 4 hours to charge the battery via the battery slot on the 3666 cradle.
When the battery charge becomes low, you will find the scanner cannot emit scan beam and its power-on beep sounds differently.

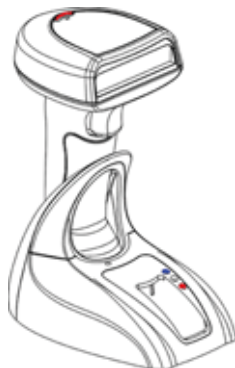
DIRECT CHARGING

If you do not have a cradle for charging, all you need to do is –

- 1) Install the battery to the scanner.
- 2) Connect one end of the power supply cord to the DC power jack at the bottom of the scanner.
- 3) Connect the other end of the power supply cord to a suitable power outlet.
- 4) The scanner LED will become flashing red during charging. When the charging is done, the LED will become solid red.

CHARGING VIA 3666/3667

If you have a cradle for charging, use the power supply cord to connect the cradle to a suitable power outlet instead. Then, install the battery to the scanner and seat the scanner in the cradle.



Bluetooth Cradle - 3666
** One spare battery slot.*
** Interface type is DB-15.*



Bluetooth Cradle - 3667
** No spare battery slot.*
** Interface type is USB (Type B)*

If you have the 3666 cradle, you may charge the battery directly as shown below –



- 1) Insert the battery into the battery slot at the front of the cradle.
- 2) Push down the battery to secure it in the slot.
- 3) Connect one end of the power supply cord to the power jack at the bottom of the cradle.
- 4) Connect the other end of the power supply cord to a suitable power outlet.
- 5) The LED for battery charging will become red during charging. When the charging is done, the LED will become green.

1.2 NOTIFICATIONS

1.2.1 SCANNER LED

The dual-color LED on top of the scanner is used to provide user feedback. For example, the LED becomes solid red and goes off quickly (= Suspend Mode) upon powering on or reading a barcode successfully. You may tell the difference by the beeps – you will hear a long beep when powering on the scanner, and a short beep (pitch programmable) when it reads a barcode successfully.

SCANNER	RED/BLUE LED	MEANING
1166 1266	Off	Power off / Suspend Mode
	Red, flashing	Charging
	Red, solid	Power on / Charging done / Good Read
	Blue, flashing (On/Off ratio 1:1)	No Bluetooth connection
	Blue, flashing (On/Off ratio 1:6)	Bluetooth connection established
	Blue, solid	Configuration Mode
SCANNER	RED/GREEN LED	MEANING
1000 1090+ 1100 1105 1200	Off	Power off / Suspend Mode
	Red, solid	Power on / Good Read
	Green, solid	Configuration Mode

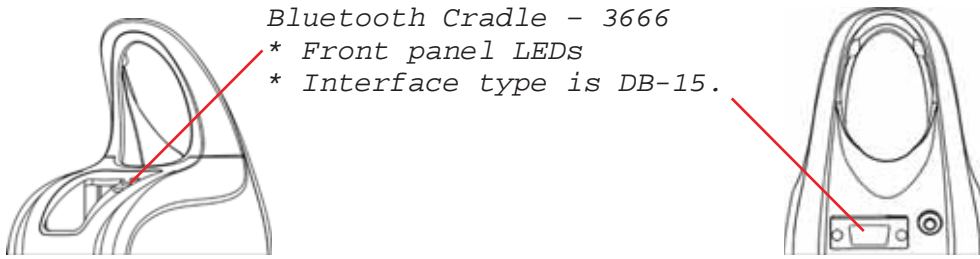
1.2.2 SCANNER BEEP

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

SCANNER	BUZZER	MEANING
1166 1266	One long beep, high tone	Power on
	One short beep, high tone ▶ Programmable, default to 4 KHz	Good Read
	Six short beeps ▶ High-low tone repeats three times	Enter Configuration Mode / Exit Configuration Mode
	Two beeps, high-low tone	Setup label read successfully
	One short beep, high tone	More setup label required
	One long beep, low tone	Configuration Error (Wrong label...)
	Three short beeps ▶ Tone ascending from low to high	Bluetooth connection established / Bluetooth connection resumed
	Three short beeps ▶ Tone descending from high to low	Out of range / Suspend Mode
	Three short beeps, low tone	No Bluetooth connection / Transmit Buffer Full
SCANNER	BUZZER	MEANING
1000 1090+ 1100 1105 1200	One long beep, high tone	Power on
	One short beep, high tone ▶ Programmable, default to 4 KHz	Good Read
	Six short beeps ▶ High-low tone repeats three times	Enter Configuration Mode / Exit Configuration Mode
	Two beeps, high-low tone	Setup label read successfully
	One short beep, high tone	More setup label required
	One long beep, low tone	Configuration Error (Wrong label...)

1.2.3 CRADLE LEDS – BLUETOOTH CRADLE 3666

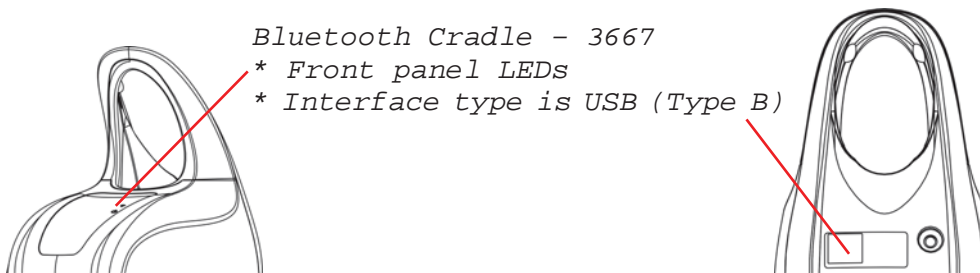
On the front panel of the 3666 cradle, three LEDs are provided for indicating the Bluetooth connection status, spare battery charging status, and the power status of the cradle (from top to down).



BLUETOOTH STATUS LED	MEANING
Off	No Bluetooth connection
Red, flashing	Keyboard Wedge disconnected / Interface set to Keyboard Wedge
Red, solid	Searching 1166/1266
Blue, flashing	Bluetooth connection established
BATTERY SLOT STATUS LED	MEANING
Off	No spare battery inside.
Red, solid	Charging spare battery
Green, solid	Charging done
POWER STATUS LED	MEANING
Off	Power off
Red, solid	Power on

1.2.4 CRADLE LEDs – BLUETOOTH CRADLE 3667

On the 3667 cradle, there are only two LEDs provided because it doesn't have a battery slot for charging the spare battery.



BLUETOOTH STATUS LED	MEANING
Off	No Bluetooth connection
Blue, solid	Searching Bluetooth devices
Blue, flashing	Bluetooth connection established

POWER STATUS LED	MEANING
Off	Power off
Red, solid	Power on

1.3 READ REDUNDANCY

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 "Three Times" is selected, it will take a total of four consecutive successful decodings 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.

Note: By default, no read redundancy is required.

1.4 SCAN MODES

There are eight scan modes 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			
	<i>Always</i>	<i>Press trigger once</i>	<i>Hold trigger</i>	<i>Press trigger twice</i>	<i>Release trigger</i>	<i>Press trigger once</i>	<i>Barcode being read</i>	<i>Timeout</i>
<i>Continuous mode</i>	✓							
<i>Test mode</i>	✓							
<i>Repeat mode</i>	✓							
<i>Momentary mode</i>			✓		✓			
<i>Alternate mode</i>		✓				✓		
<i>Aiming mode</i>				✓			✓	✓
<i>Laser mode</i>			✓		✓		✓	✓
<i>Auto Off mode</i>		✓					✓	✓
<i>Auto Power Off mode</i>		✓						✓

Note: (1) By default, the scan mode of 1100, 1105, 1200, 1166 and 1266 is set to Laser mode.
(2) By default, the scan mode of 1000 and 1090+ is set to Auto Off mode.

1.4.1 CONTINUOUS MODE

The scanner is always scanning.

- ▶ To decode the same barcode repeatedly, move away the scan beam and target it at the barcode for each scanning.

1.4.2 TEST MODE

The scanner is always scanning.

- ▶ Capable of decoding the same barcode repeatedly, for testing purpose.

1.4.3 REPEAT MODE

Like the Continuous Mode, the scanner is always scanning. But now the scan trigger acts like a “re-transmission” button when being pressed within one second after a successful reading, which will re-transmit the same data without actually reading the barcode again. This scan mode is most useful when the same barcode is to be read many times.

- ▶ Capable of re-transmitting barcode data if triggering within one second after a successful decoding.
- ▶ Such re-transmission can be activated as many times as needed, as long as the time interval between each triggering does not exceed one second.

1.4.4 MOMENTARY MODE

The scanner will be scanning as long as the trigger is hold down.

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

1.4.5 ALTERNATE MODE

The scanner will start scanning once the trigger is pressed.

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

1.4.6 LASER MODE

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

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

Note: By default, the scan mode of 1100, 1105, 1200, 1166 and 1266 is set to Laser mode.

1.4.7 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 preset timeout expires.

Note: By default, the scan mode of 1000 and 1090+ is set to Auto Off mode.

1.4.8 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 preset timeout period re-counts after each successful decoding.

1.5 AUTO-SENSE MODE (1100 ONLY)

This mode is only available for 1100 when you want to seat it in the Auto-Sense Stand.

- ▶ When you enable this mode, it will force the scanner to apply Laser mode as the scan mode. However, it works slightly different from the original Laser mode. Now the scanner will be scanning as long as it is seated in the Auto-Sense Stand. Whenever a barcode is brought within range, the scanner will be able to decode it.
- ▶ When you disable this mode later, the scan mode remains unchanged. If Laser mode is not desired, proceed to select a scan mode best suits your application.

Note: By default, Auto-Sense Stand mode is disabled.

1.6 SCANNER TIME-OUT

You can limit the maximum scanning time interval for the following scan modes –

- ▶ Laser mode
- ▶ Auto Off mode
- ▶ Auto Power Off mode

Note: By default, the scanner time-out is set to 10 seconds.

1.7 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
- ▶ Momentary mode
- ▶ Alternate mode
- ▶ Auto Power Off mode

Note: By default, the blocking time is set to 400 milliseconds.

1.8 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.

Note: By default, negative barcodes are not decodable by the scanner.

1.9 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.

- ▶ Codabar*
- ▶ Industrial 25*
- ▶ Interleaved 25*
- ▶ Matrix 25
- ▶ Code 39*
- ▶ Code 93*
- ▶ Code 128*
- ▶ EAN-8*
- ▶ EAN-8 Addon 2 & 5
- ▶ EAN-13*
- ▶ EAN-13 Addon 2 & 5
- ▶ EAN-128
- ▶ French Pharmacode
- ▶ Italian Pharmacode
- ▶ MSI
- ▶ Plessey
- ▶ RSS-14
- ▶ RSS Expanded
- ▶ RSS Limited
- ▶ Telepen
- ▶ UPC-A*
- ▶ UPC-A Addon 2 & 5
- ▶ UPC-E*
- ▶ UPC-E Addon 2 & 5

Note: By default, a number of the above symbologies, followed by an asterisk mark, are enabled.

SETTING UP BLUETOOTH CONNECTIONS

Upon powering up, the 1166/1266 scanner will be ready for establishing a Bluetooth connection with the Bluetooth cradle 3666 or 3667, or any other Bluetooth device such as a Bluetooth dongle. Once connected, be aware of the following notifications during operation –

- ▶ When getting out of range or powering off the cradle, the scanner will respond with three beeps (tone descending from high to low) and its LED indicator will become blue, flashing quickly.
- ▶ The power-saving feature of the scanner will automatically shut down the scanner and stop a Bluetooth connection when it is idle for a specific period of time. The scanner will respond with three beeps (tone descending from high to low) and its LED indicator will become off.

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2.2 Connecting to 3667 or Generic Dongle.....	21
2.3 Bluetooth Settings.....	29

2.1 CONNECTING TO 3666

For the scanner to establish a Bluetooth connection with the 3666 cradle that connects to your computer, you must have it read two labels at the back of the cradle –

- ▶ "Set Connection" label
- ▶ "Serial Number" label

The scanner will respond with one beep when reading the "Set Connection" label, two beeps (low-high tone) when reading the "Serial Number" label, and finally, three beeps (tone ascending from low to high). In the meantime, its LED indicator will become blue, flashing slowly.

Note: (1) In case the "Set Connection" label illegible, find the same label in the SmartScan manual.
(2) The 3666 cradle provides options for the output interface. Refer to [Chapter 3 – Output Interfaces](#) for details.

2.2 CONNECTING VIA 3667 OR GENERIC DONGLE

This is called "pairing with a Bluetooth device". The procedure for connecting the scanner to a computer via the 3667 cradle or any Bluetooth dongle is pretty much the same except for the software you are using.

Note: When connecting more than two 1166/1266 scanners to the 3667 cradle or Bluetooth dongle, we suggest you to disable the power-saving setting for a more reliable connection.

If your computer is running Microsoft Windows XP Service Pack 2 (SP2) or Windows Vista, you can use the generic software support that Windows includes, or you can use the driver that the device manufacturer provides. For example, you can use the Bluetooth software ships with the 3667 cradle.

- 1) Install the 3667 Bluetooth software from the CD-ROM.
- 2) Connect the cradle to your computer.
- 3) Execute the software and press [F1] to get help on setting up Bluetooth connections.

Now, let's try using the generic software support that Windows XP Service Pack 2 includes.

2.2.1 CONFIGURING 1166/1266

The 1166/1266 scanner can be configured to send data to a computer via the 3667 cradle or any Bluetooth dongle, or directly to a Bluetooth-enabled PDA or laptop.

- 1) Have the scanner read the "Enter Setup" label to enter the configuration mode.
- 2) Have the scanner read the desired Bluetooth interface label – "Activate Bluetooth SPP" or "Activate Bluetooth HID & Select Keyboard Type".

It supports PCAT – US, French, German, Italian, Swedish, Norwegian, UK, Belgium, Spanish, Portuguese, and PS55 A01-2 – Japanese.

- 3) Have the scanner read the labels related to Bluetooth settings, such as Device Name Broadcasting, Authentication & PIN Code, etc.
- 4) Have the scanner read the "Update" label to exit the configuration mode.

DEVICE NAME BROADCASTING

The scanner can be configured to hide itself from other Bluetooth devices. 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.

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


AUTHENTICATION & PIN CODE

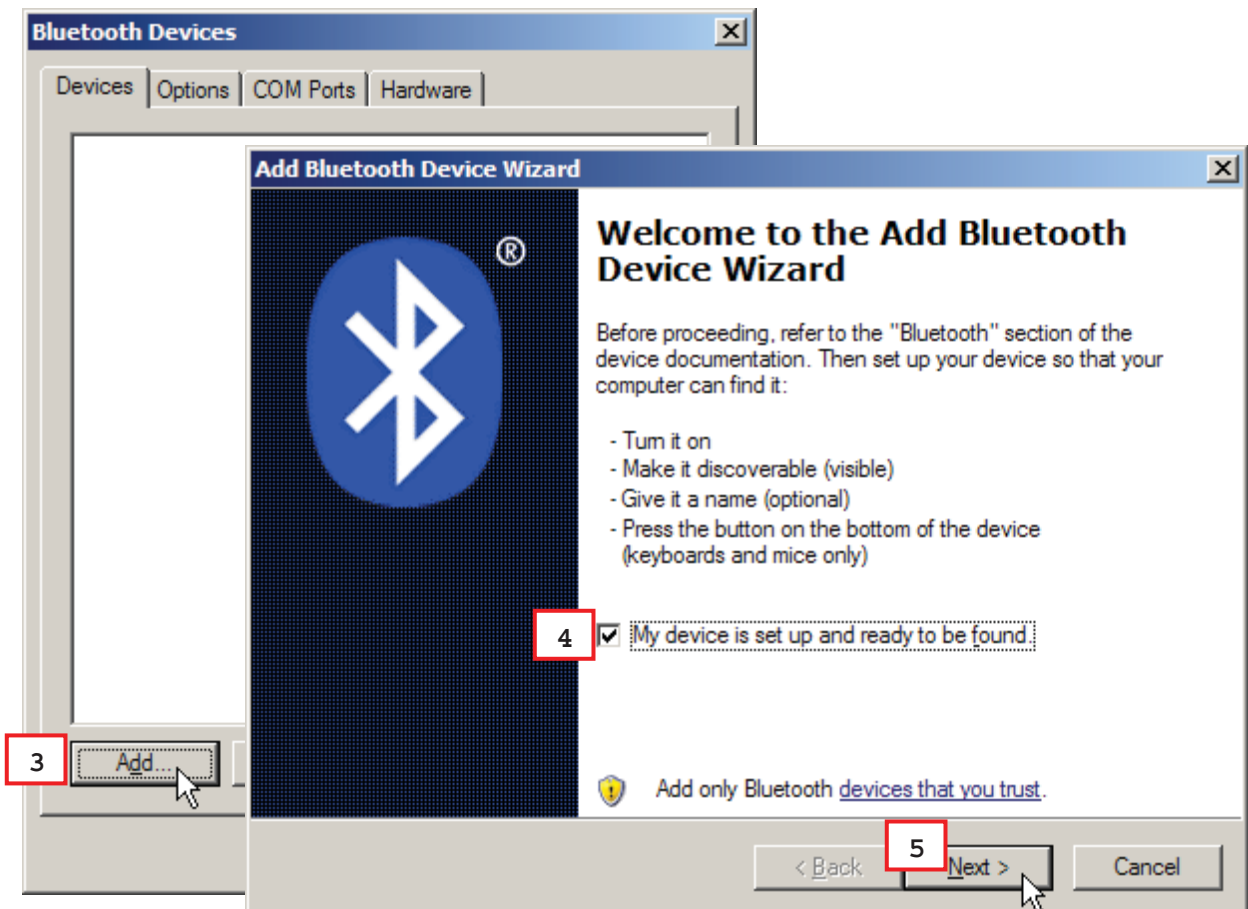
For security concerns, it is suggested that you enable authentication and specify a unique PIN code, also known as the passkey used to pair two Bluetooth devices. The scanner itself allows up to six characters for a PIN code. This means you will have to enter exactly the same string for your computer or PDA to connect to the scanner.

If the passkey is incorrect, any connection attempt will be turned down by the scanner. 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.

Note: By default, authentication is disabled (= no PIN code specified). When enabled, maximum six characters for PIN are allowed.

2.2.2 BLUETOOTH SPP – ADD BLUETOOTH DEVICE WIZARD

- 1) Connect the 3667 cradle to 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 Bluetooth devices nearby.
- 4) Select the check box of [My device is set up and ready to be found] when the 1166/1266 scanner is ready – having battery inserted, Bluetooth settings such as select Bluetooth SPP or Bluetooth HID, broadcasting enabled, authentication enabled, and PIN code specified, etc.
- 5) Click [Next].

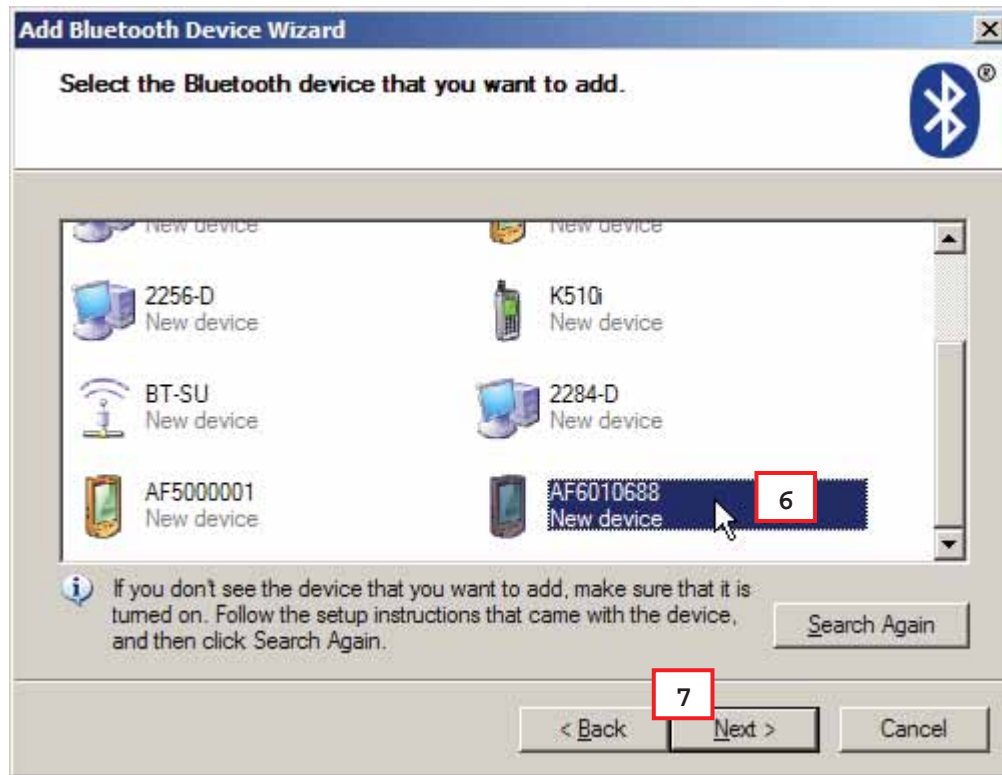


- 6) Wait for a few seconds for the Wizard to search available Bluetooth devices nearby.

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 one minute and wait for PC to establish a connection.

- 7) Click [Next].

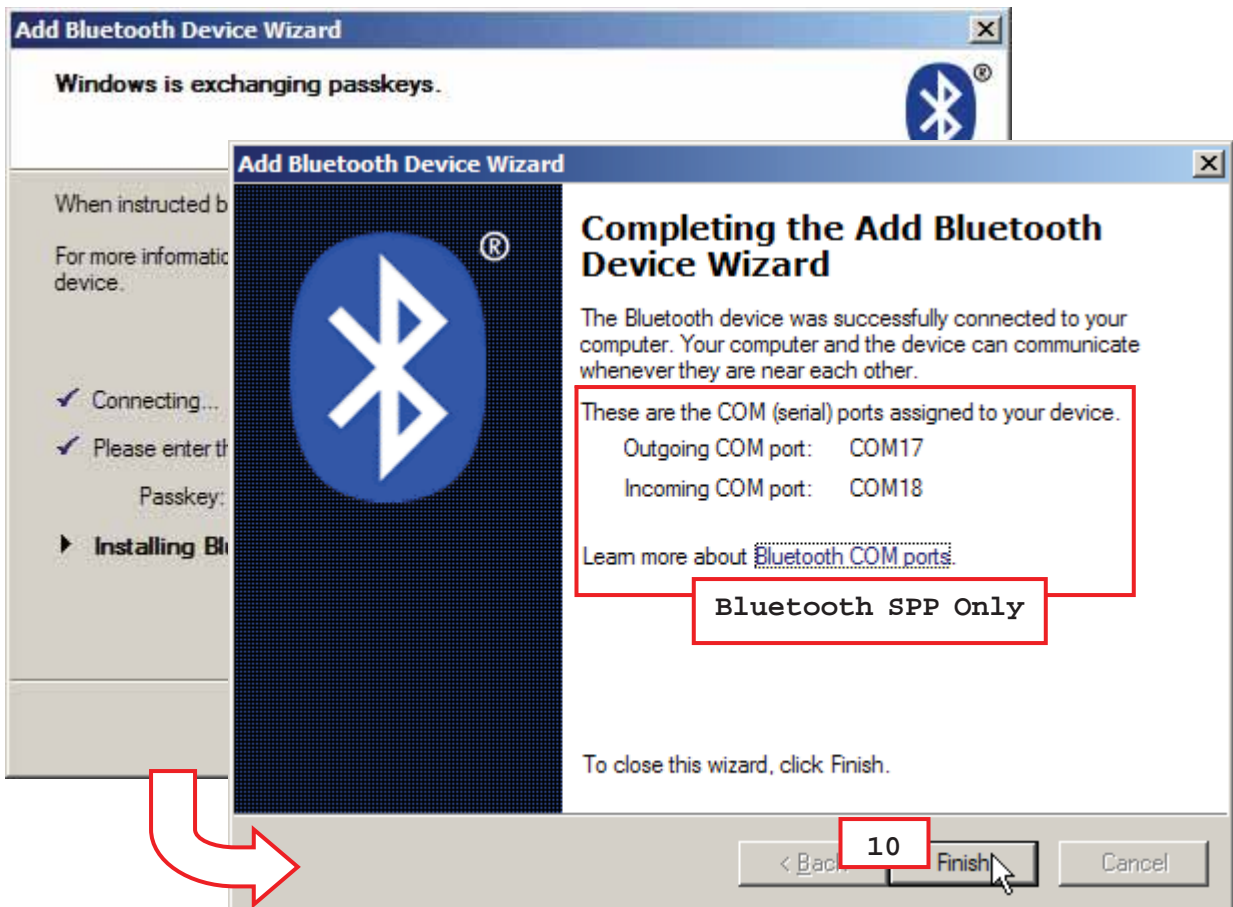
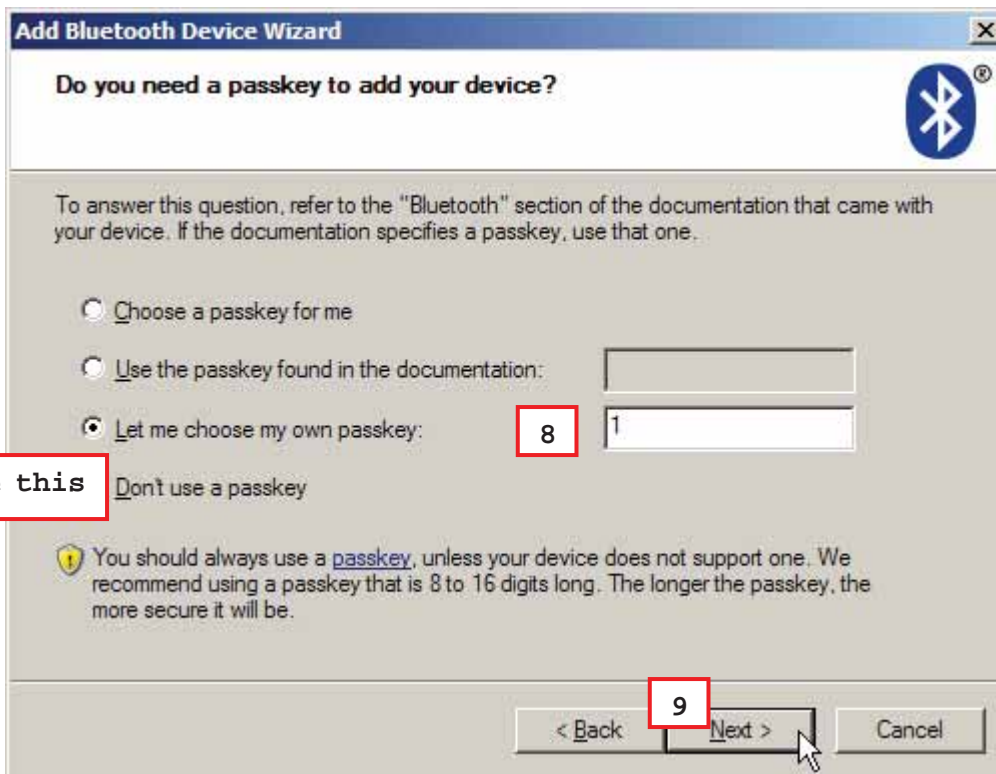


- 8) Enter the passkey for authentication, which must be exactly the same as configured for the scanner.

- 9) Click [Next].

Wait for a few seconds for Windows to exchange passkeys.

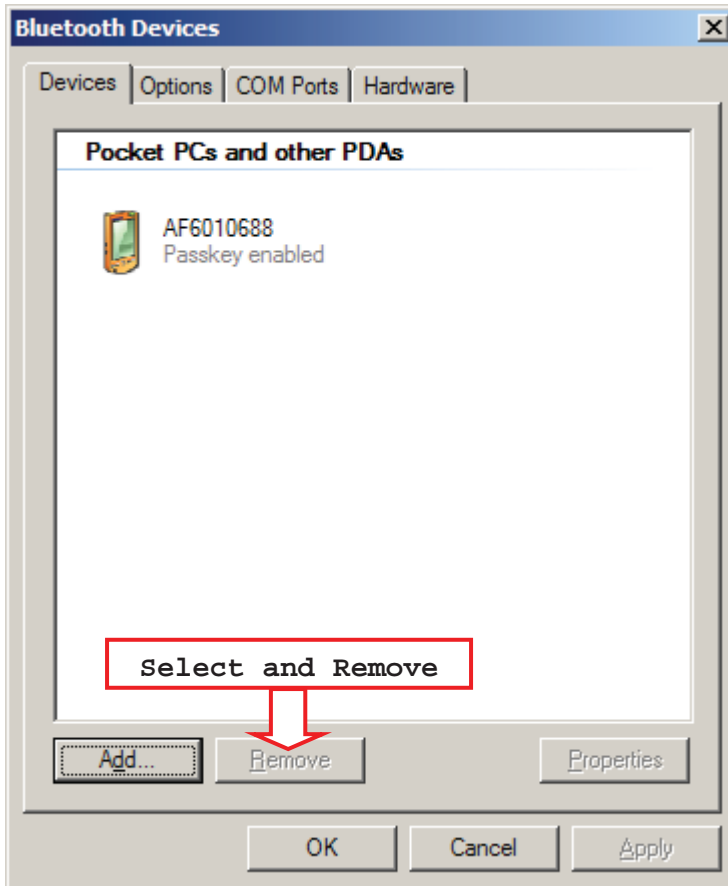
- 10) Click [Finish].



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

For Bluetooth SPP, you can have up to seven scanners connected to your computer.

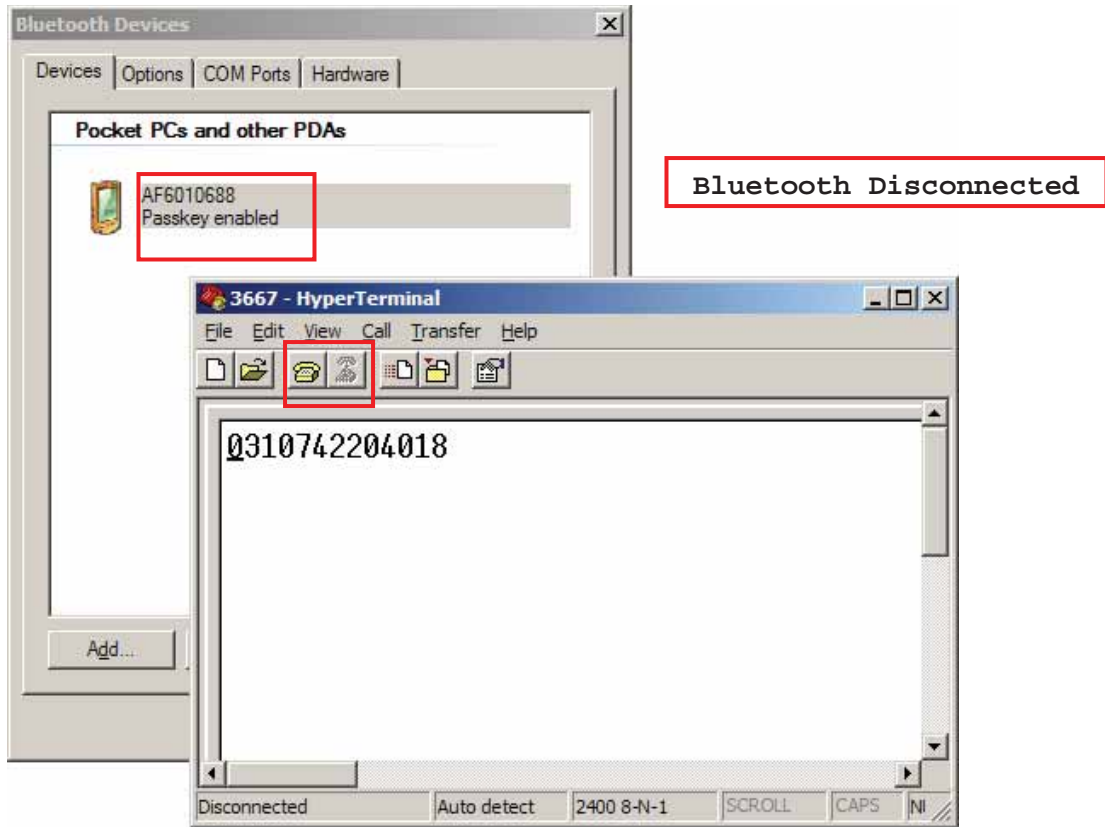
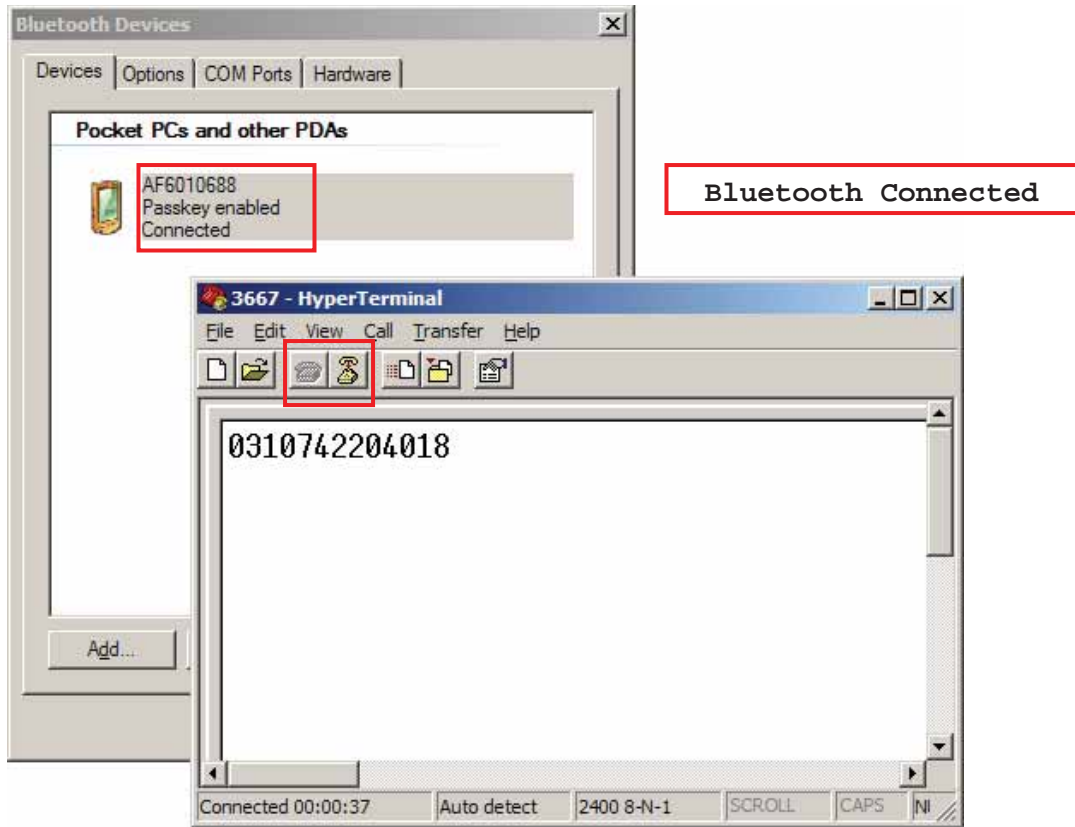
It is possible for another computer to connect to one these scanners as long as it is in Suspend Mode and the authentication and PIN code settings are matching.



Note: When any changes are made to authentication and PIN code on the scanner side, or you want to change to use Bluetooth 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, such as HyperTerminal, on your computer.

The status of the scanner listed on the device list will be updated to "Connected", indicating the Bluetooth connection is established successfully via the outgoing COM port.



2.2.3 BLUETOOTH HID – ADD BLUETOOTH DEVICE WIZARD

The procedure is the same as for Bluetooth SPP. Refer to steps 1~11 above.

KEYBOARD TYPE

When Bluetooth HID is activated, you will have to select a keyboard type to complete this setting. The following keyboard types are supported –

NO.	KEYBOARD TYPE	NO.	KEYBOARD TYPE
64	PCAT (US)	70	PCAT (UK)
65	PCAT (French)	71	PCAT (Belgium)
66	PCAT (German)	72	PCAT (Spanish)
67	PCAT (Italy)	73	PCAT (Portuguese)
68	PCAT (Swedish)	74	PS55 A01-2 (Japanese)
69	PCAT (Norwegian)		

RESET CONNECTION

For Bluetooth HID, you can only have one scanner connected to your computer. If you want to connect the scanner to another computer, you must have it read the “Reset Connection” label first. The scanner will restart itself automatically. Then, go through the whole process to establish a new connection.

KEYBOARD SETTINGS

Refer to [Chapter 3 Output Interfaces – Keyboard Wedge](#).

- ▶ Alphabets Layout
- ▶ Digits Layout
- ▶ Capital Lock Type
- ▶ Capital Lock Setting
- ▶ Alphabets Transmission
- ▶ Digits Transmission
- ▶ ALT Composing

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

2.3 BLUETOOTH SETTINGS

Generally, the 1166/1266 scanner will stay active only for one minute waiting for a computer to establish a connection via the 3667 cradle or other Bluetooth dongle.

If it fails to connect within one minute, the scanner will enter Suspend Mode to conserve battery power (you will hear three short beeps, tone descending from high to low).

- ▶ Press the trigger to have the scanner active again and waiting for the computer to re-connect (you will hear three short beeps, tone ascending from low to high).
- ▶ On your computer, you will have to search Bluetooth devices again.

Once a Bluetooth connection is established successfully, the scanner will stay active as long as the COM port is opened by a host application

2.3.1 RF AUTO SHUT-DOWN

In order to save battery power, the scanner can be configured to automatically enter Suspend Mode when it is idle for a specific period of time.

Note: By default, RF Auto Shut-down is set to 10 minutes.

2.3.2 POWER-SAVING (SNIFF MODE)

This is Bluetooth standard power-saving feature, also known as Sniff mode. When enabled, the scanner will listen to the piconet at a reduced rate.

Note: By default, power-saving is enabled. When connecting more than two 1166/1266 scanners to the 3667 cradle or Bluetooth dongle, we suggest you to disable the power-saving setting for a more reliable connection.

2.3.3 TRANSMIT BUFFER

The 1166/1266 scanner provides 4 KB SRAM for reserve buffer so that you can still collect data while getting out of range during a Bluetooth connection (you will hear three short beeps, tone descending from high to low).

Data will be saved in this buffer temporarily and later sent back to the server when the scanner resumes its Bluetooth connection (you will hear three short beeps, tone ascending from low to high).

This buffer can store up to 256 scans based on EAN-13 barcodes. When it is used up, the scanner will respond with three short beeps (low tone) as a warning. You are advised to get back to range.

Note: By default, there is no buffer available. Have the scanner read the label to enable this setting.

2.3.4 MEMORY MODE

The 1166/1266 scanner provides 128 KB flash memory for batch mode operation, referred to as memory mode in this manual. When in memory mode, it means Bluetooth connection is disabled.

Warning: Bluetooth cannot work unless memory mode is disabled.

SEND DATA

The flash can store up to 8192 scans based on EAN-13 barcodes. When it is used up, the scanner will respond with three short beeps (low tone) as a warning. You are advised to send data to the server immediately. Select a desired interface for transmission. For example, disable memory mode and use Bluetooth SPP to transmit data.

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 labels – “Clear Data” and “Confirm”.

Note: By default, memory mode is disabled. Have the scanner read the label to enable this setting.

MEMORY DATA DELAY

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

OUTPUT INTERFACES

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

- 1) Turn off your computer or laptop.
- 2) Connect the communication cable between the scanner (1166/1266 via the 3666 cradle) and your computer.
- 3) Connect the power supply cord to the scanner (1166/1266 via the 3666 cradle).
- 4) Turn on your computer or laptop.
- 5) Have the scanner read the “Enter Setup” label to enter the configuration mode.
- 6) Have the scanner read the associated label to activate the desired interface.
See the following sections for output interfaces supported.
- 7) Have the scanner read the labels for related settings.
- 8) Have the scanner read the “Update” label to exit the configuration mode.

Note: By default, the output interface is set to “Keyboard Wedge”.

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3.1 KEYBOARD WEDGE

Connect the scanner between the keyboard input port of the host computer and the keyboard using the "Y-shaped" keyboard wedge cable. The scanned data will be transmitted to the host keyboard port as if it is manually entered via the keyboard.

KEYBOARD WEDGE SETTINGS	DEFAULTS
<i>Keyboard Type</i>	Activate Keyboard Wedge & Select...
<i>Alphabets Layout</i>	Default (Normal)
<i>Digits Layout</i>	Default (Normal)
<i>Capital Lock Type</i>	Default (Normal)
<i>Capital Lock State</i>	Off
<i>Alphabets Transmission</i>	Case-sensitive
<i>Digits Transmission</i>	Alphanumeric keypad
<i>Inter-Character Delay</i>	0 (ms)
<i>Alternate Composing</i>	No
<i>Laptop Support</i>	Disabled

3.1.1 KEYBOARD TYPE

When Keyboard Wedge interface is activated, you will have to select a keyboard type to complete this setting. The following keyboard types are supported –

NO.	KEYBOARD TYPE	NO.	KEYBOARD TYPE
1	PCAT (US)	15	PS55 001-81
2	PCAT (French)	16	PS55 001-2
3	PCAT (German)	17	PS55 001-82
4	PCAT (Italian)	18	PS55 001-3
5	PCAT (Swedish)	19	PS55 001-8A
6	PCAT (Norwegian)	20	PS55 002-1, 003-1
7	PCAT (UK)	21	PS55 002-81, 003-81
8	PCAT (Belgium)	22	PS55 002-2, 003-2
9	PCAT (Spanish)	23	PS55 002-82, 003-82
10	PCAT (Portuguese)	24	PS55 002-3, 003-3
11	PS55 A01-1	25	PS55 002-8A, 003-8A
12	PS55 A01-2 (Japanese)	26	IBM 3477 Type 4 (Japanese)
13	PS55 A01-3	27	PS2-30

14	PS55 001-1	28	IBM 34XX/319X, Memorex Telex 122 Keys
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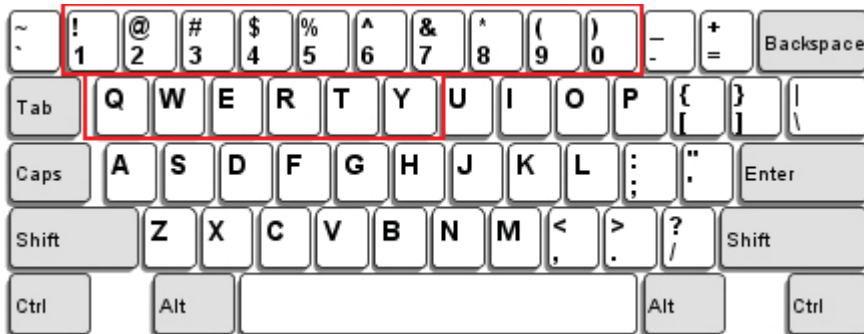
3.1.2 ALPHABETS LAYOUT

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.

OPTIONS	DESCRIPTION
<i>Normal</i>	QWERTY layout, which is normally used in western countries.
<i>AZERTY</i>	French layout, see below for French Keyboard Style.
<i>QWERTZ</i>	German layout, see below for German Keyboard Style.

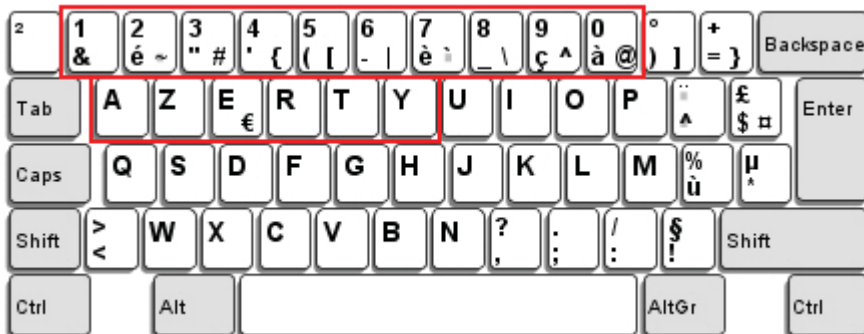
Note: This setting only works when the keyboard type selected is US keyboard, such as PCAT (US). The Alphabets Layout and Digits Layout setting must match your keyboard.

US KEYBOARD STYLE



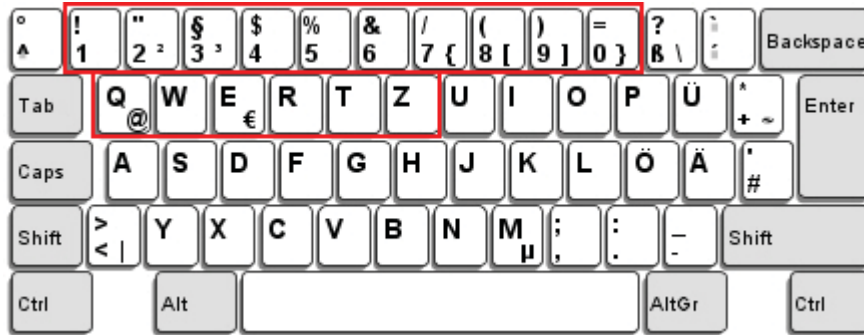
- ▶ Lower Row for Digits Layout: Digits
- ▶ Upper Row for Digits Layout: Special characters

FRENCH KEYBOARD STYLE – AZERTY



- ▶ Lower Row for Digits Layout: Special characters
- ▶ Upper Row for Digits Layout: Digits

GERMAN KEYBOARD LAYOUT – QWERTZ



- ▶ Lower Row for Digits Layout: Digits
- ▶ Upper Row for Digits Layout: Special characters

3.1.3 DIGITS LAYOUT

By default, the digits layout is set to normal mode. Select a proper layout that matches the alphabets layout. The scanner will make adjustments according to this setting.

OPTIONS	DESCRIPTION
<i>Normal</i>	Depends on the [Shift] key or [Shift Lock] setting
<i>Lower Row</i>	For QWERTY and QWERTZ keyboards
<i>Upper Row</i>	For AZERTY keyboards

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

3.1.4 CAPITAL LOCK TYPE

By default, the Caps Lock is set to normal mode.

CAPITAL LOCK TYPE	DESCRIPTION
<i>Normal</i>	Normal type
<i>Capital Lock</i>	When enabled, the keys of alphabetic characters will be interpreted as capital letters. However, this does not affect the number or punctuation keys.
<i>Shift Lock</i>	When enabled, the keys of alphabetic characters will be interpreted as capital letters. In addition, this affects the number or punctuation keys.

3.1.5 CAPITAL LOCK 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.

By default, the Capital Lock state is "OFF". Select "Capital Lock ON" or "Auto Detection", if necessary.

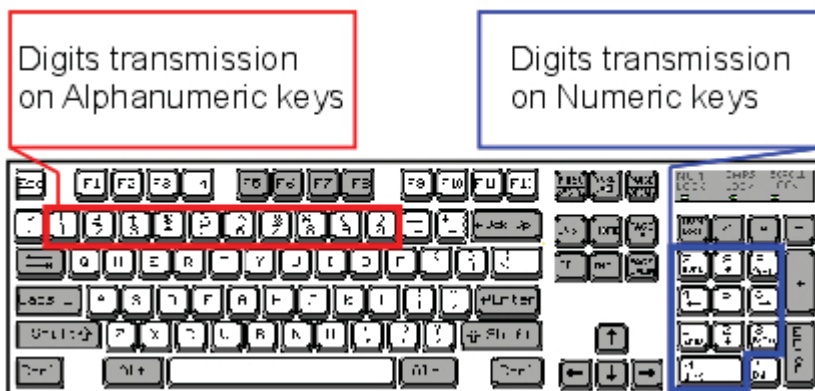
CAPITAL LOCK STATE	DESCRIPTION
<i>Capital Lock OFF</i>	Transmitted characters are exactly the same as in the barcode (when "case-sensitive" is selected for Alphabets Transmission).
<i>Capital Lock ON</i>	<ul style="list-style-type: none"> ▶ When the Capital Lock Type is set "Capital Lock", the keys of alphabetic characters will be interpreted as capital letters. However, this does not affect the number or punctuation keys. ▶ When the Capital Lock Type is set "Shift Lock", the keys of alphabetic characters will be interpreted as capital letters. In addition, it affects the number or punctuation keys.
<i>Auto Detection</i>	The scanner will automatically detect the capital lock status of the keyboard before data is transmitted.

3.1.6 ALPHABETS TRANSMISSION

By default, the alphabets transmission is case-sensitive, meaning that the alphabets will be transmitted according to their original case. Select [Ignore Case] if necessary.

3.1.7 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.



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

3.1.8 ALT COMPOSING

By default, Alternate key composing is disabled. Select [Yes] to allow emulating the key combination of [Alt] + [any numeric key] so that a specific ASCII character can be entered.

3.1.9 INTER-CHARACTER DELAY

By default, the inter-character delay is set to zero. Specify a value, ranging from 0 to 255 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.

3.1.10 LAPTOP SUPPORT

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

3.2 RS-232

Connect the scanner to the serial port of the host computer using the RS-232 cable (and join the power adaptor to the RS-232 connector for 1000, 1090+, 1100, 1105 and 1200). The associated RS-232 parameters must match those configured on the computer. The scanned data will be transmitted to the serial port.

RS-232 SETTINGS	DEFAULTS
<i>Baud Rate, Parity, Data Bit</i>	9600 bps, No parity, 8 bits
<i>Flow Control</i>	None
<i>Inter-Character Delay</i>	0

3.2.1 BAUD RATE/PARITY/DATA BITS

The supported baud rate, parity, and data bits are listed below. Specify values that match your computer settings.

- ▶ Baud Rate: 115200, 38400, 19200, 9600, 4800, 24000, 1200 and 600 (for the 1200 scanner only)
- ▶ Parity: None, Even, Odd
- ▶ Data Bits: 8 bits, 7 bits

3.2.2 FLOW CONTROL

Select the flow control (handshake) method.

OPTIONS	DESCRIPTION
<i>No</i>	No flow control
<i>Scanner Ready</i>	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.
<i>Data Ready</i>	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.
<i>Inverted Data Ready</i>	It works the same as the Data Ready flow control, except that the RTS signal level is inverted.

3.2.3 INTER-CHARACTER DELAY

By default, the inter-character delay is zero. Specify a value, ranging from 0 to 255 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.

3.3 WAND EMULATION

Wand Emulation is supported on many of our batch scanners, except 1000.

- ▶ 1090+
- ▶ 1100
- ▶ 1105
- ▶ 1200

Connect the scanner, to a portable data terminal or decoder that is expecting input from a wand scanner.

Note: Wands are handheld optical character readers used to read typewritten fonts, printed fonts, OCR fonts, and barcodes.

WAND EMULATION SETTINGS	DEFAULTS
<i>Normal State</i>	Low
<i>Bar State</i>	High
<i>Module Time</i>	1 ms
<i>Margin Time</i>	20 ms

3.3.1 NORMAL STATE

By default, the signal level is set "Low" for the normal state when not transmitting any barcode.

3.3.2 BAR STATE

By default, the signal level is set "High" for a bar when transmitting a barcode. Specify "Low" for a bar if "High" for a space is desired.

3.3.3 MODULE TIME

By default, it is set 1 millisecond as the time span for bar and space modules. Specify other value for the module time, in units of micro-second or millisecond.

3.3.4 MARGIN TIME

By default, it is set 20 milliseconds as the time span for the change in state for bar and space modules. Specify other value for the margin time.

3.4 USB HID (PART # 307)

If you are connecting the scanner to the keyboard input port of the host computer via USB HID interface, refer to section [3.1 Keyboard Wedge](#) for related settings.

3.5 USB VIRTUAL COM (PART # 308)

If you are connecting the scanner to the USB port of the host computer via USB Virtual COM interface, refer to section [3.2 RS-232](#) for related settings.

Warning: You must install the 308 driver before connecting the cable to a USB port of the computer.

3.6 IBM 4683/4694 (PART # 346)

If you are connecting the scanner to the IBM POS 4683/4694 via the 346 converter, refer to section [3.1 Keyboard Wedge](#) for related settings.

3.7 BLUETOOTH CRADLES (PART # 3666/3667)

3.7.1 INTERFACE OPTIONS FOR 3666

If you choose the 3666 cradle for use with the 1166/1266 scanners, the output interface options are as listed below. Refer to each section above for related settings.

- ▶ Keyboard Wedge
- ▶ RS-232
- ▶ USB HID
- ▶ IBM 4683/4694

3.7.2 INTERFACE OPTIONS FOR 3667

If you choose the 3667 cradle or any Bluetooth dongle for use with the 1166/1266 scanners, the output interface options are as listed below. Refer to [Chapter 2 – Setting up Bluetooth Connections](#) for related settings.

- ▶ Bluetooth HID
- ▶ Bluetooth SPP

SYMBOLGY SETTINGS

In this chapter, a brief on the symbology settings is provided for your reference.

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4.1 CODABAR

CLSI CONVERSION

When enabled, the CLSI editing strips the start/stop characters and inserts a space after the first, fifth, and tenth characters of a 14-character Codabar barcode.

Note: The 14-character barcode length does not include start/stop characters.

START/STOP TRANSMISSION

Decide whether or not to include the start/stop characters in the data being transmitted.

START/STOP CHARACTERS SELECTION

If transmission of the Start/Stop characters is desired, select one of the four different start/stop character pairs –

- ▶ abcd / abcd
- ▶ abcd / tn*e
- ▶ ABCD / ABCD
- ▶ ABCD / TN*E

4.2 CODE 25

The supported Code 25 family includes Industrial 25, Interleaved 25, and Matrix 25.

START/STOP PATTERN SELECTION

This decides the readability of all 2 of 5 symbology variants. For example, flight tickets actually use an Industrial 2 of 5 barcode but with Interleaved 2 of 5 start/stop pattern. In order to read this barcode, the start/stop pattern selection parameter of Industrial 2 of 5 should set to "Interleaved 25".

CHECKSUM VERIFICATION

Decide whether to verify the checksum. If the checksum is incorrect, the barcode will not be accepted.

CHECKSUM TRANSMISSION

Decide whether to include the checksum in the data being transmitted.

CODE LENGTH QUALIFICATION

Because of the weak structure of the 2 of 5 symbologies, it is possible to make a "short scan" error. To prevent the "short scan" error, define the "Length Qualification" settings to ensure that the correct barcode is read by qualifying the allowable code length.

- ▶ If "Fixed Length" is selected, up to 2 fixed lengths can be specified.
- ▶ If "Max/Min Length" is selected, the maximum length and the minimum length must be specified. It only accepts those barcodes with lengths that fall between max/min lengths specified.

4.3 CODE 39

STANDARD/FULL ASCII CODE 39

Decide whether or not to support Code 39 Full ASCII that includes all the alphanumeric and special characters.

START/STOP TRANSMISSION

Decide whether or not to include the start/stop characters in the data being transmitted.

CHECKSUM VERIFICATION

Decide whether or not to perform checksum verification when decoding barcodes.

- ▶ If enabled and the checksum found incorrect, the barcode will not be accepted.

CHECKSUM TRANSMISSION

Decide whether or not to include the checksum character in the data being transmitted.

4.4 CODE 93

You can only configure the scanner to read this symbology or not.

4.5 CODE 128

You can only configure the scanner to read this symbology or not.

4.6 EAN-8

CONVERT TO EAN-13

Decide whether or not to expand the read EAN-8 barcode into EAN-13.

- ▶ If enabled, the next processing will follow the parameters configured for EAN-13.

CHECKSUM TRANSMISSION

Decide whether or not to include the checksum character in the data being transmitted.

4.7 EAN-13

ISBN CONVERSION

Decide whether or not to convert the EAN-13 barcode, starting with 978 and 979, to ISBN.

ISSN CONVERSION

Decide whether or not to convert the EAN-13 barcode, starting with 977 to ISSN.

CHECKSUM TRANSMISSION

Decide whether or not to include the checksum character in the data being transmitted.

4.8 EAN-128

CODE ID TRANSMISSION

Decide whether or not to include the Code ID ("]C1") in the data being transmitted.

FIELD SEPARATOR (GS CHARACTER)

Decide whether or not to apply a field separator (to convert the FNC1 control character to human readable character).

Note: EAN-128 barcodes start with the FNC1 control character to distinguish themselves from other uses of Code 128. FNC1 is also used to separate data fields in the EAN-128 barcodes.

4.9 MSI

CHECKSUM VERIFICATION

Select one of the three checksum calculations to perform checksum verification when decoding barcodes.

- ▶ If enabled and the checksum found incorrect, the barcode will not be accepted.

CHECKSUM TRANSMISSION

Decide whether or not to include the checksum character in the data being transmitted.

CODE LENGTH QUALIFICATION

Because of the weak structure of the symbology, it is possible to make a "short scan" error. To prevent the "short scan" error, define the "Length Qualification" settings to ensure that the correct barcode is read by qualifying the allowable code length.

- ▶ If "Fixed Length" is selected, up to 2 fixed lengths can be specified.
- ▶ If "Max/Min Length" is selected, the maximum length and the minimum length must be specified. It only accepts those barcodes with lengths that fall between max/min lengths specified.

4.10 PHARMACODE

CHECKSUM TRANSMISSION

Decide whether or not to include the checksum character in the data being transmitted.

4.11 PLESSEY

CONVERT TO UK PLESSEY

Decide whether or not to change each occurrence of the character 'A' to character 'X' in the decoded data.

CHECKSUM TRANSMISSION

Decide whether or not to include the checksum characters (two digits) in the data being transmitted.

4.12 RSS FAMILY

CODE ID SELECTION

Select a desired Code ID to use – RSS Code ID "]e0" or EAN-128 Code ID "]c1".

CODE ID TRANSMISSION

Decide whether or not to include the Code ID in the data being transmitted.

APPLICATION ID TRANSMISSION

Decide whether or not to include the Application ID ("01") in the data being transmitted.

CHECKSUM TRANSMISSION

Decide whether or not to include the check digit in the data being transmitted.

4.13 TELEPEN

TELEPEN OUTPUT – FULL ASCII/NUMERIC

Decide whether or not to support Telepen in full ASCII code. By default, it supports ASCII mode.

- ▶ AIM Telepen (Full ASCII) includes all the alphanumeric and special characters.

EDITING FORMATS

You can only decide whether or not to apply all of the editing formats to Telepen.

Note: No individual setting is provided for each editing format.

4.14 UPC-A

CONVERT TO EAN-13

Decide whether or not to expand the read UPC-A barcode into EAN-13.

- ▶ If enabled, the next processing will follow the parameters configured for EAN-13.

SYSTEM NUMBER TRANSMISSION

Decide whether or not to include the system number in the data being transmitted.

CHECKSUM TRANSMISSION

Decide whether or not to include the checksum character in the data being transmitted.

4.15 UPC-E

SYSTEM NUMBER SELECTION

Decide whether to decode the ordinary UPC-E barcodes only or both UPC-E0 and UPC-E1 barcodes.

- ▶ System number 0 enabled for decoding UPC-E0 barcodes.
- ▶ System number 1 enabled for decoding UPC-E1 barcodes.

Warning: Because of the way system number 1 is encoded, if both system numbers are enabled, the user might suffer from short scanning UPC-A or EAN-13 barcodes into UPC-E1 barcodes.

CONVERT TO UPC-A

Decide whether or not to expand the read UPC-E barcode into UPC-A.

- ▶ If enable, the next processing will follow the parameters configured for UPC-A.

SYSTEM NUMBER TRANSMISSION

Decide whether or not to include the system number in the data being transmitted.

CHECKSUM TRANSMISSION

Decide whether or not to include the checksum character in the data being transmitted.

DATA OUTPUT FORMAT

You may configure in which format the collected data will be output to the host computer. Barcode read by the scanner will be processed in the following sequence –

- 1) Perform character substitution on the data scanned.
- 2) Add [Code ID](#) and [Length Code](#) to the front of the data: [Code ID][Length Code][Data]
- 3) Process the whole data in step 2 with user formats. Data is now divided into fields by user specified rules.
- 4) Add [Prefix Code](#) and [Suffix Code](#) before transmission: [Prefix Code][Processed Data][Suffix Code]

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5.1 CHARACTER SUBSTITUTION

Character substitution is performed on every occurrence of the first character specified. If only one character is specified, every occurrence of that character in the barcode will be taken away.

- ▶ The first character will be replaced by the second character(s).
- ▶ Up to three sets of character substitution can be configured.

Follow these steps.

- 1) Have the scanner read the “Enter Setup” label to enter the configuration mode.
- 2) Have the scanner read the “Set 1” label to configure the first set of character substitution. The scanner will respond with one short beep, high tone, to indicate more setup labels are required. Read the “Hexadecimal Value” labels for the desired character string. For example, have the scanner read (1) “3”, “0”, “2” and “D” to replace the character [0] with a dash [-] for Set 1, and (2) “3”, “0”, “2”, “D”, “3” and “0” to replace the character [0] with a dash [- 0] for Set 2.
- 3) Have the scanner read the “Validate” label to complete this setting.
- 4) Have the scanner read the “Update” label to exit the configuration mode.

Note: The character substitution is performed only on the barcode itself and before the processing of editing formats. It is not applicable to the Prefix/Suffix Code, Code ID, Length Code, or any Additional Field.

5.2 PREFIX/SUFFIX CODE

By default, there is no prefix code, and [ENTER] or [CR] (Carriage Return) is configured to be suffix code. Up to 4 characters can be configured, for example, [\$][\$][\$][\$], and you will have four dollar sign appear in front of the barcode read, like this – “\$\$\$\$1234567890”.

- ▶ If "Keyboard Wedge" is configured for interface, Key Type and Key Status will then become applicable. You may decide whether or not to apply Key Status when "Normal Key" is selected for Key Type.

KEY TYPE		KEY STATUS
<i>Scan Code</i>	Up to 3 scan code values are allowed – each requires two hexadecimal values.	N/A
<i>Normal Key</i>	Up to 4 character strings are allowed – each requires two hexadecimal values. <ul style="list-style-type: none"> ▶ Default setting 	<ul style="list-style-type: none"> ▶ Add Shift ▶ Add Left Ctrl ▶ Add Left Alt ▶ Add Right Ctrl ▶ Add Right Alt ▶ Add Break For example, read labels for [Add Shift], [A], [Add Shift], and [B].

5.3 CODE ID

Up to two characters for Code ID can be configured for each symbology. To make the Code ID configuration easier, the scanner provides five pre-defined Code ID sets that you can select one and make necessary changes on it.

- ▶ If "Keyboard Wedge" is configured for interface, Key Type and Key Status will then become applicable. You may decide whether or not to apply Key Status when "Normal Key" is selected for Key Type.

KEY TYPE		KEY STATUS
<i>Scan Code</i>	Up to 1 scan code values are allowed – each requires two hexadecimal values.	N/A
<i>Normal Key</i>	Up to 2 character strings are allowed – each requires two hexadecimal values. <ul style="list-style-type: none"> ▶ Default setting 	<ul style="list-style-type: none"> ▶ Add Shift ▶ Add Left Ctrl ▶ Add Left Alt ▶ Add Right Ctrl ▶ Add Right Alt ▶ Add Break For example, read labels for [Add Shift] and the character [A].

Note: "]C1" is the Code ID of EAN-128 barcodes; "]e0" is the default Code ID of RSS barcodes.

CODE ID OPTIONS	SET 1	SET 2	SET 3	SET 4	SET 5
<i>Code 39</i>	A	C	Y	M	A
<i>Italian Pharmacode</i>	A	C	Y	M	A
<i>French Pharmacode</i>	A	C	Y	M	A
<i>Industrial 25</i>	C	H	H	H	S
<i>Interleaved 25</i>	D	I	Z	I	S
<i>Matrix 25</i>	E	G	G	G	S
<i>Codabar</i>	F	N	X	N	F
<i>Code 93</i>	I	L	L	L	G
<i>Code 128</i>	H	K	K	K	C
<i>UPC-E</i>	S	E	C	E	E
<i>EAN-8</i>	P	B	B	FF	E
<i>EAN-13</i>	M	A	A	F	E
<i>UPC-A</i>	J	A	A	A	E
<i>MSI</i>	V	V	D	P	M
<i>Plessey</i>	W	W	E	Q	P
<i>Telepen</i>	Z	---	---	---	---

5.4 LENGTH CODE

A two-digit code representing the length of data (character count) can be inserted in front of data being transmitted. Such "Length" code can be individually enabled or disabled for each symbology.

DATA EDITING

The scanner allows advanced data editing by applying user-configured editing formats. Data is divided into fields by user-specified rules. These fields together with the user-configurable additional fields consist of the data actually sent to the host computer.

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6.1 FORMAT SELECTION

6.1.1 ACTIVATE EDITING FORMATS

If you have already configured any editing format before, you may directly apply the editing format. If not, you must start with configuring an editing format first, and then, activate the editing format when it is desired in use.

- ▶ Separately, you may decide whether or not to apply the editing formats (all three at one time) to Telepen.

6.1.2 EXCLUSIVE DATA EDITING

When enabled, all barcodes read by the scanner must be processed by the editing formats.

Note: If a barcode is not eligible for all enabled editing formats, the scanner will not accept the reading, and therefore, data will not be transmitted.

6.2 EDITING FORMAT

6.2.1 SELECT FORMAT TO CONFIGURE

START PROGRAMMING FORMAT

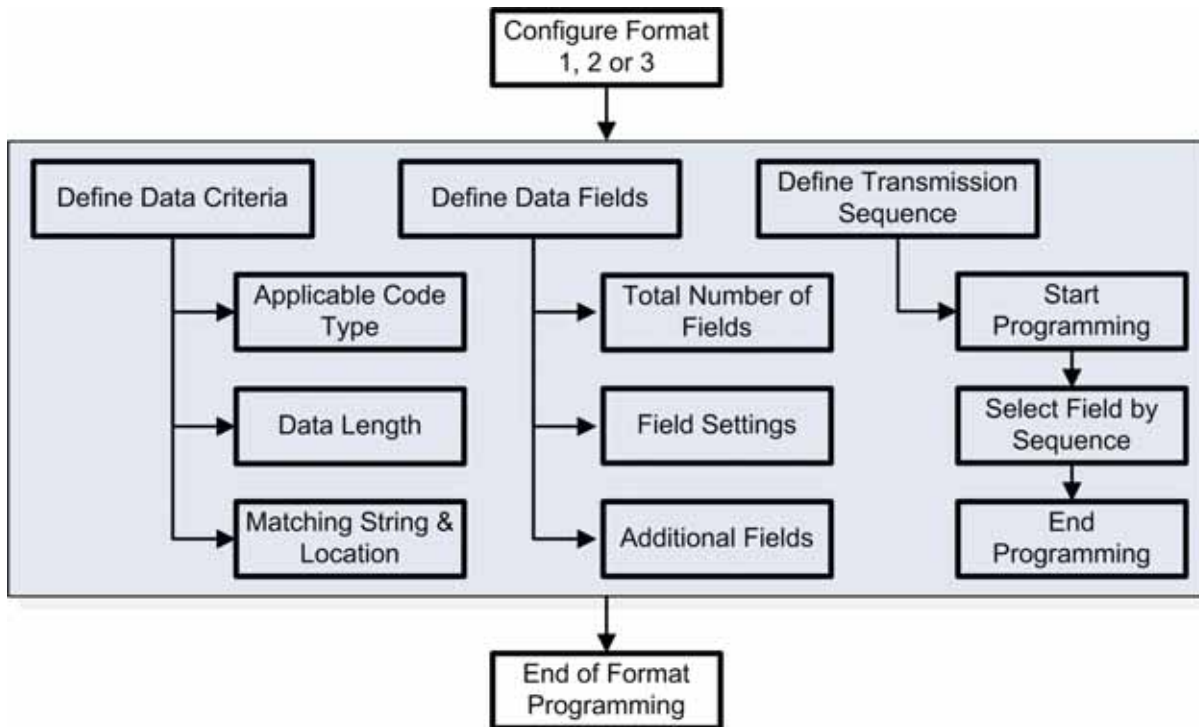
In order to start with configuring an editing format, first select the editing format to be configured. After selecting the format, the parameters pertaining to the editing format can then be configured – applicable code type, data length, matching string & location, total number of fields, field settings (field-dividing rule), additional fields, and field transmission sequence.

- ▶ Up to three different formats can be specified.

Note: Before you complete the programming of an editing format, if you have the scanner read any label for parameters other than those pertaining to the editing format, it will automatically abort the programming process.

END PROGRAMMING FORMAT

After having configured all the desired parameters, you must have the scanner read the “End of Programming Format” label, which can be located at the bottom of every even page in the “Editing Format Parameters” section of the SmartScan manual.



6.2.2 RESTORE DEFAULT FORMAT

You may select an existing editing format and have the defaults restored. The default settings of an editing format are listed below.

EDITING FORMAT	DEFAULTS
<i>Applicable Code Type</i>	All
<i>Data Length</i>	0 (No qualification.)
<i>Matching String</i>	Disable
<i>Matching String Location</i>	None
<i>Total Number of Fields</i>	1
<i>Field Setting – field-dividing rule</i>	Not configured.

<i>Additional Fields</i>	None
<i>Field Transmission Sequence</i>	F1

6.2.3 DEFINE DATA CRITERIA

Three applicable conditions can be configured to check whether the data read by the scanner can be processed by the particular editing format.

Note: Data editing cannot be performed unless the three conditions are all met.

APPLICABLE CODE TYPE

By default, barcodes of all the supported symbologies are eligible for data editing except for Telepen.

DATA LENGTH

By default, barcodes of any length (character count) are eligible for data editing.

- ▶ You may specify a value from 0 to 255.
- ▶ When zero is given to both, the scanner will not perform the length qualification.

MATCHING STRING & LOCATION

By default, no matching string is specified, and therefore, it is disabled. You may enable this feature by specifying a matching string; up to four characters are allowed.

- ▶ When the Matching String Location is zero, the scanner will only check for the existence of the matching string in the barcode data.
- ▶ You may specify a value from 1 to 255 to indicate where the matching string starts in the barcode data.

6.2.4 DIVIDE DATA INTO FIELDS

TOTAL NUMBER OF FIELDS

Data can be divided into at most 6 fields; each of them is numbered from F1 to F6 accordingly. However, only F1–F5 can be configured.

- ▶ The total number of fields must be specified correctly. If three fields are configured for the editing format, the data characters after F3 will be assigned to F4 automatically. This feature is quite useful especially when data of variable lengths is processed by editing formats.

Note: The number of configurable fields is always one less than the total number of fields specified. The extra data characters beyond the last field configured will be automatically assigned to the next field.

FIELD SETTINGS

Data eligible for editing formats is divided into fields by user-specified rules – either using the field terminating string or specified field length.

BY TERMINATING STRING

Specify the field terminating string. Up to two characters are allowed. The scanner will search for the occurrence of this particular string in the data.

- ▶ By default, this string will be included in the field. You may discard it.

BY LENGTH

Alternatively, you may simply specify the field length. The scanner will assign the next specified number of characters into the field.

ADDITIONAL FIELDS

Up to five additional fields can be created for each editing format; each of them is numbered from AF1 to AF5 accordingly.

- ▶ If "Keyboard Wedge" is configured for interface, Key Type and Key Status will then become applicable. You may decide whether or not to apply Key Status when "Normal Key" is selected for Key Type.

KEY TYPE		KEY STATUS
<i>Scan Code</i>	Up to 3 scan code values are allowed – each requires two hexadecimal values.	N/A
<i>Normal Key</i>	Up to 4 character strings are allowed – each requires two hexadecimal values. <ul style="list-style-type: none"> ▶ Default setting 	<ul style="list-style-type: none"> ▶ Add Shift ▶ Add Left Ctrl ▶ Add Left Alt ▶ Add Right Ctrl ▶ Add Right Alt ▶ Add Break <p>For example, read labels for [Add Shift], [A], [Add Shift], and [B].</p>

6.2.5 FIELD TRANSMISSION SEQUENCE

After configuring the data fields and additional fields, you must now program the transmission sequence of these fields that comprise the final data. This field transmission sequence can be assigned in any desired order and fields can be assigned multiple times as well.

Note: The maximum number of fields can be assigned is twelve.

6.3 PROGRAMMING EXAMPLES

6.3.1 EXAMPLE I

EXTRACT DATA FROM THE 10TH CHARACTER TO THE 19TH CHARACTER...

The editing format should be configured as follows:

- ▶ Total Number of Fields – 3.
- ▶ Field 1 Setting – Divide Field by Field Length, and set length to 9.
Field 1 data starts from the 1st character to the 9th character.
- ▶ Field 2 Setting – Divide Field by Field Length, and set length to 10.
Field 2 data starts from the 10th character to the 19th character.
- ▶ Field Transmission Sequence – F2.

6.3.2 EXAMPLE II

EXTRACT THE DATE CODE, ITEM NUMBER, AND QUANTITY INFORMATION FROM BARCODES.

Data in a barcode is encoded like this:

- From the 1st character to the 6th character is the date code.
- From the 7th character to the "-" character is the item number.
- After the "-" character is the quantity information.

Data will be transmitted like this:

- The item number goes first, then a TAB character, followed by the date code, then another TAB character, and finally the quantity information.

The editing format should be configured as follows:

- ▶ Total Number of Fields – 3.
- ▶ Field 1 Setting – Divide Field by Field Length, and set length to 6.
Field 1 data starts from the 1st character to the 6th character.
- ▶ Field 2 Setting – Divide Field by Field Terminating String, and set the character string to [-].
Field 2 data starts from the 7th character until the [-] character is met.
- ▶ Additional Field 1 created and set to one [TAB] character.
- ▶ Field Transmission Sequence – F2 A1 F1 A1 F3.

SPECIFICATIONS

CONTACT SCANNER – 1000, 1090+



OPTICAL CHARACTERISTICS	1000	1090+
<i>Scan Engine</i>	Contact type	Contact type (Barcode width up to 90 mm)
<i>Optical Sensor</i>	CCD, 2048 pixels	CCD, 2048 pixels
<i>Light Source</i>	Red LED	Red LED
<i>Wavelength</i>	625 nm	625 nm
PHYSICAL CHARACTERISTICS		
<i>Color</i>	Ivory	
<i>Switch</i>	Rubber switch	
<i>Interface Options</i>	Keyboard, RS-232 USB HID, USB Virtual COM IBM 4683/4694	See accessories below.
<i>Weight</i>	Approx. 265 g (including cable)	Approx. 148 g
ELECTRICAL CHARACTERISTICS		
<i>Voltage</i>	+ 5V ± 5%	

		1000	1090+
<i>Power Consumption</i>	Standby	15 mA	15 mA
	Scanning	60 ~ 80 mA	60 mA
	Maximum	85 ~ 110 mA	90 mA

ENVIRONMENTAL CHARACTERISTICS

<i>Temperature</i>	Operating	0 °C to 50 °C
	Storage	-20 °C to 60 °C
<i>Humidity (Non-condensing)</i>	Operating	10% to 90%
	Storage	5% to 95%
<i>Impact Resistance (Multiple drops onto concrete)</i>		1 m
<i>Electrostatic Discharge</i>		± 15 kV air discharge, ± 8 kV direct discharge
<i>EMC Regulation</i>		FCC, CE, C-Tick, MIC, BSMI, IECS-003

PROGRAMMING SUPPORT

<i>Configuration via Setup Labels</i>	Refer to the SmartScan Manual for setup labels and host serial commands.
<i>Software</i>	Windows-based ScanManager

ACCESSORIES (√ MEANS "SUPPORTED")

<i>USB HID Cable (307)</i>	√
<i>USB Virtual COM Cable (308)</i>	√
<i>IBM 4683/4694 Cable (346)</i>	√
<i>RS-232 Cable</i>	√
<i>Keyboard Wedge Cable</i>	√
<i>Wand Emulation Cable</i>	√

VALUE SCANNER – 1100, 1105, 1200



OPTICAL CHARACTERISTICS	1100	1105	1200
<i>Scan Engine</i>	Non-contact type	Non-contact type	Non-contact type
<i>Optical Sensor</i>	CCD, 3648 pixels	CCD, 2048 pixels	Laser
<i>Light Source</i>	Red LED	Red LED	Visible laser diode
<i>Wavelength</i>	625 nm	625 nm	670 ± 10 nm

PHYSICAL CHARACTERISTICS

<i>Color</i>	Light or dark grey		
<i>Switch</i>	Micro switch		
<i>Interface Options</i>	See accessories below.		
<i>Weight</i>	Approx. 165 g	Approx. 165 g	Approx. 190 g

ELECTRICAL CHARACTERISTICS

<i>Voltage</i>		+ 5V ± 10%	+ 5V ± 10%	+ 5V ± 5%
<i>Power Consumption</i>	Standby	15 mA	15 mA	15 mA
	Scanning	80 mA	80 mA	170 mA
	Maximum	160 mA	160 mA	250 mA

ENVIRONMENTAL CHARACTERISTICS

<i>Temperature</i>	Operating	0 °C to 50 °C	0 °C to 50 °C	0 °C to 40 °C
	Storage	-20 °C to 60 °C	-20 °C to 60 °C	-40 °C to 60 °C
<i>Humidity (Non-condensing)</i>	Operating	10% to 90%		
	Storage	5% to 95%		

	1100	1105	1200
<i>Impact Resistance (Multiple drops onto concrete)</i>	2 m	2 m	1.2 m
<i>Electrostatic Discharge</i>	± 15 kV air discharge, ± 8 kV direct discharge		
<i>EMC Regulation</i>	FCC, CE, C-Tick, BSMI		

PROGRAMMING SUPPORT

<i>Configuration via Setup Labels</i>	Refer to the SmartScan Manual for setup labels and host serial commands.
<i>Software</i>	Windows-based ScanManager

ACCESSORIES (✓ MEANS "SUPPORTED")

<i>Auto-Sense Stand</i>	✓		
<i>Holder</i>	✓	✓	✓
<i>USB HID Cable (307)</i>	✓	✓	✓
<i>USB Virtual COM Cable (308)</i>	✓	✓	✓
<i>IBM 4683/4694 Cable (346)</i>	✓	✓	✓
<i>RS-232 Cable</i>	✓	✓	✓
<i>Keyboard Wedge Cable</i>	✓	✓	✓
<i>Wand Emulation Cable</i>	✓	✓	✓

BLUETOOTH SCANNER – 1166, 1266



OPTICAL CHARACTERISTICS	1166	1266
<i>Scan Engine</i>	Non-contact type	Non-contact type
<i>Optical Sensor</i>	CCD, 3648 pixels	Laser
<i>Light Source</i>	Red LED	Visible laser diode
<i>Wavelength</i>	625 nm	650 nm
RF CHARACTERISTICS		
<i>Bluetooth Module</i>	Bluetooth Specification Version 1.2, Class 2	
<i>Coverage (line-of-sight)</i>	Up to 100 meters	
<i>Profiles Supported</i>	Serial Port Profile (SPP), Human Interface Device Profile (HID), or proprietary protocol via the 3666 cradle	
<i>Connected Devices</i>	1 for Bluetooth HID and up to 7 scanners for Bluetooth SPP Up to 7 scanners via the 3666 cradle	
PHYSICAL CHARACTERISTICS		
<i>Color</i>	Dark grey	
<i>Switch</i>	Micro switch	
<i>Interface Options</i>	Keyboard, RS-232, USB HID, IBM 4683/4694	
<i>Weight</i>	Approx. 200 g	Approx. 210 g
ELECTRICAL CHARACTERISTICS		
<i>Battery</i>	3.7 V 700 mAh Li-ion rechargeable battery	
<i>Voltage</i>	DC 5V ± 5% (with adaptor)	

		1166	1266
<i>Power Consumption</i>	Suspend	12 mA	12 mA
	Scanning	170 mA	85 mA
	Maximum	250 mA	150 mA

ENVIRONMENTAL CHARACTERISTICS

<i>Temperature</i>	Operating	0 °C to 50 °C
	Storage	-20 °C to 60 °C
<i>Humidity (Non-condensing)</i>	Operating	10% to 90%
	Storage	5% to 95%
<i>Impact Resistance (Multiple drops onto concrete)</i>		1.2 m
<i>Electrostatic Discharge</i>		± 15 kV air discharge, ± 8 kV direct discharge
<i>EMC Regulation</i>		FCC, CE, C-Tick, MIC, BSMI, TELEC, NCC, SRRC, RSS-210

PROGRAMMING SUPPORT

<i>Configuration via Setup Labels</i>	Refer to the SmartScan Manual for setup labels and host serial commands.
<i>Software</i>	Windows-based ScanManager
<i>Firmware upgradeable</i>	Refer to the SmartScan Manual for downloading firmware updates via the download utility to 1166, 1266 or the 3666 cradle.

ACCESSORIES (√ MEANS "SUPPORTED")

<i>Rechargeable Li-ion Battery</i>	√	√
<i>3666 Bluetooth Cradle</i>	√	√
<i>3667 Bluetooth Cradle</i>	√	√
<i>USB HID Cable (307)</i>	√	√
<i>IBM 4683/4694 Cable (346)</i>	√	√
<i>RS-232 Cable</i>	√	√
<i>Keyboard Wedge Cable</i>	√	√