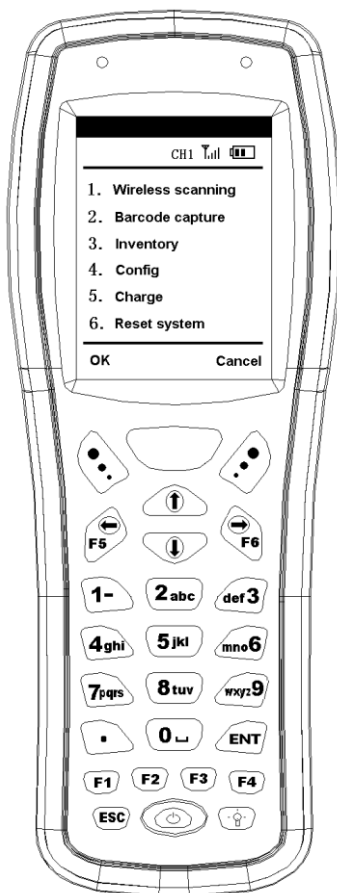


PDT Wireless Laser Barcode Collector

Manual



PDT Wireless Barcode Collector =

Wireless Laser Barcode Scanner+ Simple Wireless Data Collector

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I、Product Description

1、Function Characteristic

Welcome to use PDT, which is a new generation wireless barcode scanning product. PDT wireless barcode collector is an unique wireless barcode scanning product in the market, which combines the function of wireless barcode scanner and simple wireless barcode data collector, user can use this product without any programming. PDT products have keyboard and screen , can achieve the functions wireless barcode scanners can't, such as when barcodes are damaged, you can input by using the keyboard; it can display the current radio channel , wireless signal strength and battery level, etc. PDT wireless collector supports U disk function, can simulate the internal data area into U disk mode to exchange data and files with PC. Accompanying wireless base station using the USB interface can be used in WINDOWS without any driver through keyboard emulation mode.

PDT wireless barcode collector uses the laser barcode scanning engine, which increase the scanning speed and enlarge the depth of focus, to meet the needs of most industries.

PDT Wireless barcode collector has simple barcode data collecting function as well as inventory function. It supports offline batch scan mode, scans and saves maximum 50,000 barcode data. After collection, the user can wirelessly transmit to a centralized computer. For many simple barcode collection applications, you can directly replace the original expensive and complicated data collection terminal, to reduce the user's procurement and use cost greatly.

PDT wireless barcode collector supports industry-standard FAT file system and DBF database engine. It can exchange database files with computer through simulation U disk, display a variety of trade names related information to support inventory. Through a unique high-speed search engine, you can check the product code 100 000 in 0.01 seconds.

Wireless frequency used by PDT wireless barcode collector is 433M, two-way communication, the wireless signal strength displayed on LCD screen. Maximum 32 radio channels supported, that is, 32 groups of PDT wireless barcode collectors can be used at the same time and will not interfere with each other simultaneously; each channel can support up to 255 devices, in practice the same

channel may conflict, equipments used at the same channel at one time, preferably should be no more than 5. In the case of obstruction free, the transmission distance can generally be 50-100 m; in the occasion of interference or the need to cross several large walls, the wireless communication distance may be considerably shortened.

2、Technical parameter

1)、32-bit high-speed ARM series CPU

2)、FLASH memory: 8MB, including all two character font, data space available to the user is 7.5MB. It supports U disk mode, and U disk space is 6 MB.

3)、Supports the FAT file system and DBF database engine, and also supports barcodes with commodity name into library, out library and inventory functions etc.

4)、Enhanced data collection and inventory function, it supports single and multiple libraries. You can view operate and customize each library independently.

5)、Power supply: Two AA batteries (recommended 1600-2400mah of NiMH rechargeable battery), support USB port charging.

6)、Display: 128x128 FSTN LCD screen and supports 10 row 10 line character displays, with bright blue backlight.

7)、Size: 165 x 65 (54) x 38 (26) mm, about 150 grams

8)、26 high-quality silicone keyboard key

9)、Standby time: More than six months (depending on remaining battery power) power consumption lowers than most similar devices on the market.

10)、Continuous working time: 50- 100 hours, one million times scan at least

11)、Supports the shutdown site protection, you can always switch on and off, also supports automatically shut down.

12)、barcode scanning mode: 650nm laser

Scan Depth :3-35cm (with 13mil EAN13 barcode)

Scan the barcode width: 20cm or less

Reading barcode types: EAN13, EAN8, 39 code, 93 code, 128 code, interleave 25 codes (IT25), Codabar (Code bar), UPCA, UPCE etc.

13)、Wireless communications use 433M dedication wireless data transmission chip, data transmission with high reliability.

Wireless frequency: 433M, two way communication, two way data transmission verification

Maximum wireless Transmit Power: +10 dB

Wireless receiving sensitivity:-102dB

Wireless Channel: 32

Number of devices per channel: 255

Wireless signal strength indicator

Wireless communication use CRC check, to ensure the accuracy of the wireless transmission of data.

14)、Wireless base stations, paired with hand-held terminal (Paired handset and base station must use the same channel). A base station utility, recommended maximum five hand-held terminals. Wireless base stations uses USB port, USB keyboard or USB emulation mode serial mode, to access WINDOWS without drives. For special applications, wireless base stations can also provide hardware serial port to connect with the device. Hardware-based serial port wireless base station can communicate with the non-PC devices, can also be applied to some specific requirement, such as to prevent the occasions of illegal importation. Default serial communication configuration of hardware serial wireless base station as follows

9600 baud rate

8 data bits

1 stop bit

No parity

3、Appearance & Accessories

PDT-wireless barcode collection terminal contains handheld terminal and wireless base station.



Handheld terminal



Base station

4、Application

PDT wireless barcode collector is particularly suitable for small and medium sized supermarket, courier, logistics, bulky items and all kinds of barcode scanning within the warehouse. Wireless transmission distance of PDT wireless barcode collector range up to 50-100 meters, it can also serve as a data terminal in small supermarket, small bookstores and small warehouse.

II、Using

1、Battery and charging

PDT Wireless Barcode collector uses two AA batteries. You can either use dry batteries or rechargeable batteries. Please try to use the alkaline battery for disposable battery, if ordinary batteries stay a long time for no using, thus it will leak out, which can result cells and board corrosion. Recommending the use of NiMH rechargeable batteries which capacity is generally in the 1600-2400mAH to ensure the operation of the handset for a long time.

PDT wireless barcode collector comes with the function of recharge. You can charge the NiMH battery through the USB port at

the bottom of the handset. Charging voltage is 5V; you can use the computer's USB port for charging, or use an external 5V power supply. The handset will monitor the charging status automatically. When fully charged, it will automatically shutdown. The general time to charge a pair of 2000mAH NiMH rechargeable battery is 12-15 hours.

Note: only the rechargeable battery can be charged, it is unsafe to charge the disposable battery. Long time no using equipment, please take the battery out (otherwise will cause the battery leak a liquid and damage the PCB-board.).

2、Turn-on & off

Put on the battery, the handset can be turned on and goes to the main menu. The middle red button at the bottom is the power button, for switching on & off. Turn off the handset; the handset retains the current state. Rebooting it will be stayed at the state before shutdown.

Handset totally holds 26 buttons, divided into 4 parts:

(1) The top row of the middle yellow button is scan key, the left key is M1, usually used as OK, and right key is M2, usually used as ESC

(2) On the second row are the **【↑】** **【↓】** **【←】** **【→】** arrow keys, **【←】** and **【→】** key can also use as F5, F6 keys.

(3) Row 3-6 are the number keys and the Enter key, after switching the input method, these keys can also be used to input letters. **【ENT】** is enter key, also call OK button

(4) The last two row are function key **【F1】-【F4】**, **【ESC】**, **【Power】**, **【Background-light】**

4、USB wireless base station

USB wireless base station is a wireless PC-collector device, for receiving the barcode data which send by the handset, and sending the barcode data to the PC through the USB port. USB wireless base station is USB plug and play device, the emulation keyboard mode does not need to install any driver. After USB connected, the red LED light on the base panel will flash, that means the wireless base station is working properly. By observing the LED blink, you can determine the current state of wireless communications, which combines some detail in the back of the handset functions.

Each wireless base station has a radio channel number (also

called wireless channel number), while using different wireless base stations at the same time must ensure that the wireless channels are different.

Wireless base stations can be used after pairing with the corresponding use of handset. Handset and wireless base stations have been set paired by the factory, and can be used directly. Matching method is described in detail in a later **【III、Operation Details】**

5、Anomalies and Reset

When no response always encountered from the handset keypad, the handset crash happened by some uncertain reasons, then there are two solutions:

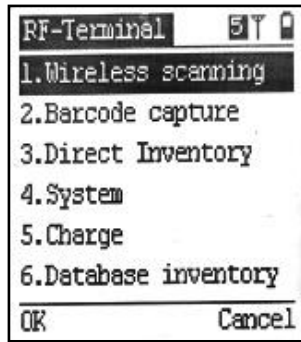
Clicking the reset bottom of the shell hole with the reset pin, the handset will be forced to reset




Take out the battery for 10 seconds before loading. Wait 10 seconds for the handset to make sure the internal fully discharged.

If the wireless base station's indicator is not flashing, it could be a bad contact, or other USB problems, then just unplug the PC side USB connector back into the USB port or for a re-inserted.

III、Operation Details

Following will combine the handset operate interface to describe the using of PDT wireless barcode Collector. Right picture shows the main interface after boot.



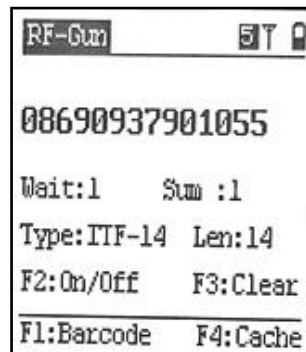
The top of the column is the status bar,  means wireless channel number is 5, CH32 shows radio channel number is 32;  stands the wireless signal strength, the greater the distance, the lower the wireless signal strength. No signal means communication is not connected. PDT handhelds contact the wireless base stations every 2 seconds;  is battery power.

To determine the state of wireless communications: after the base station connect with power, the first 2 seconds, the light flashes quickly and consecutively, indicating the wireless base station is searching the configured requested; if not, wireless base station will enter the normal communications state, if yes, you will enter the configuration state. There are two cases normal communication state, when there is no contact between handset and

wireless base station, the indicator light flashes every 0.5 seconds about 3 seconds, indicator light for a long time; if there is contact on the handset and wireless base station, then about every blinking 0.1 seconds 2 seconds, indicator light for a short time, it is easy to distinguish whether the situation connected or not. If the indicator does not light, it may not plug in USB or wireless base station has problems.

1、Wireless scanning mode

Wireless scanning mode function is same as traditional wireless scanner, which can scan the barcode and immediately transfer to the computer. Right picture shows the interface into the feature. Blow the status bar, it



displayed the scanned barcode. The maximum allowable value to display is 2 lines of 40 characters.

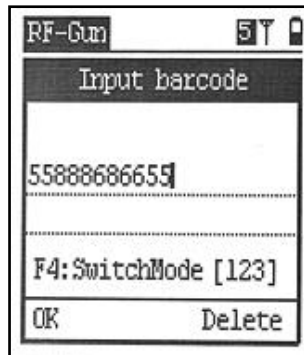
The uncertainty of wireless communication, in the case of occasional break communications, PDT wireless barcode scanner still collect the barcode and automatically cached, a maximum of

about 1000 barcode can be cached. The specific number depends on barcode length. When communication is restored, PDT will automatically send the cached barcode to the base station. The barcode number waiting to be sent is not currently sent successfully shows the temporary cache of the barcode number.

In practice, the defaced or non-stander print barcode, and other non-standard variety of reasons, often cannot be recognized. At this time wireless scanner can't do anything. PDT Wireless barcode collector with a keyboard and screen allows entering barcode manually.

Press **【F1】** to enter the manual state, or enter number keys directly also can enter the input state.

There are three kinds of manual input mode: numbers, lowercase letters, uppercase letters. The input mode shows at the upper left corner in the status bar. 123 means digital mode, abc stands for lower case

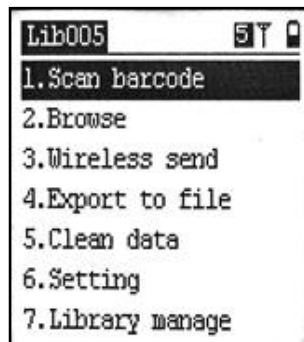


mode, ABC stands the upper case mode. Press **【F4】** key to switch during the three input modes. Input error can press **【M2】** (delete

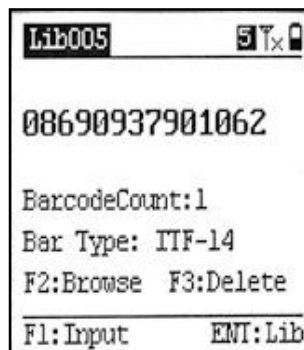
key) to delete. End of input , press **【M1】** or **【ENT】** key to confirm. Press **【ESC】** to cancel.

2、Barcode capture mode

This model is a non-real-time transfer mode, and close to the traditional inventories which send the barcode after the end of mass collected, in wireless way only. All of the scanned barcode are stored in



scan order in FLASH memory; even power-down will not cause data loss. Right picture shows the barcode collect mode interface. Barcode capture mode is suitable for big scanning range, numbers of barcode applications, and many applications do not require the actual real-time barcode data transmission,



after all scanning is complete, once again send all the wireless barcode data to the computer.

(1、 **Scan barcode:** Interface on the right.

(2、 **Browse:** List view the collected barcodes

(3、 **Wireless send:** Automatically send the collected via wirelessly. The format to be sent can be set, such as barcodes + carriage return line feed or barcodes+ 2 carriage return line feed. You can set the format in barcode set of config, system. Please prepare receiving program on the computer before wireless transmission. Common procedures to receive are EXCEL and txt. Text program is in WINDOWS [Start] - [All Programs] - [annex], or you can create an empty text file on your desktop and double-click to open.

(4、**Exported to a text file:** Export the collected data to a text file by specified format. In single library mode it's Collect.txt; in multiple libraries mode, it's BarlibX.txt. X stands for library number.

(5、 **Clear data:** Before each new operation, you should be empty data formerly collected.

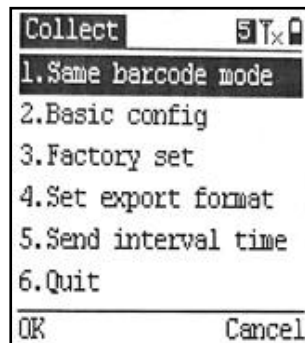
(6、 **Parameter settings:** Settings for barcode capture mode

1. Same barcode mode setting:

- 1、 Do not handle duplicate Barcode
- 2、 When encounter repeated barcode, prompt to save to skip
- 3、 Prohibiting scanning repeat barcode, unconditionally filtering repeat barcode



2. Basic config. Users can configure the mode of using a single database or multiple databases mode; under multi-library mode the user can customize the library name, maximum support 32 libraries, each



library is independent. ‘Max bar len’ is to set the maximum length of barcodes to capture, default is 30. In general it should be at least 2 digits longer than the real to capture barcodes, for example, if the barcode to capture is 33, the length should be set as 35. The shorter the barcodes to capture, the more barcodes PDT can store (**Default entry password is 13579**)

3. Factory set

4. Set export format. The format exported wirelessly or to txt file.

In general, the format for barcode transmitted to PC wirelessly is barcode+return .But in some occasions; it may require two return or other special characters. You can

TAB	9	回车	13	空格	32
!	33	"	34	#	35
\$	36	%	37	&	38
'	39	(40)	41
*	42	+	43	,	44
-	45	.	46	/	47
:	58	;	59	<	60
=	61	>	62	?	63
[91	/	92]	93
^	94	-	95	{	123
	124	~	126	}	125

set this kind of complicated format by Set export format.

Setting format as below; B represents barcodes, A represents the machine number (ie, the local address provided in the wireless settings), N represents the quantity (inventory function uses), point as delimiter, 1-127 are character values of ASCII code. For example the default **B.13.10** represents output barcode+carriage return line feed; **B.13.13** represents barcode+2 carriage return. **A.58.B.13.10** represents format as handset code: barcode+carriage return, 58 is ASCII value of : ; **126.B.126.13** represents ~barcode~+carriage return, 126 is ASCII value for ~. ASCII value commonly used shown as right (You can also find these in ASCII help of barcode set, setting) .

5. Set send interval time.

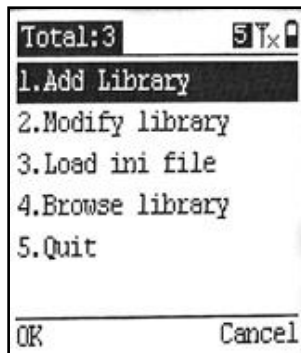
To accommodate some applications, wireless transmission interval

can be modified. If you enter 9999, device will only sent a barcode each time after user press one key, in this way; the whole uploading process will completely enter manual control.



(7、 Library management: When choose multi –library mode, then multi –library menu item would be showed. Users can manual add and input library name, check library information, also can upload library name by .ini document. Maximum 32 libraries are supported under inventory mode.

When not to load library name or manual input library name, the library name will set by device, auto is 1-32. .ini is a txt file, it can name as ‘ lib.ini ’ in the



‘ .ini ’file, each library name occupation one line, the library name should better be control within 12 characters.

3、 Inventory mode (no commodity name)

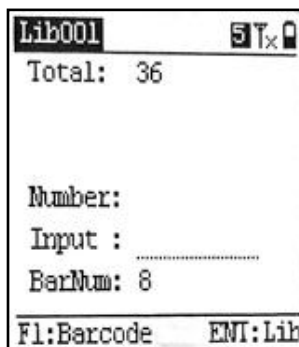
Inventory mode (no commodity name) is a simple inventory mode, only deals with barcode and quantity, without the item name. Each library can save up to 10000 barcodes. Interface of inventory shown as right.



(1) Inventory

After scanning barcode, it will automatically add the quantity or you can manually input the quantity.

After scanning one barcode, the corresponding number of barcode will plus one, or you can press **【F4】** to change the number of input manually.



(2) Browse

(3) Wireless send: Wirelessly send the inventoried barcodes and quantity to PC; you can set the export format in setting.

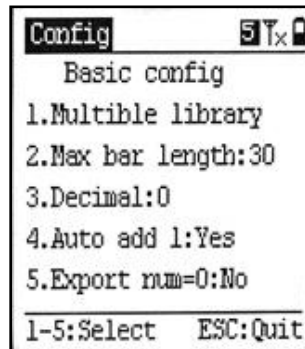
(4) Export to file: Export the barcodes and quantity into a

text file. In single library mode, text file name is Count.txt; in multiple libraries, text file name is InvLibX.txt, X is the number of library.

(5) Clear data: Empty the inventory data. Before the beginning of the new inventory, be sure to clear the original data stored in inventory.

(6) Setting:

2, 3, 4 of setting is same with barcode capture setting. There are some special settings related with inventory function in 1 Basic config, shown as right (**Default entry password is 13579**)



The default export format for inventory is B.44.N.13.10, represents barcodes + quantity + comma + carriage return line feed; N represents the quantity, 44 is the ASCII value of comma. If to set intermediate separator as TAB, then set B.9.N.13.10, 9 is the ASCII value of TAB.

1. Library configurations , users can select single database or multiple databases mode, when you select multiple libraries mode,

the last of the main menu of inventory will increase a 【Library manager】 project.

2. Max bar length is the maximum barcode length of the barcodes to scan, in general should be 5 digits longer than the longest barcodes to scan.

3. Decimal refers to the number of decimal digits you can input for the inventory quantity. 0 means no decimal and maximum 4 decimal places are supported

4. Auto add 1 means when scan a barcode, PDT will add 1 in quantity. If you choose no, after each scan it's required to manually enter the quantity (numeric keys are automatically activated by pressing)

(7) Library Management: Refer to the library management of barcode capture mode.

4、 System configuration

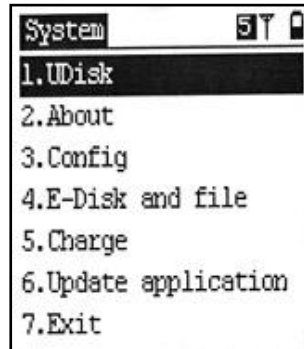
Note: To access some important settings projects needs to enter a password, the default password is 13579

(1, Udisk: After entering this mode handset flash memory will be simulated as U-disk with space approximately 6M

(2、About: Basic information about the system

(3、Config: Includes barcode set, wireless set, will specify in following content.

(4、Udisk management



- File list: list shows the txt files in handset.
- Udisk info: storage information of the Udisk.
- Format Udisk: When the file system crashes, you can use this to recover, but it will lose all files. Be sure to use with caution.

(5、Charge: Using only with NiMH rechargeable batteries.

(6、Update application: PDT handset can be updated via USB and wirelessly. With USB drive and PC, you can update it via entering this function.

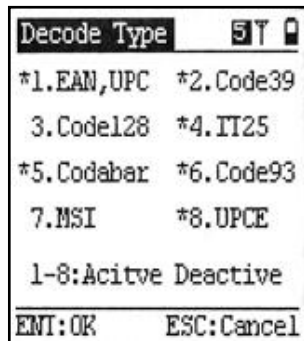
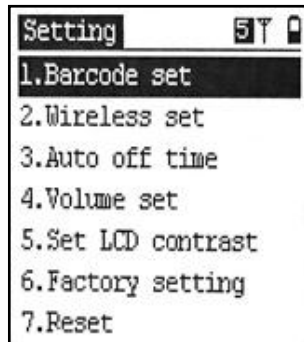
The following are detailed description of system setting

(1、Barcode set: Consist of decode type set, decode option set, RF-gun export set, collect export set, inventory export set, barcode

length set, ASCII help. For export settings, please refer to set export format of barcode capture.

- Set decode type
- Decode type is used to set barcode types that need to be supported by

PDT wireless barcode collector. Barcode types are fixed in many industries, the less the types need to be decoded, the faster decoding speed will be, and accuracy is also higher. Right picture shows settings

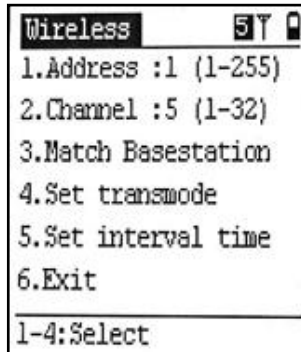


interface of the barcode type recognition. The bar type with * indicates that the type of decoding is activated which you can identify; without * means decoding of the barcode type is prohibited. As the picture shows, there is no * before Code128 and MIS, indicates that these two codes can't be decoded by PDT. Press the corresponding number key to switch ON/OFF.

After setting, press **【ENT】** key to save and exit

- Barcode length set:

Valid barcode length means the barcode length can be exported, default is 1-50, represents any length can be supported (PDT wireless scanner supports 50 bar maximum). Users can set up a



single, multiple or groups of effective barcode length range. If input 13 indicates that only allow 13 barcode output; 8.13.15 allows to output barcode of 8, 13, and 15 digits long. 15-18 means barcode length could be 15, 16, 17, and 18. 8.10.13-16 means barcodes with length of 8, 10, 13, 14, 15, and 16 can be exported.

(2、Wireless Configuration

Wireless Configuration includes setting machine address, setting wireless communication channels (namely radio channel), and wireless base station transmode configuration. The machine address ranges from 1-225, while using machines at the same channel at the same place. The machine address cannot be the same, will cause confusion transceiver.

Value of wireless channels range from 1 to 32, different wireless

communications channels means that the frequency is different, multiple wireless channels machines at the same place can be used at the same time and doesn't disturb each other.

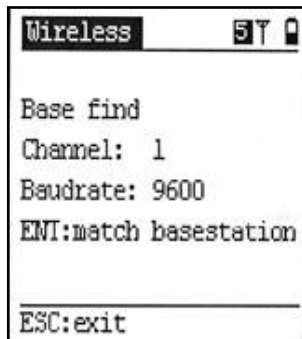
Handsets and wireless base stations must be paired before use. Matching principle is: one wireless base station can support multiple handsets, but the machine address of handsets cannot be the same, the same channel can only have one wireless base station.

Pairing methods of wireless base stations and handsets:

a、Disconnect the wireless base station (unplug the USB)

b、Set the machine address and wireless channel of handset in the handset wireless settings

c、Pairing with wireless base



station. It will prompt that searching for wireless base station is in process.

d、Connected to the wireless base station (connected to the USB), under normal circumstances, tips that the base station have been found will appear on the screen. Then press the ENT key match wireless base stations and handsets. After pairing, the

configuration information is saved to a wireless base station. There is no need to match to access wireless base station later. Only after modifying the wireless channel of handsets, re-matching is required.

Set transmode: So far, there are 3 transmission modes from PC to base station

- USB keyboard mode
- USB virtual com mode
- RS232 com(hardware serial port) mode



The default is USB keyboard mode, RS232 com use for specific software or equipment, also fit use for both way data transfer.

(3)Auto off time: The default is 180 seconds, which automatically shut down after three minutes without operations; the user can set within the range of 10-600 seconds

(4) Volume set: Set the range of 1-5, no represents mute

(5) Set LCD contrast: Set the LCD display contrast

4、Common problems dealing

	Symptom	Dealing
1	Does not boot	1、 Replace the battery 2、 Using the USB cable to supply power directly 3、 Press 0 to reset, check if you can enter into kernel system. If still no response, then it's a hardware failure. Try updating the application.
2	After boot prompt optical head fault	1、 The scanning optical head is indeed failed. 2、 Failed due to lack of power supply, connect USB to check.
3	After boot, no display while button operates fine	1、 LCD failure. 2、 Maybe the LCD contrast is set to be the lowest. Reset PDT.
4	After boot, initialization file doesn't pass	1、 FLASH file system is damaged, need to format it to resolve. 2、 Hardware failure
5	Display normal while button no response	1、 Keyboard interface may be damaged by static electricity 2、 Check if application is normal

Thank you for choosing PDT barcode collector!