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Section 1 INTRODUCTION

The Wireless Probe Type Ultrasound Scanner (Model: Uprobe) is the new generation instruments for ultrasonography with the outstanding feature of wireless.

Different with traditional ultrasound scanner with a cable connecting from probe to main unit, no cable appears at the end of the probe of the Scanners. The probe of the Scanner is highly integrated with ultrasound image processing, power management and a wireless signal provider to be connected by the main unit.The main units different with traditional devices are now changed to be any iPad from Apple Incor Apple iPhone. The probe acts as a Wi-Fi Access Point and can be connected by iPador iPhone. With the probe be connected through WiFi and the App is running, enjoy your days of working without the trouble making cables.

This manual is intended to provide a thorough overview of the Scanner and should be carefully read before starting operating the device.

Thank you for your trust in us to provide for your ultrasonography needs.

Figure 1.1 Wireless Probe Type Ultrasound Scanner

1.1 TECHNICAL PARAMETERS

Display: iPad /iPhone Series
Probe: 3.5MHz (convex), 7.5MHz (linear)
Depth: convex :100 – 200mm, linear: 80mm
Display Mode: BMode, BM Mode
Gray Scale: 256 levels
Battery last: > 3 hours
Size: 104mm x 50mm x 22mm
Weight: < 0.3Kg

1.2 INDICATIONS FOR USE

The Wireless Probe Type Ultrasound Scanner (Model: UProbe) is intended for diagnostic ultrasound echo imaging, measurement, and analysis of the human body for general clinical applications including obstetrics (OB), gynecology (GY) and general (abdominal) imaging.

1.3PRECAUTIONS & WARNINGS

- PRECAUTION 1: Read the user manual carefully before operating the device, be familiar with the equipment and operation procedures, and strictly implement; the company is not responsible for the damage caused by the improper use of the machine and the resulting potential adverse consequences;
- PRECAUTION 2: The instrument must work in a clean environment, should avoid direct sunlight, extreme temperature changes, dust, near heat sources, high humidity places, do not place anything on top of the instrument.
- PRECAUTION 3: The device shall be operated in undisturbed conditions so as to avoid data transmission interruption.
- PRECAUTION 4: When there is wireless channel congestion, switch the channel (Refer to Section 3.5 SETTINGS), and then restart the probe.
- PRECAUTION 5: Prescription Use. The device shall be operated by professional physicians.
- PRECAUTION 6: The device shall be repaired by professional recognized by the manufacturer.
- PREACUTION 7: The device does not have shelf life. Its expected use lifeis 3 years. After 3 years, though the device still works normally, it is recommended to have it checked by the manufacturer.
- PRECAUTION 8: Useless components shall be disposed according to local regulations.
- PRECAUTION 9: Be careful when holding the device, for the device is handheld, it may fall.
- PRECAUTION 10: Pay attention: the words "Insufficient Storage Space" will appear on the interface to remind the user to clean up space when storage space will be insufficient.
- WARNING 1: The device is not explosion-proof. Do not use it in inflammable and explosive environment (such as in the presence of anesthetic gas, oxygen or hydrogen,etc.);
- WARNING 2: Instrument is not waterproof, do not spill water or other liquids on the instrument.

Section 2 GETTING STARTED

FOR YOUR PROTECTION, please read these safety instructions completely before applying power to, or operating the system.

2.1 UNPACKING

The Scanner is carefully packed to prevent damage during shipment. Before unpacking, please note any visible damage to the outside of the shipping containers.

Items should be checked in order to ensure that all ordered items have been received. The following table lists the items which should be received with each particular system.

Table 2-1   Items List for The Wireless Ultrasound Scanner

ITEMS	INCLUDED
The Wireless Ultrasound Probe	√
USB Cable for Charging	√
Wrist Strap (a small rope set in the wrist to prevent the probe from falling off)	√
The Wireless Ultrasound Scanner Users' Guide	√

Each item should be examined for any noticeable defects or damage that may have occurred during shipment although it is packed carefully. If any defect or damage exists, please contact your local representative immediately to report the problem.

2.2 INSTALLING APP

The software is installed by computer after connecting iPad or iPhone to computer.

Before software installation, please make sure your computer has installed the Apple iTunes.

And please copy the wireless scanner Application to the computer disk. There are two separate applications, one for IPAD, another for IPHONE.
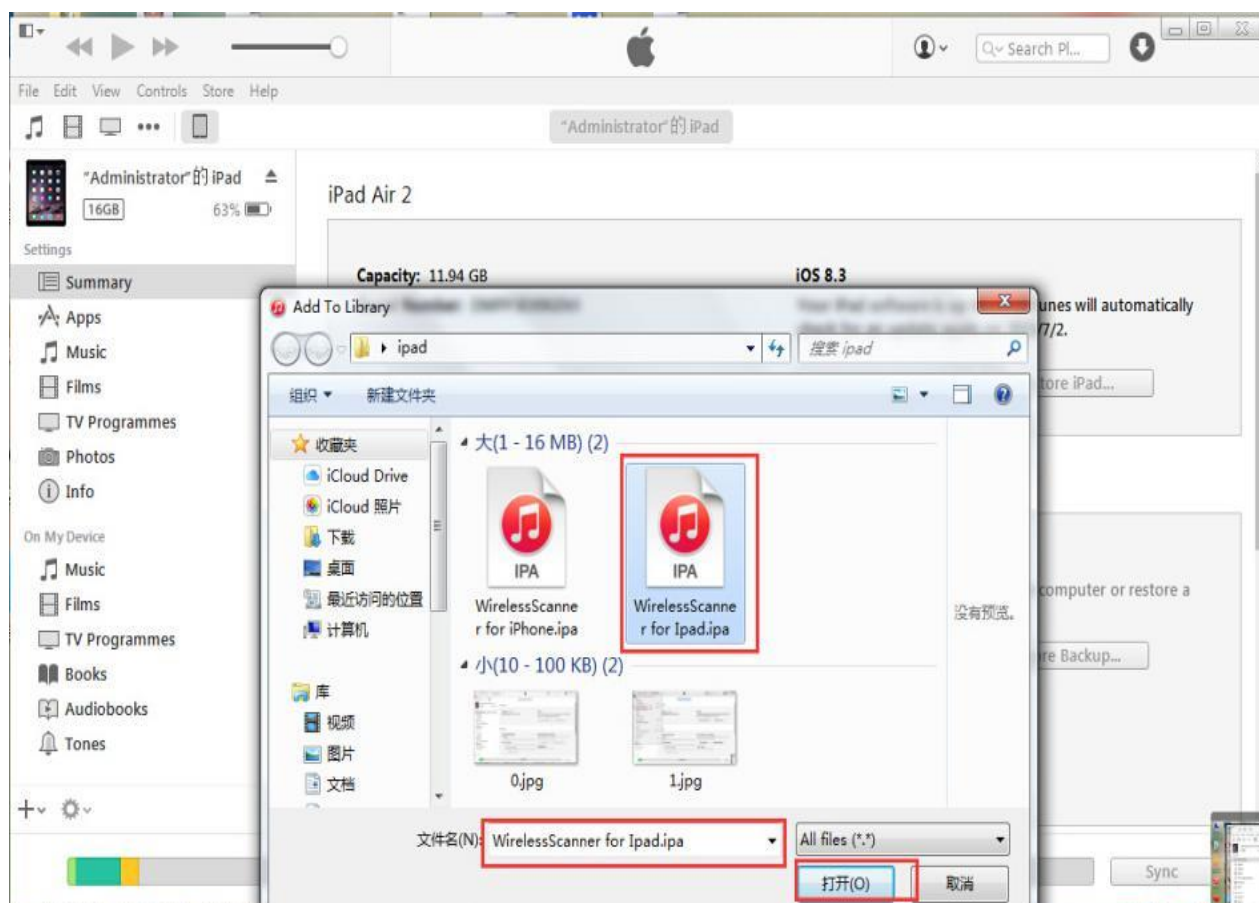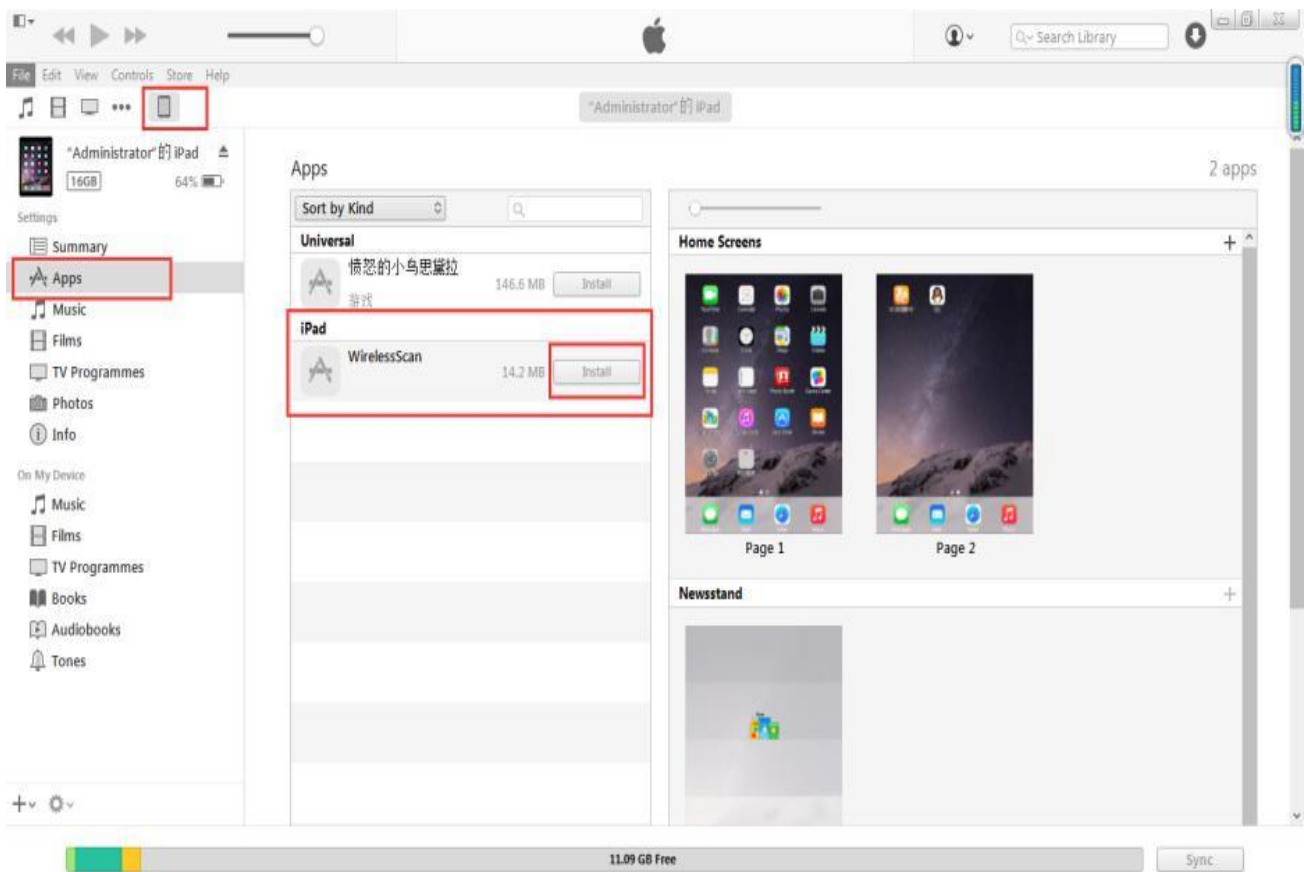
iOS App (2)

WirelessScanner for Ipad.ipa   WirelessScanner for iPhone.ipa
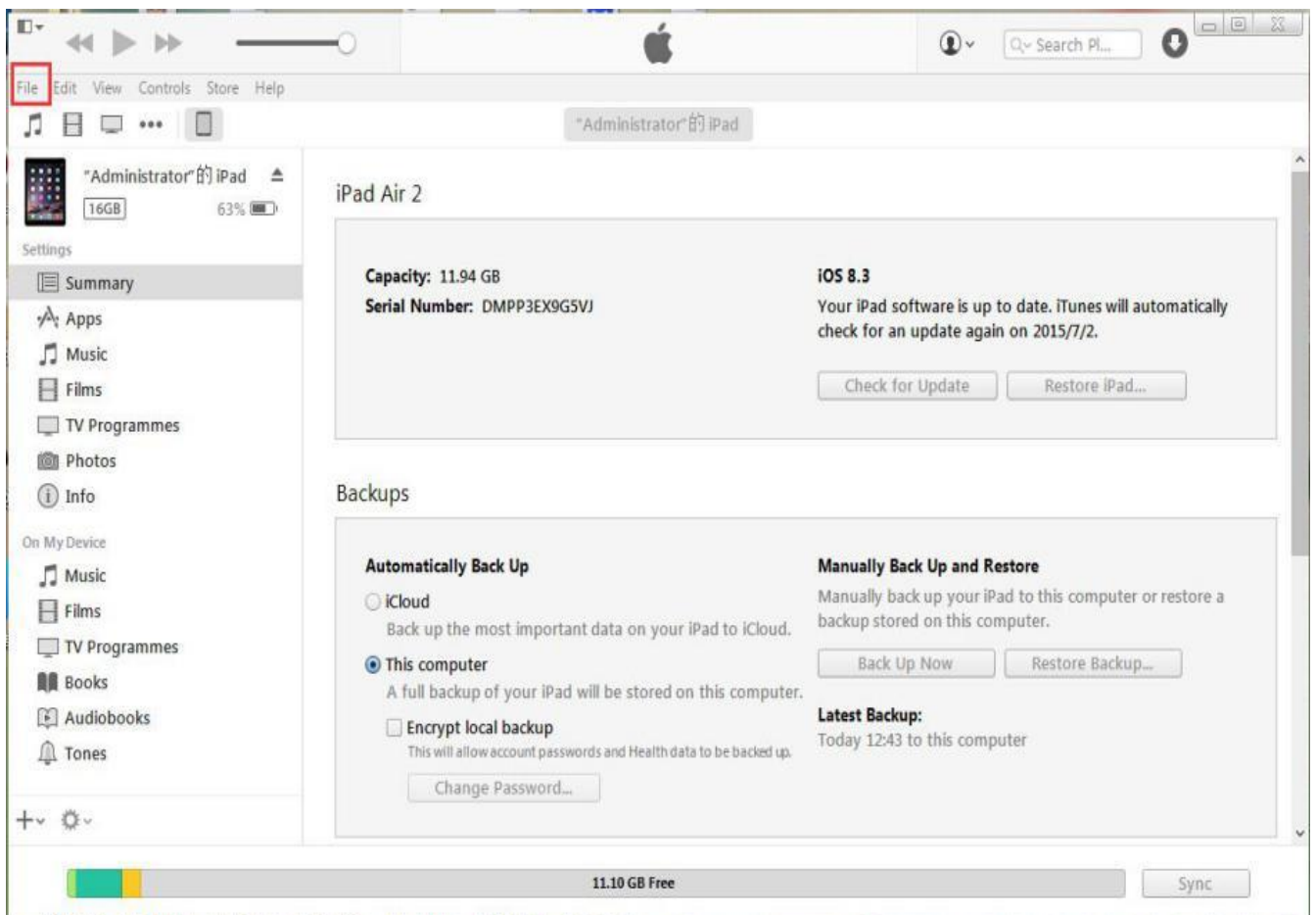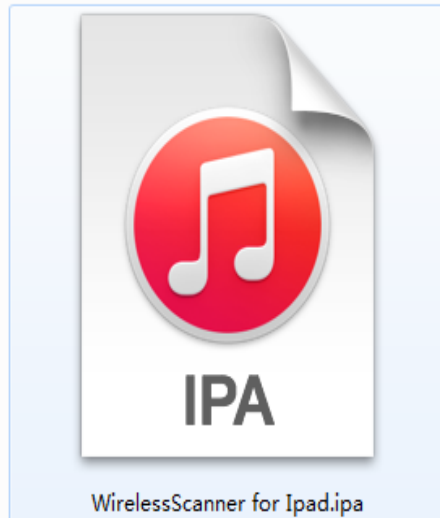
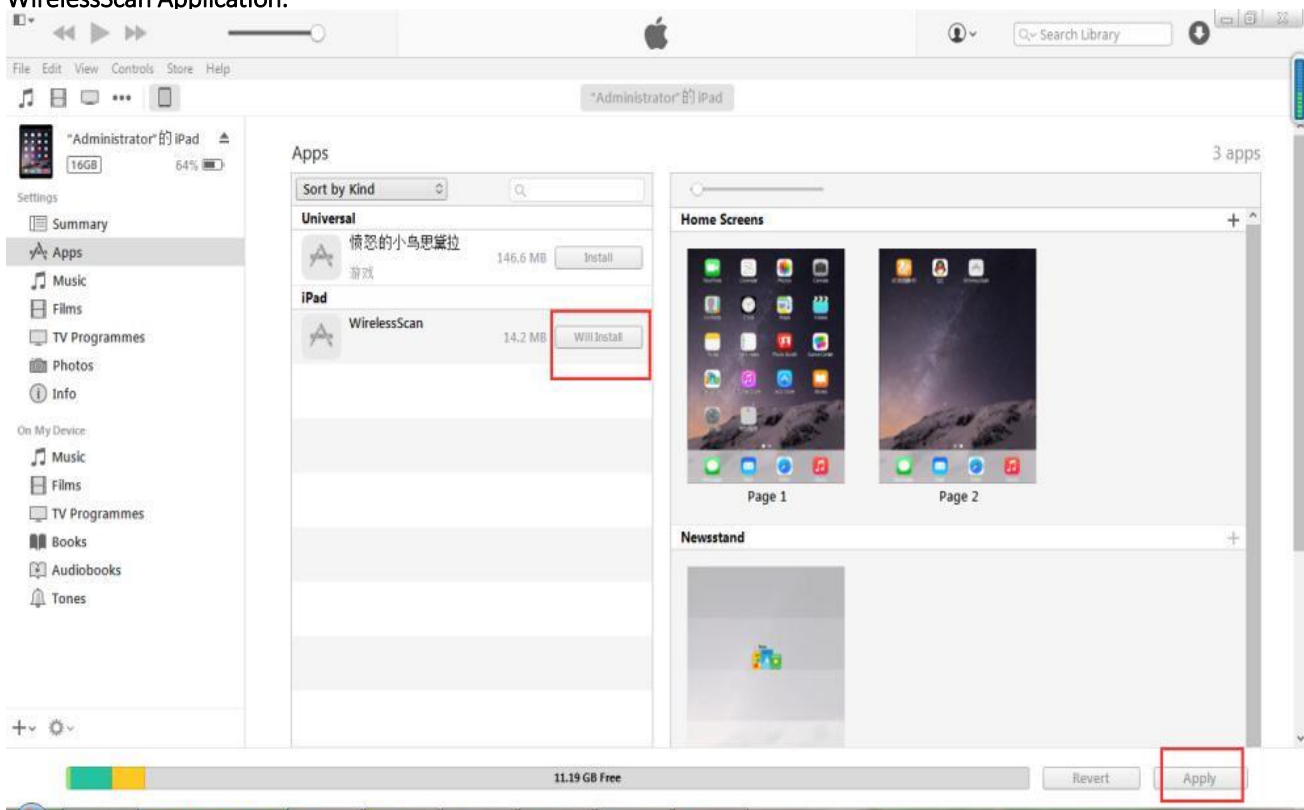1) Connect the IPAD or IPHONE to your computer, Open iTunes, Choose File menu, marked with Red border.
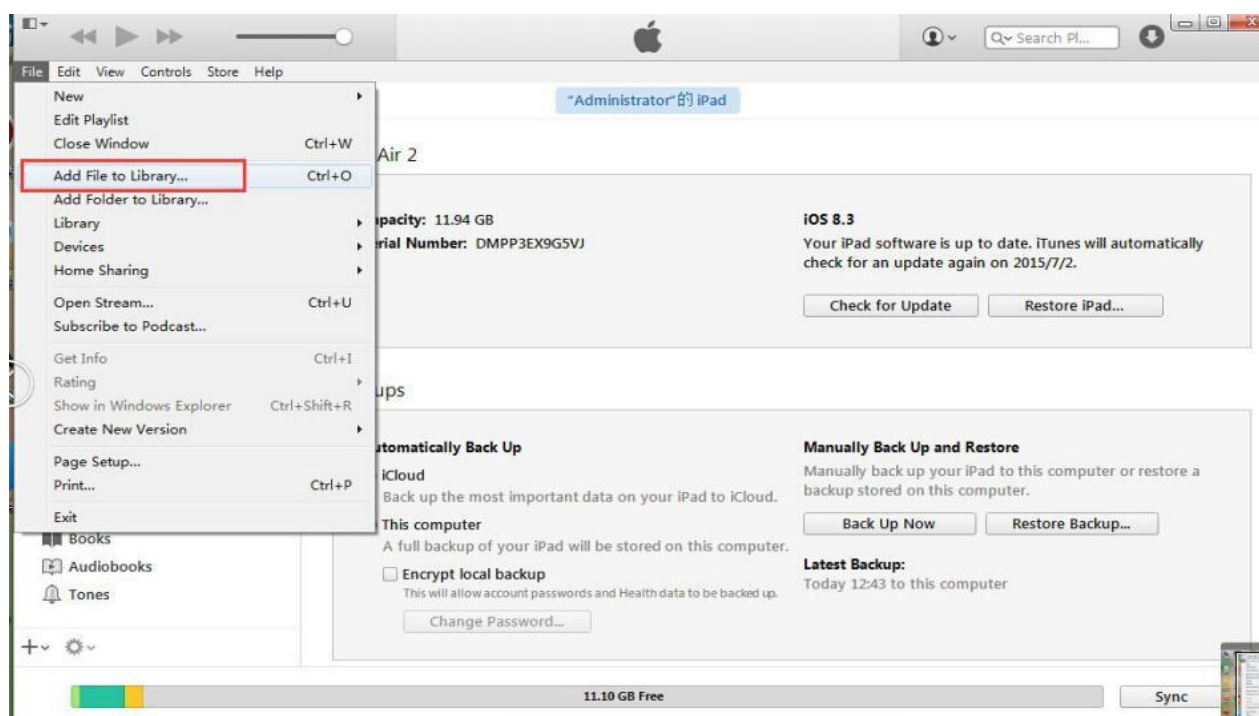
2)Choose menu Add File to Library...

3) Choose Application for IPAD or IPHONE, confirm it.

4) Choose IPAD, Enter into Apps menu, the Apps option would appear the added application. Choose Install the WirelessScan Application.

5) Click Install, the menu changes to Will Install, choose Apply. Startto install the application.

6) The wireless Scanner Application is installed successfully.

Note: if your system is iOS9, need to authorize at Settings - General - Profiles - tap on the Profile - tap on Trust button.

2.3 STARTING PROBE

1: Button for Power ON/OFF & LIVE/FREEZE

2: Battery Capacity Indicator
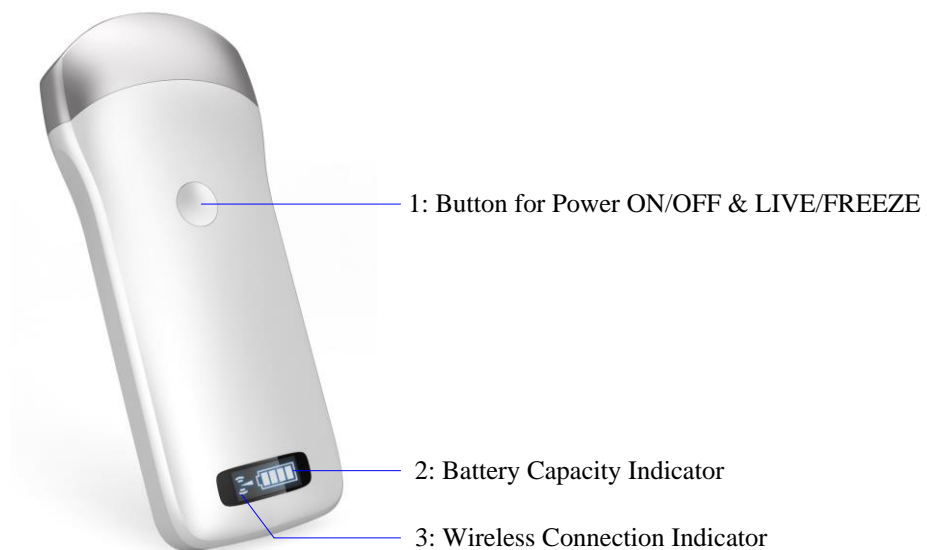
3: Wireless Connection Indicator

Figure 2-1 The Wireless Ultrasound Probe

The Wireless Connection Indicator and the Battery Capacity Indicator on the probe may be invisible before the probe is turned on.

Press the button to turn on the probe. The Battery Capacity Indicator will be light to indicate the capacity of the battery. The four grids of the indicator imply the battery capacity. (Probe charging will be described in section 4.)

Seconds after the probe turned on, the Wireless Connection Indicator will be light and blinking to notice that the probe is ready for a wireless connection from the iPad or iphone.

The probe can be turned off by hold down the button for seconds. When the probe is off, the indicators will be turned off.

2.4 WIRELESS CONNECTION

When the probe is waiting for a wireless connection as described in previously, launch the Settings of iPad or iPhone, turn on the Wi-Fi (if not on), Find the SSID of the probe. The SSID is like: "SS-1 GMBFCA001", the suffix "GMBFCA001" is a code generated from Serial Number. Connect to the SSID with the password same as the Serial Number (in lower case). The Serial Number is in the form like "WSPBFCA001" with the prefix of "WSP". It can be found on the surface of the probe.

After Wi-Fi is connected, launch the WirelessScan App, after the connection from the app to the probe is confirmed, the Wireless Connection Indicator on the probe will be light with no blinking.

Every connection steps are done. The operations of using the system to finish ultrasonography task will be described in the next section.

Section 3 APP OPERATIONS

3.1 ULTRASOUND SCAN

(1)Wireless Connection Status   (2)Date & Time of Image

(3)Depth   (4)Gain

(5)FREEZE/LIVE   (6)Cine loop Index

(7)Cine loop Slider   (8)Previous

(9)Play   (10)Next

(11)Save Image   (12)Browse Stored Image

(13)Video   (14)Settings

(15)Scales of Image   (16)Gain Slider

(17)Run/Freeze Button   (18) Patient Information

Figure 3-1 Main Screen

After the probe is connected, launch the App, the Main Screen will show similar in Figure 3-1. (No image is visible when the App is firstly launched.)

The Wireless Connection Status indicates the SSID of the Wi-Fi of the connected probe.
Press the Run/Freeze Button (17) to run or Freeze the probe. This button has the same function as the button on the probe in running or freezing the image. When running, Gain Slider (16) can be slide up/down to adjust the gain of the image.When the Image come tobeshown on the Image Area , the Imaging Date & Time (2), the Gain (4) and the Depth of Image (3) will be shown together with the ultrasound image. When the probe is running, label (6) will be shown as "LIVE", or it will be shown as "FREEZE". Scan depth of the ultrasound image can be adjusted by swipe down/up in image area when running.

When the image frozen, Label (11) Save Image showsthe count of image in the cine loop and the index of current image of the cine loop. Users can use the Cine Loop Slider (7) to select the image in the cine loop. The

buttons (12) on the right of the slider can also be used to select the images in the cine loop.

By pressing the Full-Screen-Button in the lower right corner of the Image Area, the Image Area will occupy the whole screen. In Full-Screen Mode, press the button to shift back Non-Full-Screen Mode. The Full-Screen-Button will hide after seconds automatically. Tap in image area to make it visible. In Full Screen mode, the button on the probe can be used to run or freeze the image.
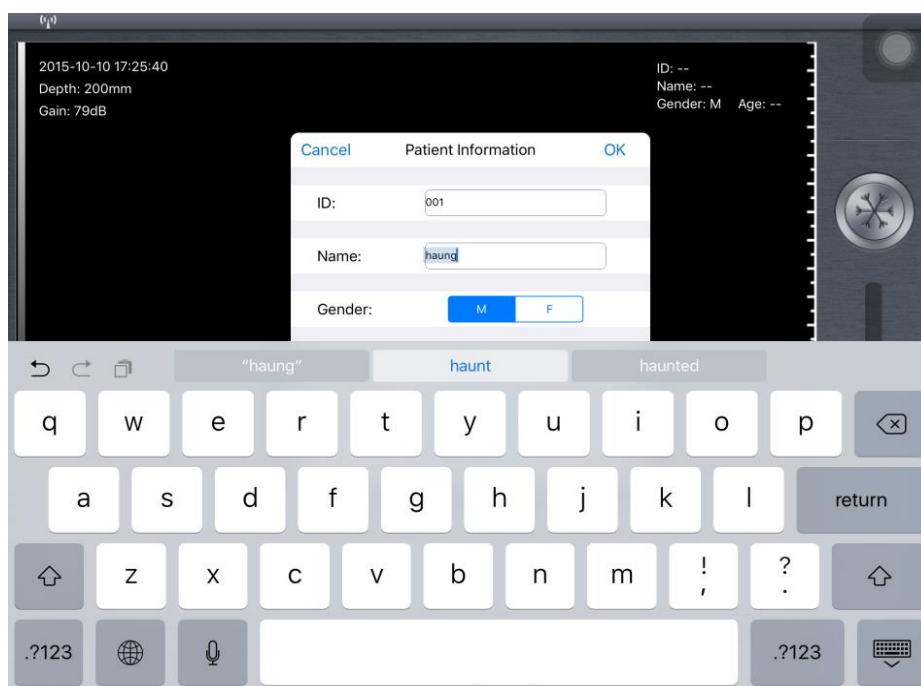
3.2 ENTER PATIENT INFORMATION

First，click on the top right of the ultrasonic software interface with your finger
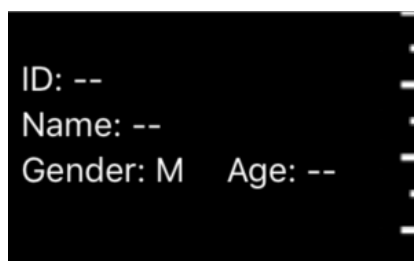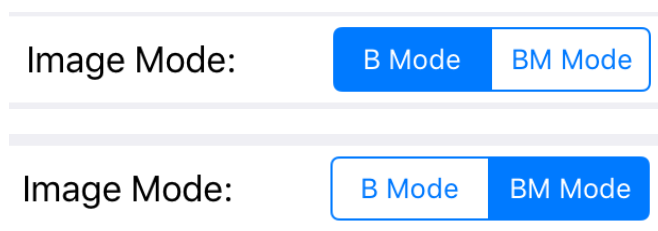

Pop-up screen

In ID, enter the name of the patient information bar, click on sex selection, picture mode, and then click OK, the patient information will be entered, if an input error, you can click again to modify or create new cases.
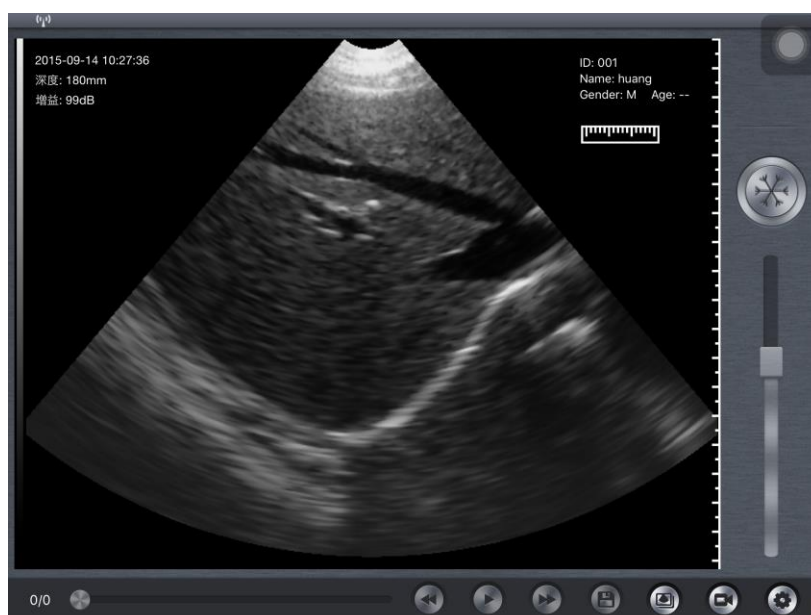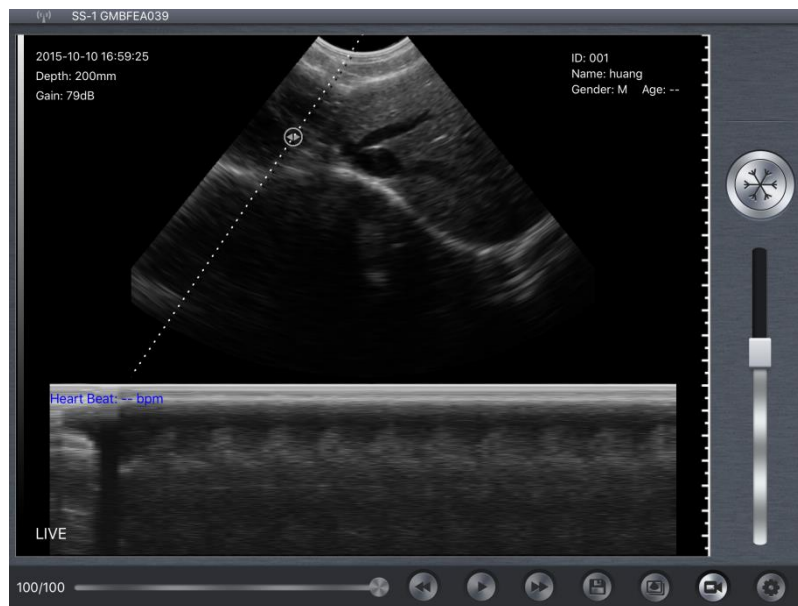
3.3 SELECT THE IMAGE MODE

Enter patient information section can select the image mode, select B mode or BM mode, you can enter different modes, as shown:
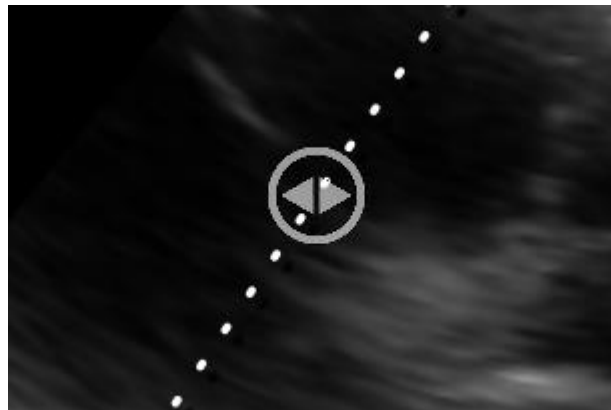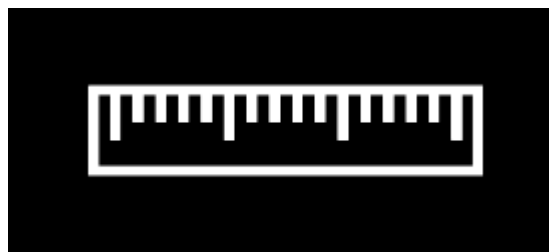
B mode:

BM mode:

In the BM mode, by clicking with your finger to move here, you can adjust the position of M sample lines:
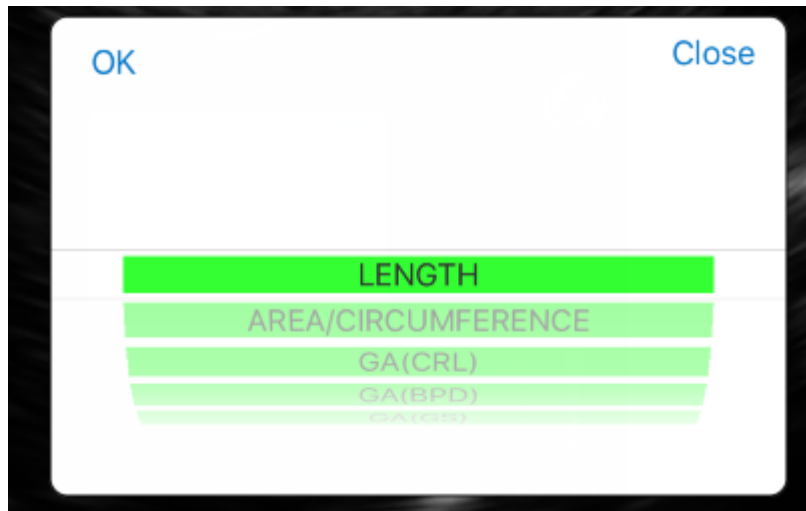

3.4 MEASUING

In B mode, finger clicking here, you can use measuring tools.

There are length, area measurements, select the desired measurement unit, click OK.

Click the option to be measured with a finger position, then double-click the selected form data once, it will be displayed in the upper right.
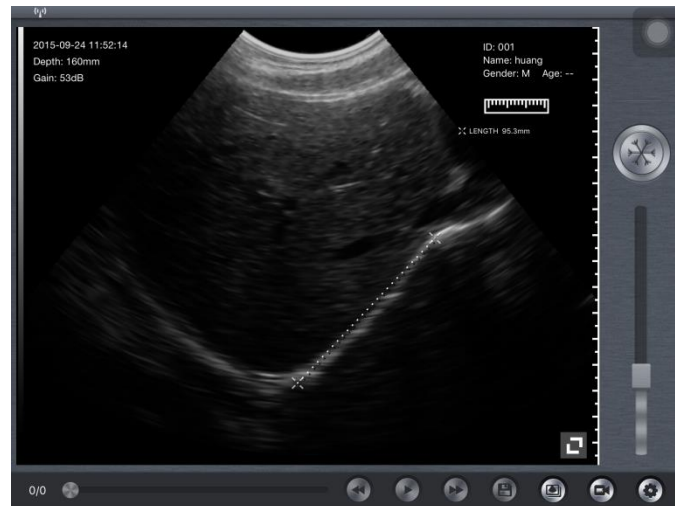
Note:When measuring other data, such as area, in addition to finger click, the size can also be adjusted by the virtual scroll ball.

Click on the right data⊗,Measurement data can be deleted:

3.5 STORAGE OF IMAGES

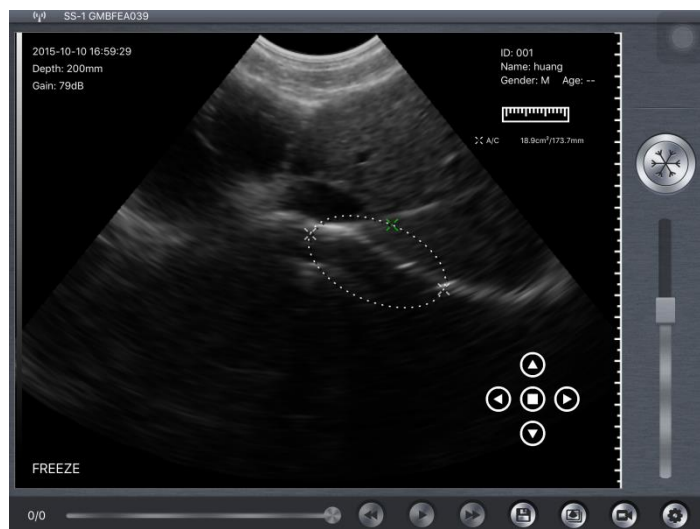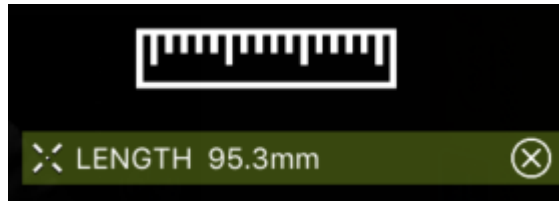When image is showing in image area, Save Image Button (11) can be pressed to save the image to the album of the iPad.

By pressing the Browse Stored Image Button (12), users can select a stored image and show it on the image area.

The stored images can be exported with same method as photos exporting using iTunes or other equivalent methods.

3.6 SETTINGS

If users hold the probe on the right hand, and want to operate the software by the left hand, the software provides settings to adjust the interface.

Press the settingsbutton(14), settings screen will appear as Figure 3-5 below.

Figure 3-2 Settings Screen

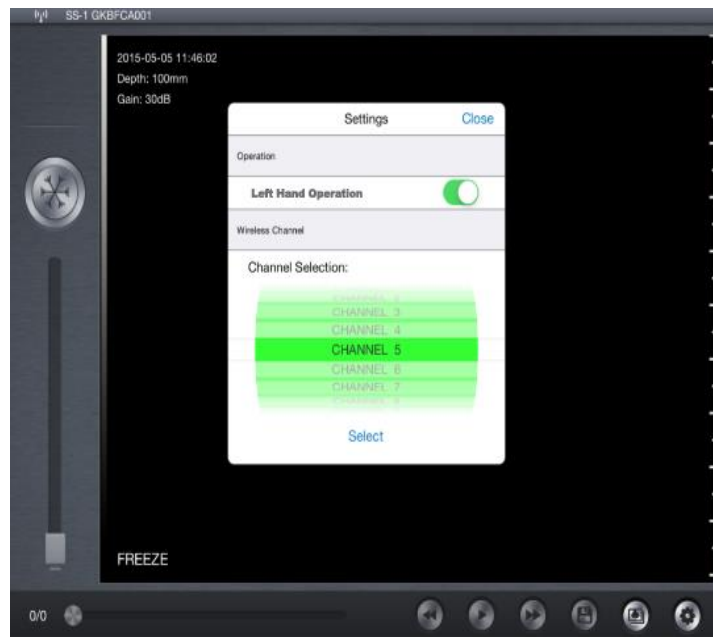Switch ON/OFF the Left Hand Operation to adjust the screen to convenience operators.

When the system is using in an environment where the WiFi channel is crowd, a new channel can be selected for the probe by pick a channel from the picker and tap Select button. After 2 seconds, please restart the probe to make the new channel available and the user also have to reconnect the probe with a different SSID.

Section 4 MAINTEANCE

4.1 PROBE CHARGING

When battery goes down, it is necessary to recharge the probe. Pull the insertion at the end of the probe, then connect the USB Charger and USB Cable with the probe to charge the probe as shown in figure 4-1. When in charging, the battery indicator will be blinking and the grids indicate the capacity of the battery charged.

Figure 4-1 Charge the Probe

If four grids all light and the indicator not blinking means the battery is fully charged. Unplug the USB cable and the insertion should be carefully plugged to make the probe able to keep out water.

4.2 WATERPROOF IPAD

A waterproof bag is provided by local repository. Users can use it to protect the iPad when it is used in humidity or dirty fields.

4.3 CLEANING

The probe needs to be cleaned before using. It can be cleaned by soft cloth or paper or water directly at the head. The probe with the waterproof level of IPX5 can be washed using clean water but users should NOT soak the probe in water.

4.4 STORAGE

When not in use, it is recommended that the equipment should be put in the case. While stored, the equipment should be protected from temperature extremes.

4.5TROUBLE SHOOTING

Inspect: check if the probe and the host is properly connected.

Fault handling:

Serial number	problem	Solution method
1	No response after pressing the power switch	Check wires and plugs
2	Display on the screen to show the band or snowflake like interference	1.Check if any other device is started 2.Check the electric field or magnetic field in the surrounding environment.
3	The image area is dark.	1.adjusting brightness

After-sale service

Sonostar Technologies Co., Ltd.customer service contact information service in Guangzhou City.

Address:504#, C Building, #27 Yayingshi Road, Science Town, Guangzhou, Guangdong, 510665, P.R.China

zip code:510665

Telephone:020-82108565

Fax:020-62614030

Caution:

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.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.