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Foreword

Statement

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- Manufacturers don't state or guarantee based on this point , and disclaims any guarantee based on sales or interests.
- Without written permission, the document must not be photocopied, copied or translated into other languages.
- We have the right to revise without inform.
- Equipment can not be used with cardiac defibrillators and high frequency surgical equipment.
- Some pictures in this manual are schematic for reference only.If the picture does not match the actual objects, the actual ones shall prevail.

Manufacturer's Guarantee

- Disassembly and maintenance of the instrument by our company assigned to professionals, and the use of instruments in strict accordance with the operating manual must be used by trained and qualified personnel. Manufacture has only instrument safety, reliability and performance are responsible for the consequences.
- In the instrument disassembly and repair professionals assigned by our company to complete, and the use of instrument in strict accordance with the instruction manual operation under the premise of safety. Manufacture , Ltd is responsible for the consequences of security, reliability and performance of the instrument.
- Manufacture guarantee to the user, within two years of the warranty period from the date of purchase and ensure there is no problem in the new instrument materials and workmanship. During the warranty period, Manufacture will free to users for fault repair and replacement parts human damage, if the instrument surface damage will not be repaired or replaced.
- This guarantee applies only to faults in accordance with the instruction manual to operate the instrument specified conditions occur, to ensure that the instrument can only be used as specified in the range of random instructions.
- Not including lighting, earthquake, theft, improper use or abuse as well as change it casually.
- Manufacture don't be responsible for connecting with other instrument that caused problems.
- Manufacture will not responsible for the loss, damage or injury due to the delays in service requests.
- Within the guarantee time, if any problems, please contact Manufacture with the detailed type, serial number, time of buying and problems.

Attention

- To ensure the safety and long-term stable in operation, please read carefully the instructions fully , understand the function of instrument operation and maintenance knowledge, especially pay attention to the user's manual of the **[warning]**, **[care]** and **[content]**.
- Improper operation or does not abide instruction by the manufacturer or its agent, that may cause damage to the instrument or personal.
- The following instruction for entire manual to show emphasis information:
[warning]: Used to say if ignore it will lead to serious personal injury death or real property losses
[care]: Used to say if ignore it will produce slightly personal injury or property damage
[content]: For prompt the user installation operation or maintenance information, which is very important, but there is not included in the risk that warning attention content.

General tips for the operation of equipment.

◆ In the process of operation:

1. It is strictly prohibited to cover Cooling holes
2. After turn off , wait at least 2-3 minutes to open again.
3. In the process of scanning, once the abnormal situation caused, turn off immediately.
4. The patient touch the non-application part of device is prohibited.
5. The patients are prohibited to touch any part of the non-application.
6. Don't press keyboard panel hard in operation, otherwise it may damage the device.

◆ After operation

1. Cut off the power.
2. Pulling the plug from the outlet rather than pulling cable.
3. Cleaning coupling with soft, medical sterile cotton ball.
4. Placing the probe into the probe box.

General safety information

Considering the safety of users and patients, reliability of the equipment in the design and manufacturing process, the following safety precautions must be performed:

1. Equipment used by a qualified operator or under their guidance.
2. Do not change the device parameters, if there is indeed necessary, ask the Manufacture , Ltd. or its authorized agents to provide services.
3. Equipment is adjusted to the best performance by us, do not adjust any control or switch the default, unless specified operating manual.
4. If the device fails, turn off it immediately and contact Manufacture , Ltd. or its authorized agents.
5. If you need to connect to the equipment of other companies, please contact before connecting Manufacture , Ltd. or its authorized agents.
6. Equipment operations, storage and transport environment:
Under normal operating conditions, avoid severe vibration, maintain temperature, humidity and atmosphere are as follows:
a) Ambient temperature range: $+5^{\circ}\text{C} \sim +40^{\circ}\text{C}$
b) Relative humidity range: $\leq 80\%$ Relative humidity range
c) Atmospheric pressure range: $700\text{hPa} \sim 1060\text{hPa}$

7. The equipment is transported by general traffic tools, transport should be to prevent rain and snow shower splash and mechanical collisions, and may not be mixed, mixed operation with corrosive substances.
8. The warehouse stored should be dry, ambient temperature: -40°C to $+55^{\circ}\text{C}$, relative humidity: $<80\%$ (20°C), the interior should avoid strong sunlight and corrosion gas, the indoor should be well ventilated.
9. Ultrasound may cause harm to humans, should avoid prolonged exposure. The acoustic output see Appendix A.
10. In order to reduce the use of risk, please use the random configuration of the power cord.
11. Manufacture, Ltd. is not responsible for any risk caused by users demolition, alteration.
12. The adapter output is forbidden for short circuit and long term short circuit can cause damage to the adapter
13. Do not short-circuit the battery output electrode to prevent damage to the battery; use the original charger to charge the battery. Do not use the original charger to charge the battery. Waste batteries can cause pollution to the environment, please carry out the correct recycling of the battery.
14. The power adapter is forbidden to be disassembled and malfunctions should be performed by qualified personnel. The charge output can only be used for battery charging of the standard equipment. Charging other batteries may cause unintended hazards such as explosion and fire.

Warning:

Ultrasound in the whispered power is safety, its security has not yet been fully confirmed in the case of loud power and long ultrasound irradiation, therefore be careful when they are in operation, use the lowest sound power and the shortest time.

The impact of ultrasound emission range:

1. Depth of focus: the change of focus depth, the pulse frequency is also changed.
2. Selection of probe: change the transducer which influence the ultrasonic transmission range. A new transducer will have different acoustic characteristics of the launch of the audio signal and the sound power.
3. Frozen: Start / Stop the ultrasound image, so start / stop of ultrasonic irradiation.
4. Scan angle: change the width of the scanning area.
5. Focus: change the location of focus area.
6. Display modes (B, M, B + M) : change the image mode.

Warning:

In order to avoid the harmful interference to other devices, when the cavity probe is stopped using which should be keep in frozen state.

The device is not supporting the use of high frequency surgical equipment. To prevent the damage of the high-frequency device application part.

About mechanical index MI and the heat index TI.

MI shows the of potential mechanical biological effects.

The mechanical index was calculated as follows: peak sparse pressure (unit: MPa, organizational damping 0.3Db/cm/MHz .) divided by the transmission center frequency of the square root of (unit: MHz).

MI, users can be as much as possible to reduce the mechanical biological effects of risk facing an acceptable diagnostic image. The higher the MI value, the higher the risk. But not according to this indicator whether the biological effects actually occur.

The change of mode set, probe types or focus position will affect the value of MI.

The heat index TI shows about 1°C temperature rise.

Heat index TI is to warn the user about status, which will cause the temperature rise

TI is the sound signal power caused by the temperature rise of 1 °C (based on the ratio between the power of the temperature model evaluation).

3 heat index totally, each index are based on a specific temperature model, in order to soft tissue near the surface and internal ultrasound beam through the soft tissue, and focus on the bone near the temperature rise:

——Soft tissue thermal index TIS refers to the potential temperature rise of the ultrasonic beam through and focus on the soft tissue.

——Skull heat index TIC refers to the potential temperature rise in the application of ultrasonic beam through the entrance of the body skeleton.

——Bone thermal index TIB refers to the application of the potential temperature rise, ultrasound through soft tissue, and the focus area is located in the bone most adjacent position

——Mechanical index and thermal index is the relative index of temperature rise : the larger the index value, indicating the greater of the temperature rise . These index reflect the potential temperature rise.

——The change of mode set, probe styles, the focus number, focus position, scanning depth or other parameters will affect the TI and MI values .

Attention

- The power plug of the device and the external device connected to the unit must be plugged into a wall outlet and the socket must meet the requirements on the rated power sign. Using a multi-function receptacle may affect the ground to make the leakage current exceed the safety requirements. Multiple devices interconnected may cause leakage current to accumulate, resulting in equipment damage and electrical shock, thus prohibiting multiple devices from interconnecting.
- If the power cables of the various devices are connected to the same power outlet, the leakage current in the equipment will increase and will be dangerous to the patient.

* Contraindications *

1. This device does not apply to the examination of organs such as lungs.
2. It is recommended not to have a wound or acute inflammatory site to explore, so as not to cross infection.
3. The probe is forbidden to scan the eye; if in the air can be aware of its self-heating ultrasound probe, can not be used for vaginal exploration; should pay special attention to reduce the embryonic or fetal radiation output power and irradiation time.
4. The following patients disabled vaginal and rectal probes:
Postmenopausal vaginal atrophy; vaginal ultrasound examination; vaginal bleeding; placenta previa and so on; vaginal malformations, vaginal bleeding, vaginal bleeding, vaginal bleeding, vaginal bleeding
6. The following patients disabled puncture:
Hypertension, coronary heart disease, patients with coagulopathy and bleeding tendency.

Chapter 1 Overview

1.1 Characteristic

Laptop full digital ultrasound diagnostic scanner (hereinafter referred to as instrument), the standard configuration using C1-9 / 60R / 3.5MHz convex array probe, optional configuration for the L1-4 / 7.5MHz high-frequency linear array probe and EC1-3 / 13R / 6.5 MHz cavity probe, the structure of the notebook type, the display is 12.1-inch LCD screen, with 4400mAh rechargeable battery, image gray scale of 256; with B, B + B, B + M, M, 4B imaging mode; Can be image smoothing / sharpening, histone harmonics, gamma correction, histogram, pseudo-color processing and up and down, left and right, black and white, brightness, focus, focus spacing, focus position, dynamic range, scanning angle, frame correlation, M Speed adjustment; with date, clock, name, age, gender, doctor, hospital name, image annotation and other functions.

1.2 Scope of Application

The ultrasound scanner is for dynamic image diagnosis of soft tissue organs. This instrument is mainly applied to the human liver, gallbladder, kidney, spleen, pancreas, bladder and other organs as well as gynecology, obstetrics and gynecology, superficial organization etc.

1.3 Contraindication

The instrument can not be used in the internal organs examinations like stomach, intestines and lungs which contain the gas.

The ultrasound diagnosis belongs to the non-cuts image diagnosis with no contraindications or complications in the clinical diagnosis application.

1.4 Requirements for security

1.4.1 According to the risk of electric shock on human.

human electric shock risk protection type is I B

1.4.2 Because of the instrument without any waterproof device, so don't be use the instrument on easy to close water, do not pour the liquid in the instrument, otherwise, it will cause shock (or get an electric shock) dangerous

1.4.3 Prohibited in a combustible gas exist environment to use this instrument, otherwise it may cause an explosion






1.4.4 Probe's Temperature:








when ambient temperature is 25℃, the probe's surface temperature shall not exceed 41℃, or when ambient temperature is lower than 25℃, the probe's surface temperature shall not exceed 16℃;

1.5 The related marks are as follows:







Security Identifier

Instrument identification:

	Type B application part		USB port
	Attention! Random access files		RS-232 port
	Through to the total power		Recyclable

○	Disconnect the total power		Do not put into the trash
	Video Output		Class II equipment
	Iso-electric level		Direct current
IPX7	Waterproof		Charge
	Dangerous voltage		

Packaging transportation identification

	Fragile
	Temperature Limit
	Up
	Stacking layer limit
	Afraid of the Rain
	Afraid of the Sun

1.6 Executive Standard

The instrument in strict accordance with the national standard GB10152-2009 "B-type ultrasound diagnostic equipment", GB9706.1-2007 "medical equipment, the first part: safety requirements" and GB9706.9-2008 "medical equipment for medical ultrasound diagnostic and monitoring equipment Safety requirements "design, manufacture. YY0505-2012 Medical electrical equipment - Part 1-2: Safety - General requirements - Parallel standards: Electromagnetic compatibility requirements and the terms of the trial 682.201.

1.7 Requirements for environmental testing

The environmental test of the instrument conforms to the requirements of GB / T 14710-2009 "Environmental Requirements and Experimental Methods for Medical Electrical Equipment", Clusters and Environment Test Group II, Mechanical Environment Test Group II.

1.8 Note, alerts, and tips note

- 1.8.1 The appliance's power source shall be examined frequently, and the machine shouldn't be opened when the mains voltage is exceeding the applicable range of the appliance
- 1.8.2 The instrument uses three-phase power protection grounded plug, Do not use unprotected ground-wire power outlet, otherwise there will be risk of electric shock
- 1.8.3 Checks of the instrument power cord regularly, and should be replaced immediately if found damaged
- 1.8.4 Check the instrument power regularly, when the power supply voltage is lower than the scope of application of the provisions of the instrument, the instrument may not work properly, higher than the scope of application of

the provisions of the instrument, you should stop using it. The power supply should remain stable, for beyond the scope of the network power, it is recommended that users use the AC power supplyr to ensure the normal use of the instrument

1.8.5Examine the probe if it is correctly fastening and the protective earth reliability before turn on the instrument

1.8.6 Check probe regularly, if discover the cable has damaged, the plug is crack, probe and surface is damaged burr, cut, should stop using

1.8.7 Check the validity of the instruments' safety and reliability, if probe has leakage phenomenon, should be immediately shut down to stop using

1.8.8 The operator must finish skills training, must be familiar with the instruction for use, also have good skills and safe manner common sense.Stop using the machine immediately if anomalies happened

1.8.9 Anything in operating table is prohibited, keep away from sth,for examply,water.

1.8.10 Banned place sundry, water cup, etc

1.8.11 Check the instrument to prevent the occurrence of anomalies, prevent not completely cut off the power after using.

1.8.12 The instrument shall not remove or insert the power plug when the power switch is not closed,

1.8.13 Do not plug the probe on working condition.

1.8.14 Probe is wearing parts, forbidden collision and cut through the surface of acoustic window

1.8.15 Different manufacturers of probe wiring is not the same, random mating will damage the main unit, or due to the different specifications it is not working properly. Therefore, this instrument can only use the configuration of the probe made in our company.

1.8.16 Instrument shall not be turn on immediately after turn off, in order to avoid damage to equipment should wait at least 1 minute if need restart,

1.8.17 If working together with other medical equipment, should be under the guidance of the company

1.8.18 In order to facilitate image viewing, avoid to display on strong sunlight, indoor operation should be shading, and to maintain ventilation, dustproof.

1.8.19 Instrument repair services must be performed by the company's professional and technical personnel, the user disassemble the equipment, will increase maintenance difficulty and costs, even pose a risk

1.8.20 The power plug should be pulled out of the instrument and complete power outages, after one days working. incomplete power outages may be causes lightning strikes and other hazards

1.9 Ultrasound probe output

3.5MHZ convex probe output information

Serial NO.	Test item	B mode
1	P- (MPa)	1.86
2	Iob (mW/ cm ²)	16.98
3	Ispta (mW/ cm ²)	171.75

Capture 2 Functions, Parameters and Configuration

2.1 Main function:

Display mode: B, B + B, B + M, B + M / M, M, 4B.

Movie playback: ≥ 512 frames.

Image storage: ≥ 64 frames.

Scan angle adjustment: adjustable

Image zoom: depth adjustment (16 adjustable);

Partial zoom: real-time, frozen can be

Focus: focus position adjustable, the focus of the distance 5-speed adjustment

Image adjustment: up and down, left and right, black and white, brightness, focus, focus spacing, focus position, dynamic range, scan angle, frame correlation, M speed.

Image processing: image smoothing / sharpening, tissue harmonics, gamma correction, histogram, pseudo color.

Notes and characters: date, clock, name, age, gender, doctor, hospital name, image comment.

Dynamic range: support.

Body position marks: ≥ 97

2.2 Specifications:

Probe: 96 elements R60.

Probe frequency: 3.5MHz.

Detection depth: ≥ 160 mm.

Lateral resolution mm: ≤ 3 (depth ≤ 80) ≤ 4 (80 < depth ≤ 130)

Axial resolution mm: ≤ 2 (depth ≤ 80) ≤ 3 (80 < depth ≤ 130)

Blind area mm: ≤ 5

Horizontal geometric position accuracy%: ≤ 15

Longitudinal geometric position accuracy%: ≤ 10

Probe slice thickness index mm: ≤ 10

Perimeter and area measurement deviation%: ± 20

M mode time and distance error: ± 10

The nominal frequency deviation between the operating frequency of the probe and the machine operation shall be within $\pm 15\%$.

Display: 12.1-inch LCD high-resolution display.

Gray scale: 256 levels.

Power supply range: AC 100V ~ 240V, tolerance $\pm 10\%$, 50Hz / 60Hz, tolerance ± 1 Hz. DC 14V ± 0.5 V, 3A

2.3 Standard Configuration

Main unit (including one rechargeable battery);

C1-9/60R/3.5MHz 3.5MHz convex probe;

Display : 1 set.

Power Adapter

Optional Configuration

EC1-3/13R/6.5MHz trans vaginal probe

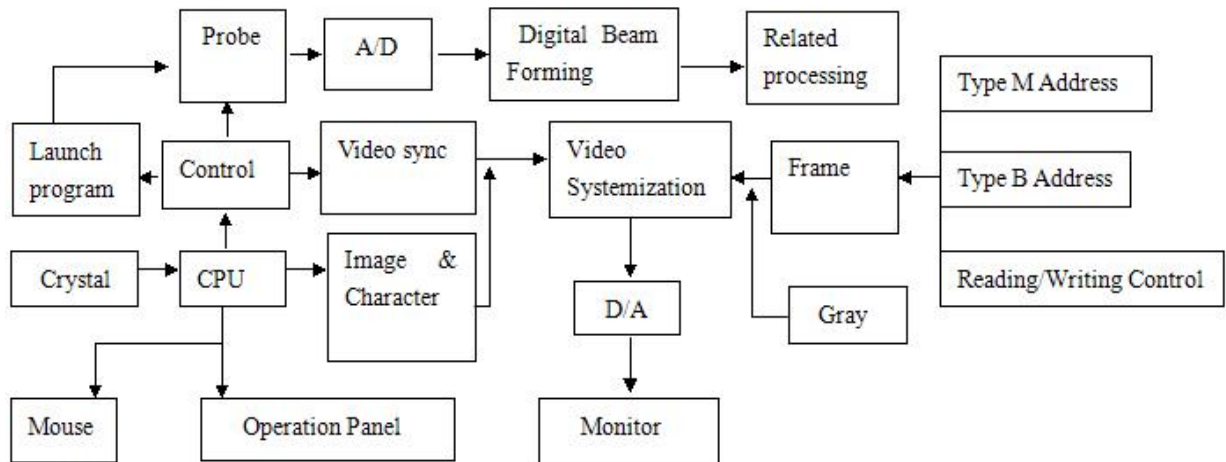
L1-4/7.5MHz High frequency linear probe

Warning:

Please choose the type of accessories according to the provisions of the manufacturers, if any choice of non-specified models of accessories, caused by the safety, electromagnetic compatibility performance unexpected decline, the manufacturer does not assume this risk.

Chapter 3 Instrument Principle

3.1 Principle diagram



3.2 Principle summary

3.2.1 The digital scanning conversion controls the scanning transmission and receiving of ultrasonic wave, the image memory and the demonstration, the operation interface management, display modes conversion, the note survey and so on. Press the key on the operation board and the digital scanning conversion can respond and send out kinds of control commands.

3.2.2 The transmission circuit receives the transmission order from the digital scanning conversion and produces the high voltage drive pulse which needed by the probe to launch.

3.2.3 The probe produces the ultrasonic wave vibration with the high voltage pulse excitation, and couples with the human body surface through the sound transparent window and transmits the ultrasonic wave to the body tissue.

3.2.4 The ultrasonic wave produces the reflection signal in the body tissue, then adds to the probe and transforms them to the electrical signal.

3.2.5 The received electrical signal will be processed by the enlargement, the compression detection and visual expansion.

3.2.6 The digital scanning conversion transforms the simulated signal to the digital signal and memorizes the received signal in the image frame memory synchronized with the ultrasonic wave scanning. And the synchronized signal reads the signal in the image memory and transforms the simulated signal to the display and makes the ultrasonic wave image display on the monitor.

3.2.7 Please contact with us if the electric schematic diagram and the components lists are demanded.

Chapter 4 Environmental Request

4.1 Usage environmental request

Temperature scope: $+5^{\circ}\text{C} \sim +40^{\circ}\text{C}$

Relative humidity scope: $\leq 80\%$

Atmosphere pressure scope: $860\text{hPa} \sim 1060\text{hPa}$

Power supply: AC $100\text{V} \sim 240\text{V}$, Tolerance $\pm 10\%$, $50\text{Hz}/60\text{Hz}$, Tolerance $\pm 1\text{Hz}$.

DC $14\text{V} \pm 0.5\text{V}$, 3A

Use the independent net power supplying plug.

Be far away from the strong electric field, the strong magnetic field equipment and the high voltage equipment

4.2 Environmental request for storage and transportation

Temperature scope: $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$

Relative humidity scope: $\leq 80\%$

Atmosphere pressure scope: $860\text{hPa} \sim 1060\text{hPa}$

Chapter 5 Instrument Installation

5.1 Instrument schematic drawings

Place the instrument in the proper position and determine position of operation.

Please carefully read the inventory after opening the box, and install the instrument according to the following requests and the methods after confirming that the instrument is integrated and does not have the transportation damages.

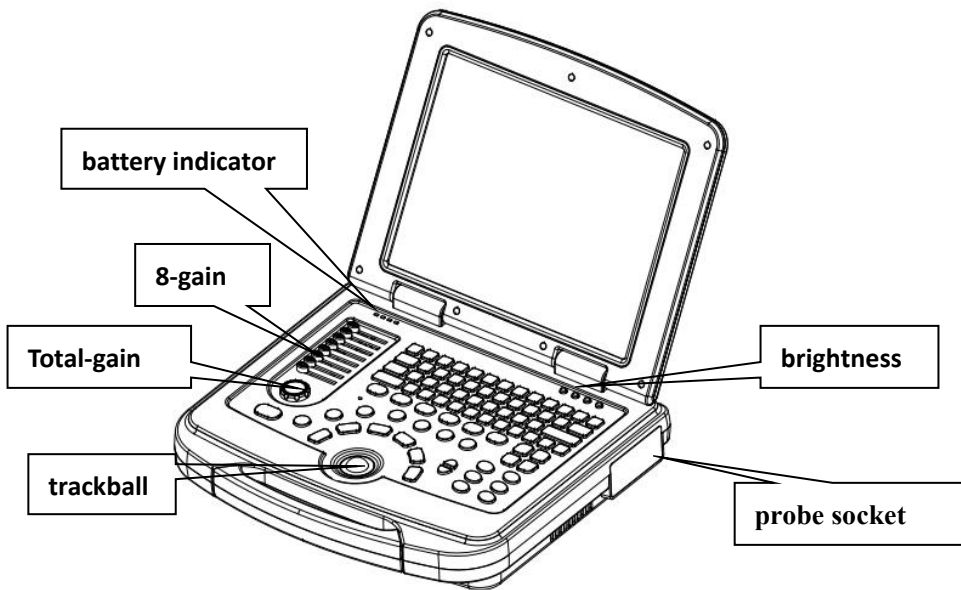


FIG. 1 Front

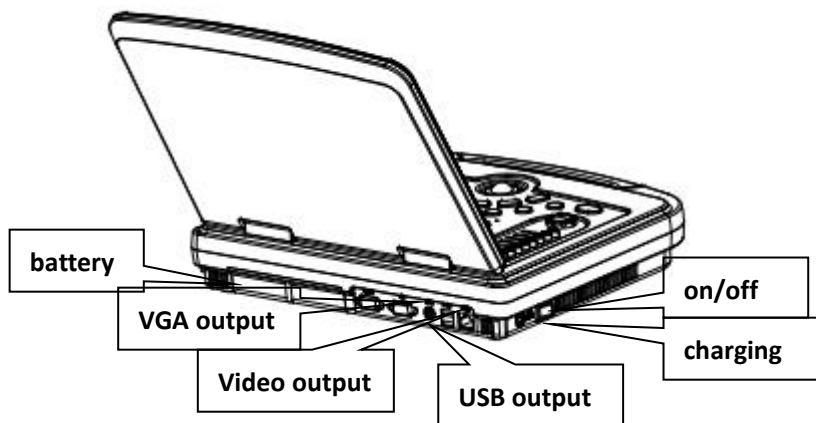


FIG. 2 Back

5.2 Instrument dimensional drawings

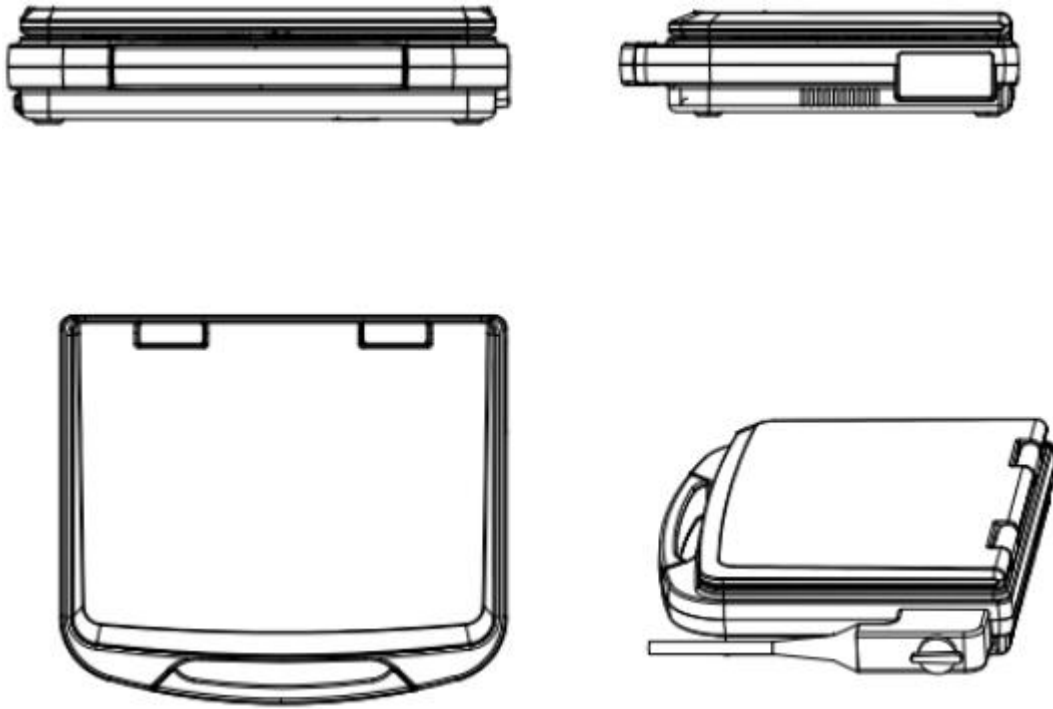


FIG. 3 Appearance renderings

5.3 Install the probe

Warning:

1. Can not be allocated, insert the connector plug in the boot state to avoid damaging the probe and the unit; a probe with a unit connection together, do not allocate or inserted deriectly to avoid probe, socket is bad connection. Plug the probe must be turned off.
2. Do not touch the connector pins of the probe connector, and use the instrument to lighten it.
3. The probe should avoid falling, collision, and consequently the risk that the manufacturer is not responsible.
4. Must use the probe configured by our company, The company will not assume this risk if the damage caused by the use of other probes.

Unlock the probe plug (to be possible to rotate) and put it in the probe socket on the main engine to fasten the plug reliably, and put the probe in the probe box in the operation panel.

①insert probe

②tighten the probe along this direction



FIG. 4 Probe installation schematic

5.4 External video instrument

The video output jack may connect with the video output instrument which this company recommends. Install the

instrument according to the operating instructions, and connect the video plug to the video output jack at the rear panel of the instrument.

5.5 Installation and disassemble of battery

The installation of the battery: the battery align battery mounting slot, insert the battery screws tighten

The disassemble of battery: Loosen the battery screws, pull the battery out to take it out.

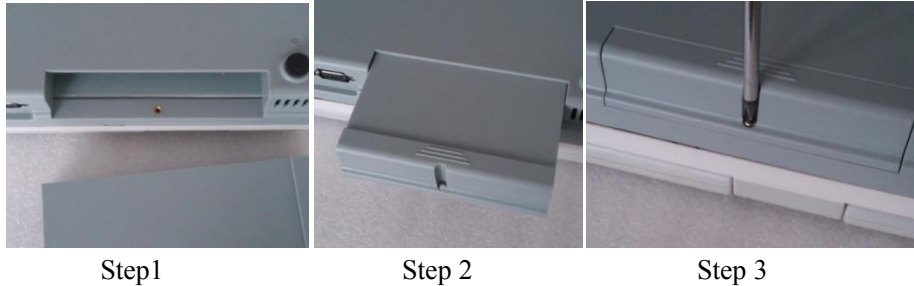


FIG. 5 Battery installation schematic

5.6 Power sources connections

Connect the DC output plug of the adapter port to the "DC14V3A" connector on the left side of the main unit.

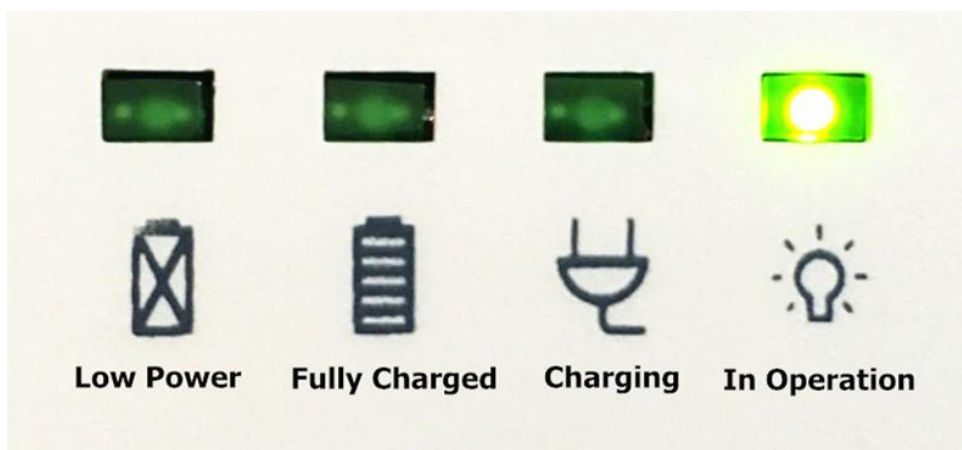
Instrument with adapter and built-in battery two power supply, two power supply can be automatically switched.

5.7 Charging

Charging by main unit

1. The battery is correctly installed on the host.
2. Put the adapter plug to the back of the console port "DC14V/3A" interface
3. Put the adapter“ $\sim 100-240V$ 50/60Hz”port to AC power supply.
4. The meaning of the four indicators on the panel is shown below.

The power indicator is in the lower left corner of the screen .



Note:

To extend battery life, make sure that the charge indicator is full of end-of-charge.

Chapter 6 Operate Panel

Operate panel as follows:

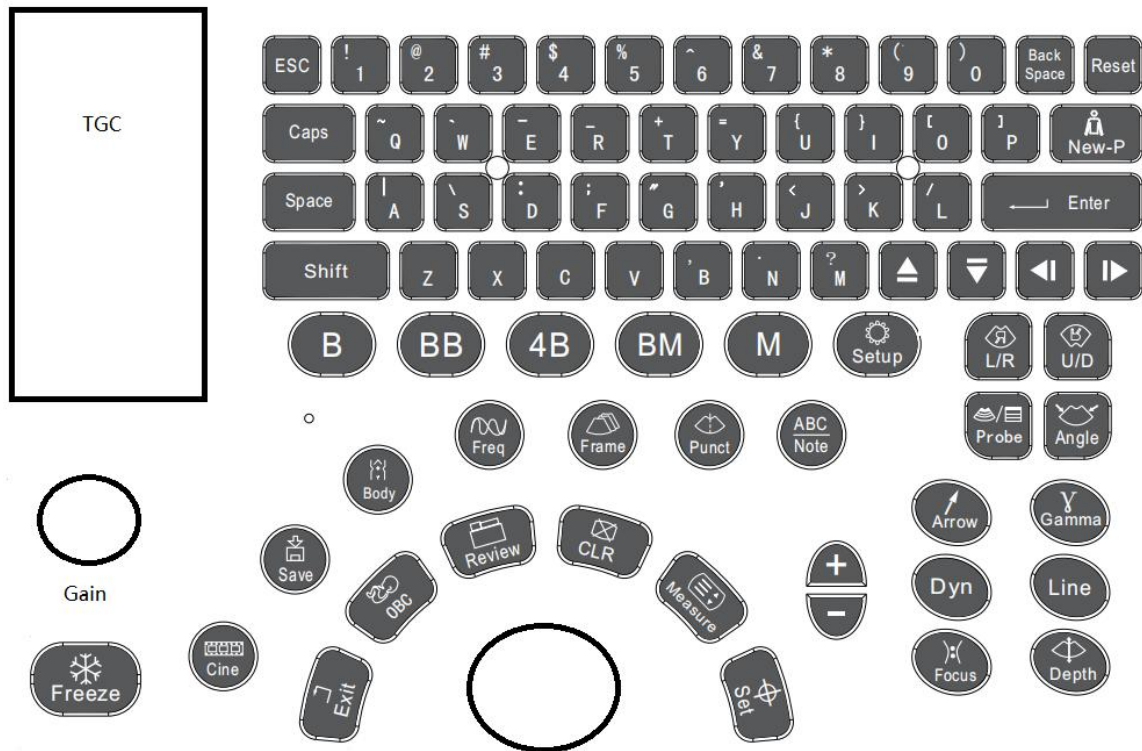


FIG. 6 Panel diagram



: brightness

Press auto and + or- at the same time to change brightness



: Numbers and comments.



: Input of character note.



: Backspace;(cursor jump of heart rate measurement under B/M mode)



: Switch real-time image/image freezing.



: Note setting, including name, No., age and full-screen character



: Input of body mark.



: Focus select



: Dynamic range adjustment



: Enter, confirm the measurement of the cursor conversion and positioning.



: Return



: Measure the recall and exit of the menu.



: Measure the cursor, result, note clear.



: Prevention of obstetric measurement software.



: Under B mode (the default mode).



: Under B/B mode.



: Under B/M mode.



: Under 4B mode.



: Under M mode.



: Image depth display moves up.



: Image depth display down.



: Digital and cursor movement direction, movable puncture guide line and sampling line.



: Image up and down.



: Image B-type scan left / right flip.



: Puncture guide function.



: Frequency conversion function.



: Image storage.



: Save the image out.



: Image real-time playback.



: Frame-related adjustment function.



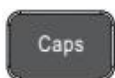
: The comment function points to the arrow.



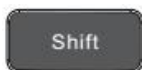
: Exit function selection (preset function key).



: Enter, line feed.



: Character case conversion.



: Comment state to bring up the commonly used English phrase.



: Space in comment state.



: Machine reset (restart).



: Gamma correction adjustment key.



: B-mode fan-shaped scanning angle adjustment.



: New case establishment.



: Line-related adjustment keys.



: Depth function adjustment key.



: Edge enhancement adjustment key.



: System settings function keys.

- **TGC +** : 8 segment TGC regulation.

- **Gain +** : Total gain adjustment.

Chapter 7 Instructions

7.1 Operating procedures

1. Turn on the power switch on the left side of the main unit (place the power switch in the "|" state). Instrument work, panel power indicator light, into the real-time B-type image detection work status. Preheat after a minute to adjust the total gain, near field, far field, brightness, contrast knob, so that the image contrast, brightness and gain strength in the best condition.
2. Enter the patient's basic information
Press "New-P" to enter the basic information such as name.
3. Apply the medical ultrasonic coupling to the surface of the probe window, close to the scanning site, you can observe the real-time image on the screen.
4. After the scan is finished, press the (freeze) key to freeze the image and perform the measurement operation on the image.

Boot screen (B mode)



7.2 Adjust the image parameters

Switch the display mode

Switch the B Model



Press "B" to switch the current image to real-time single-B mode (device default mode).

Switch the B/B Model

Press the "B/B" key to switch the current image for the double B mode, the screen shows real-time and freeze the two images, press the "B/B" button, you can switch the real-time and frozen state of two images.

Switch the B+M Model

Press the "BM" key to switch the current image to B + M mode, the screen also displays a B-type and M-type

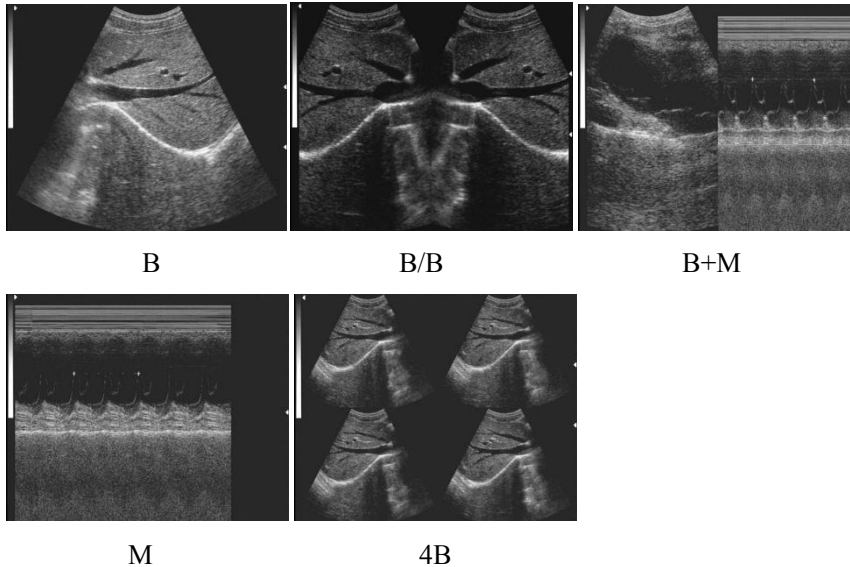
real-time images, B-type image on the sample line through the  ~  key to move around.

Switch the M Model

In the B + M mode mode, press the "M" key to switch the current image to M mode, the screen displays an M-type image.

Switch the 4B Model

In the B, BB mode, press the "4B" key to switch the current image to 4B mode, the screen displays four B-type images, one of which is real-time, continuous press "4B" key, you can switch the real-time and frozen state of four images.



Freeze the image

Press the "FREEZE" key to toggle between real-time and frozen status, and the lower left corner of the screen "FREEZE" is frozen.

Adjust the Gain

The right side of the screen "gain: 062" for the current gain value, adjust the knob on the left side of the operation panel can change the value of the gain value, adjust the range of 0-100.

"Near field, far field" can be adjusted by 8-stage TGC.

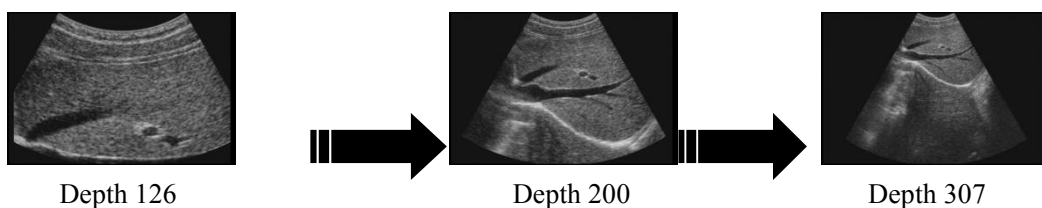
Adjust image brightness

Press the "+" key to adjust the brightness value. After the adjustment, press "AUTO" key to exit. Press the "+" key to adjust the brightness value.

Adjust the display depth

Press "+, -" to change the current display depth (or magnification) in real time (non 4B mode). The current depth is displayed in the lower right corner of the screen. The depth adjustment range changes with the probe type.

maximum display depth of 307mm in B mode



Adjust the angle of probe scan

In the real-time scanning state, press the "Angle" key to activate the angle adjustment function, press the "Angle" key to adjust the angle size.

Scan range is: 0-3

Focus adjustment

In the real-time B-mode or BB mode, press the "Focus" key to switch the number of 1-4 pixels, and the right side of the screen shows the current focus.

Probe operating frequency

In the real-time scanning state, press "FRE" key to switch the frequency of the current working probe, press this key to change to the required frequency, the upper right corner of the screen will display the current operating frequency such as: "frequency: 3.5MHz" variable frequency to 2.0 MHz, 2.5 MHz, 3.5 MHz, 5.0 MHz.

M speed adjustment

In real time B + M, press "B + M" continuously, M mode, press "M" key to adjust the M area image on the screen refresh rate, B + M, M mode refresh speed has eight adjustable.

7.3 Image Processing

Move the mouse pointer through the trackball to the corresponding image adjustment function in the upper right corner of the screen, and you can adjust it by the Set and Exit keys.

Dynamic Range

Move the trackball, move the arrow to the "Dynamic" and adjust the value through the Set and Exit keys. The "Dynamic Range" value on the right side of the screen changes to cycle the dynamic range and adjust the range 0-135.

Frame correlation adjustment

Move the trackball, move the arrow to "Frame Avg" and adjust through the Set and Exit keys, the "Frame Avg" value on the right side of the screen changes the "Frame Avg" size and the real-time display on the right side of the screen, such as "Frame Avg: 2", adjust the range 0-3.

Edge enhancement

Move the trackball, move the arrow to "Edge" and adjust the value with the Set and Exit keys. The "Edge: 0" on the right side of the screen, adjust the range 0-3

Gamma correction

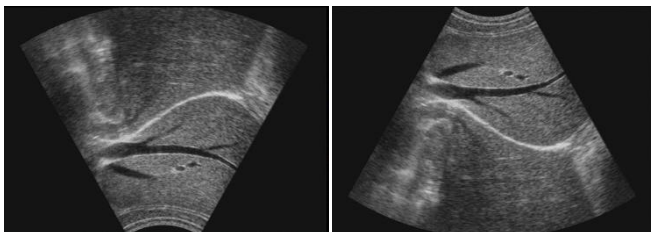
Move the trackball to move the arrow to "Gamma" and adjust the value by the Set and Exit keys. Press the Set or Exit key repeatedly to change the gamma value on the right side of the screen. Side real-time display such as "Gamma: 2", adjust the range 0-3.

Line correlation

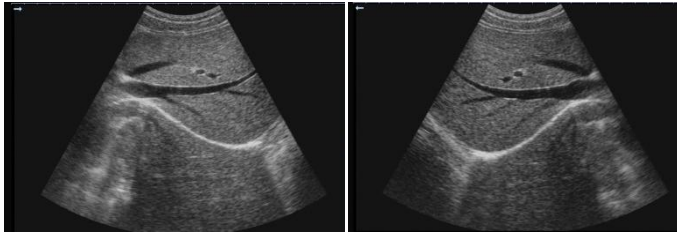
Move the trackball, move the arrow to "Line Avg" and adjust the value with the Set and Exit keys, right on the screen "Line Avg: 0", adjust the range 0-5

Image rotation

Move the trackball, move the arrow to "Img Rotation" and adjust through the Set and Exit keys.

**Horizontal adjustment**

Move the trackball, move the arrow to "H Rev" and adjust it through the Set and Exit keys.

**Scan range**

In mode B, press the "Scan Range" key to cycle the fan opening angle (60 degrees - 30 degrees - 60 degrees).

Black and white flip

In B model Menu, press "Img Rev" to change the black and white image.

Tissue harmonic imaging

In B model Menu, press "THI" to adjust the tissue harmonic imaging.

Pseudo color processing

Move the trackball, move the arrow to "false color" and adjust the value through the Set and Exit keys. The "false color: 0" change on the right side of the screen changes the pseudo-color output continuously, and the device provides 8 kinds of pseudo-color functions.

Puncture guide (gravel positioning)**Warning:**

- 1. Before each puncture, must be punctured guide line, if the puncture needle and puncture guide line position is inconsistent, do not puncture.**
- 2. Ultrasound-guided clinical puncture risk, must be carried out by the appropriate qualifications and ability of the operator must be strictly included, including the examination of clotting time. Platelet count. ECG. Blood pressure. Puncture and puncture probe disinfection. Signed surgical treatment consent Such as preoperative preparation.**

Press the "Punct" key in the B mode real-time scanning mode and select the guide line to be adjusted by pressing the "Punct" key. Adjust the guide angle by "↑ ↓" key and press the "← →" key to move the guide line horizontally. The above operation press "ESC" key to exit the guide line.

7.4 Annotations

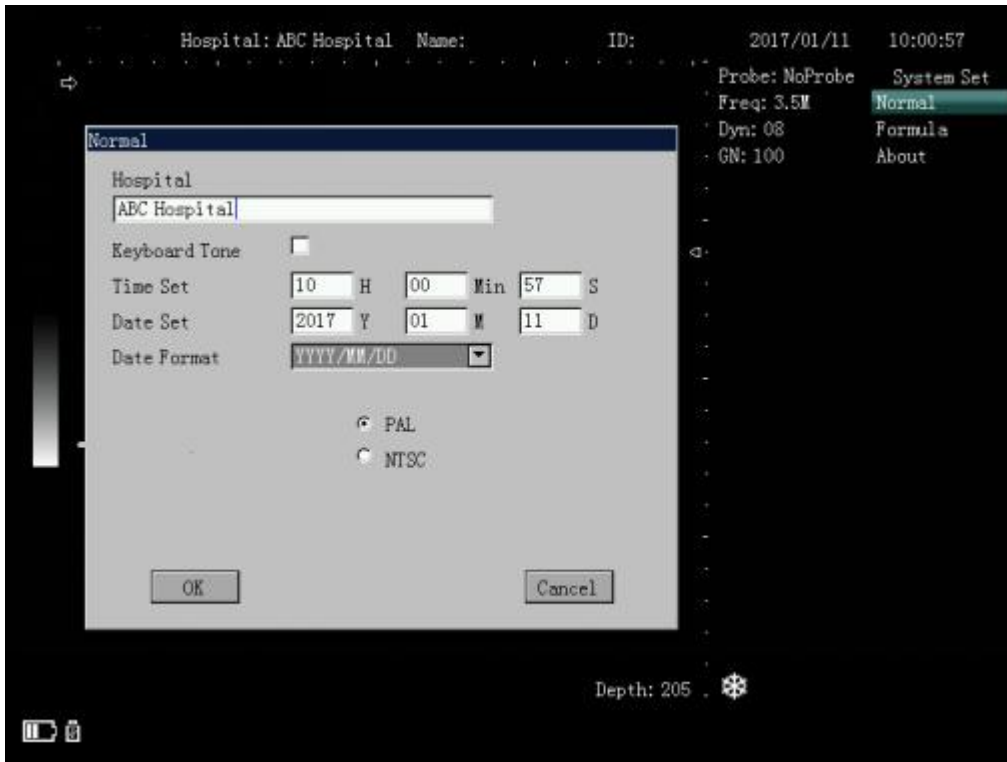
Press the "ABC" key to display the comment cursor, and move the trackball to the point where you want to comment.

Enter the basic information (e.g. patient,hospital)

Press the "Setup" key to enter the name of the hospital, the top of the screen will display "hospital: XX Hospital" and can adjust the date and time in this interface interface. As shown below

Date and time adjustment

Press the "Setup" key to pop up the basic settings interface, as shown below



Position mark

In the case of freezing, press the "Body" button to display the corresponding subject on the screen. Move the trackball to the desired subject and press the Set key to confirm the selection. If you do not select it, press the ESC key to exit.

Screen clear

Press the "CLR" key to clear the screen measurement mark and the measurement result.

7.5 Image storage and cineloop

Image storage

Follow these steps to store the image:

1. First scan and freeze the image;
2. Press the "Save" button to start saving the image. It will show the storage is successful in the right corner of the screen

Call out the image

Press "Freeze" and then "Review" to move the trackball to the corresponding "Folder". Select the picture you want to read and press the "Set" button.

Movie playback

1. After the image is scanned, press the freeze button "Freeze" to freeze the current image;
2. Freeze the image and press "Cine" button to start playback, can provide 248 movie playback.
3. Manually slide the trackball to select the number of frames to pause, so as to choose their own satisfactory images.

7.6 General measurement

Distance measurement

1. Press the measurement menu key "Measure" to bring up the menu bar, as shown below;
2. Move the cursor to "Distance measurement" and press "Set" to confirm;

General meas

Distance

Cir/ Area

Volume

Angle

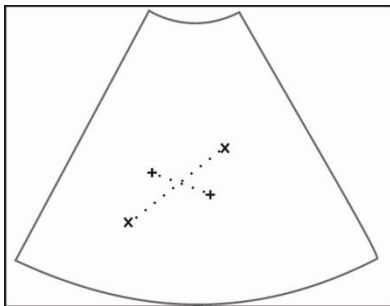
Histogram

Depth

Specialist measurement

3. Move the cursor to the start of the measurement and press "Set" to confirm; then move the cursor to the end of the measurement to confirm the measurement result.

4. Repeat the third step to simultaneously perform multiple sets of data measurements.

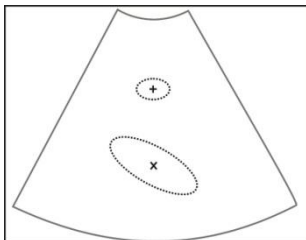


Distance measurement

Perimeter / area measurement

Elliptical method

1. Move the cursor to the "Cir / Area" column to select the tracing or ellipse measurement method;
2. Press the "Set" key to confirm the starting point
3. If the selected "Trace" moves the trackball according to the shape of the measuring part, press the "Set" key to end the measurement, and the right side will show the circumference and area of the drawing;
4. If you select the "Ellipse" by moving the trackball and then "Set" key to confirm the diameter of the ellipse starting point, then press the "Set" key to confirm the end and end the measurement;

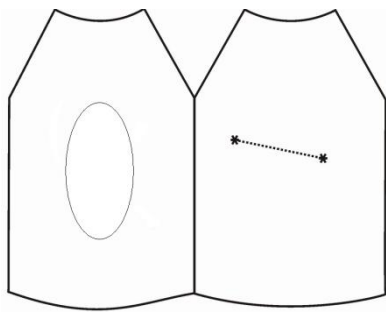


Ellipse method

Volume measurement

1. Press the "Measure" key to display the measurement menu, move the cursor to volume measurement;
2. Select the "2-Axis" measurement method or "3-Axis" measurement method, press the "Set" key to confirm the starting point;
3. Move the trackball to select the cross-sectional area of the measurement target, press "Set" key to confirm, the right side shows the corresponding area and volume.

(Note: the "3-Axis" measurement method in the BB mode measurement, first confirm the target cross-sectional area and then measure the distance of the target)



Triaxial measurement

Angle measurement

1. Press the "Measure" key to move the cursor to "Angle measurement" and press "Set" to confirm.
2. Press the "Set" key to confirm and move the cursor to the vertex of the target angle. Continue to move the cursor to the other side of the target angle. Press the "Set" key to end the test. Press the "Set" key to confirm the cursor and move the cursor to the target starting point. , The measurement results are displayed on the right side of the screen.

7.7 Heart rate measurement

1. Enter the M mode and press the Measure menu key "Measure" to recall the Cardiac measurement menu.

Cardiac Meas

Depth

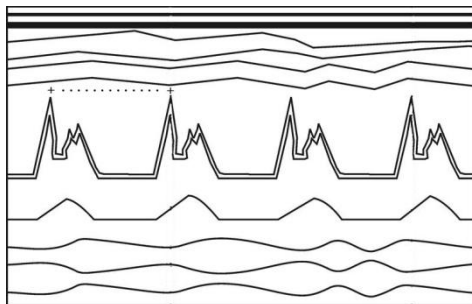
Slope

Heart Rate

Time

Report

2. Move the cursor to "Heart rate" Press "Set" key to call up the heart measurement cursor,
3. Move the cursor to the heart rate waveform. Press the "Set" key to confirm, move the cursor to the adjacent crest and press "Set" to confirm;
4. To complete the measurement, the measurement results are displayed on the right side of the screen.



Heart rate measurement

7.8 Obstetric table

In the B mode to obtain a satisfactory image and freeze, press the "OBC" key to adjust the obstetric measurement menu, the device can be based on bi-parietal diameter. Femur length. Abdominal circumference. Head circumference. Head hip length. Fetal sac and other items to calculate the gestational age Pre - production period. The fetal weight is calculated by selecting the column to be measured by the fetal weight formula.

Obstetric measurement form

OB Meas 1
GS
BPD
CRL
FL
HL
TAD
LV
OFD
AC
HC
AFI
OB Meas 2

Move the cursor to the corresponding measurement item, where the bi-parietal diameter. The femur length. Head and hip length. The gestational sac is measured by the distance measurement method. The corresponding obstetric data is automatically displayed at the bottom right of the screen.

For the circumference of the circumference, the circumference of the circumference of the circumference is measured by the ellipse of the circumference area, and the corresponding obstetric data is automatically displayed on the right side of the screen.

Biparietal Diameter measurement

Press "OBC" to move the cursor to "BPD" Press "Set" key to confirm, enter the bi-parietal diameter measurement software, the bottom right of the screen will display the measurement results.

1. Move the cursor to the bi-parietal diameter. Press the "Set" key to confirm;
2. Move the cursor to move the second cursor to the destination end;
3. Press the "Set" key to confirm and display the measurement result.

At this time in the bottom right of the screen shows the biparietal diameter: "L: XXXmm";

"BPD: XXXmm" (indicating the measured biparietal diameter XXXmm);

"Gestational age: WW + D" (which means that the gestational weeks of the measured fetus are WW plus DD);

"Pregnancy period: 20XX / XX / XX" (indicating that the measured birth date of the fetus is year - month - day);

Note: The measurement method in the obstetric menu GS,CRL,FL,HL,TAD,LV,OFD,AC,HC,AFI are consistent with the BPD measurement method.

Head circumference measurement

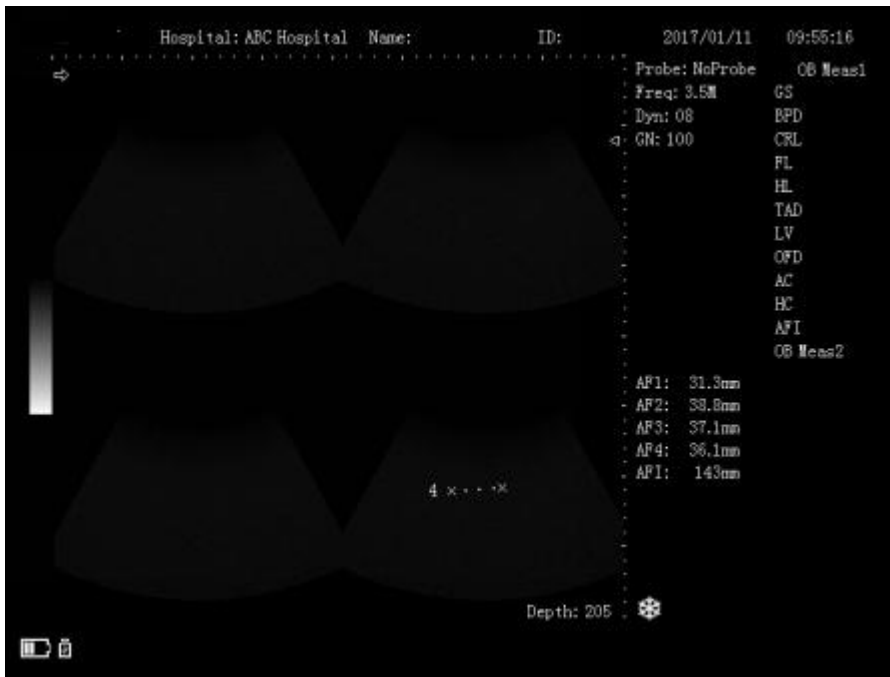
Move the cursor to the head fence in the obstetric gauge and press "Set" to confirm the selection.

1. Press the "Set" key to confirm the starting point of the head circumference;
2. Move the trackball to the end of the head circumference, the method with the ellipse measurement method;
3. Press "Set" again to confirm, the result is displayed on the right side of the screen.

Note: The circumference of the obstetric menu in the obstetric menu is consistent with the head circumference measurement method

Amniotic fluid index calculation

In the 4B mode, measure the amniotic fluid index, move the cursor to select the "AFI" and press the "Set" key to confirm the measurement of each ultrasound image of the amniotic fluid depth, the measurement of the completion of the four figures automatically add the amniotic fluid index.



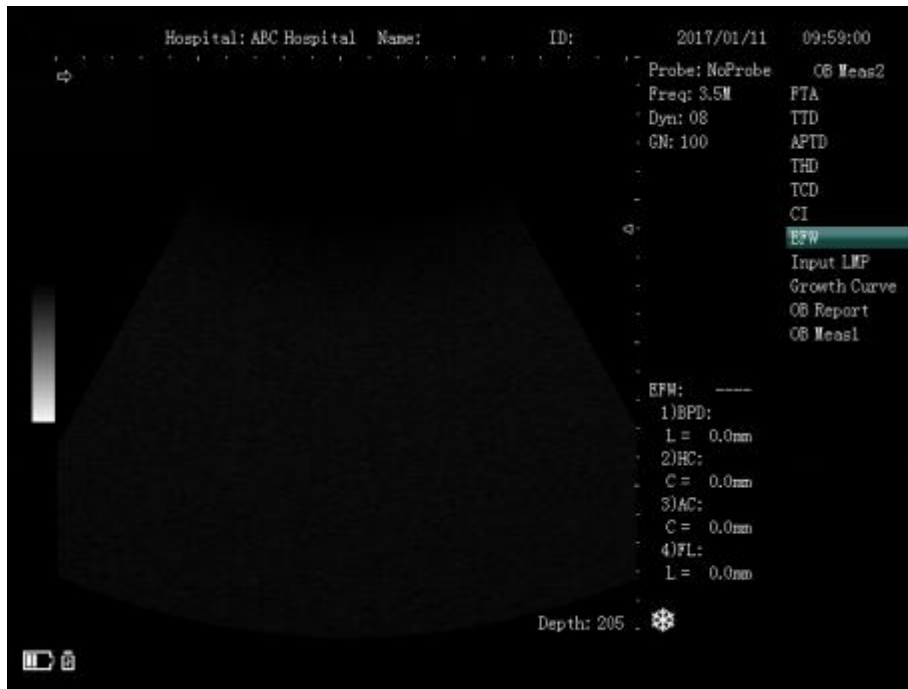
Amniotic fluid index (AFI) calculation

The fetal weight measurement:

Fetal weight measurements need to be based on the formula to determine the items needed to calculate the fetal weight. As shown below



1. According to the formula needs to measure the BPD, head circumference, abdominal circumference, femur length..
2. Move the cursor to the obstetric measurement menu scroll bar "OB Meas 2".
3. Move the cursor to "EFW" and press "Set" to confirm. The results are displayed on the right side of the screen.



Fetal weight measurement

Type last menstruation:

Move the cursor to the obstetric measurement menu " Input LMP" press "Set" button to confirm, pop-up dialog box, enter the last menstrual time. Press to confirm the results, and the results and the expected date of the show at the bottom right of the screen.

Development curve:

After measuring the indicators of completion of obstetrics, move the cursor to "Growth Curve" and press "Set" key to confirm, according to the previously measured data automatically generate the development curve report.

Obstetric report:

After measuring the indicators of the obstetrics, move the cursor to the obstetric report and press the "Set" key to confirm and automatically generate the obstetric report.

You can see in detail the development of each part of the fetus. As shown below

Hospital: ABC Hospital Name: ID: 2017/01/11 10:05:27

OB Report

Hospital: ABC Hospital Age: 2017/01/11 10:05:18
Name: Sex: Female ID:

	Measured	GA	EDC
GS	29.8 mm	7W4D	2017/08/26
BPD	-----	-----	-----
CRL	-----	-----	-----
FL	29.0 mm	19W4D	2017/06/03
HL	29.7 mm	19W5D	2017/06/02
TAD	34.0 mm	16W1D	2017/06/27
LV	12.8 mm	-----	-----
OFD	-----	-----	-----
AC	143 mm	19W4D	2017/06/03
HC	177 mm	19W4D	2017/06/03
FTA	2080mm ²	21W0D	2017/05/24
TTD	41.8 mm	19W3D	2017/06/04
APTD	38.6 mm	19W3D	2017/06/04
THD	43.9 mm	19W5D	2017/06/02
TCD	-----	-----	-----
EFW:	AFI:	143.3mm	CI:
Avg GA:	18W 1D	Avg EDC:	2017/06/13

Probe: NoProbe OB Meas2
Freq: 3.5M FTA
Dyn: 08 TTD
GN: 100 APTD
THD
TCD
CI
EFW
Input LMP
Growth Curve
OB Report
OB Meas1

Depth: 205

Note:

1. The accuracy of the system date must be ensured in the calculation of the due date.
2. The standard pregnancy period is 40 weeks. If the interval between the date entered in the last menstrual measurement and the current system display date is more than 40 weeks, the system will not accept the entered date and must be re-entered.
3. If the date entered is greater than the current system display date, the system automatically recognizes it as the date of the previous year.

7.9 Methods for rectal examination

1. Before the examination, empty the stool, clean the enema after the left lateral position, in front of the rectal probe coated with the amount of coupling , put on the rubber cover (one-time use).
2. During the examination, the patient relaxes the anus or does the defecation movement. take a deep breath, you must first do an anal examination to understand the size, position, and tenderness of the acupuncture.
3. Please insert the probe into the anus 2-3cm slowly. After careful observation, it gradually penetrates into the rectum. The various parts of the rectum and its surroundings are inspected in turn. At the same time, the intestine is gently squeezed on the pubis of the lower buttocks to enhance the image clarity.

7.10 Transvaginal examination method

1. Preparation before examination: Unlike abdominal ultrasound examination, subjects do not need to fill the bladder, but should explain to the need to put the probe into the vagina to operate the method. To understand the process of vaginal ultrasound and superiority, from the tension.
2. Subject position: the subject position to take the bladder lithotomy position.
3. Scan method: the disposable sterile plastic sleeve or condom inside the top into the appropriate amount of coupling , and then set in the vaginal probe, the cover and then coated with a little coupling , the left hand will be separated from the bilateral labia minora, exposed vagina Mouth, right hand holding the handle, the probe gently into the vagina for scanning. The position of the probe in the vagina affects the sharpness of the sonogram. Generally close to the vaginal dome or cervix, but also vary, the probe should be appropriate to move and rotate to the pelvic have a comprehensive understanding. Ultrasonic image settings, there is no strict format, the image near

the field at the top of the image, but also to make the image exchange for the near field is located below, regardless of the way that should pay attention to distinguish the direction of the sound image, can not be confused. And the abdomen ultrasound examination, the first to do longitudinal section scan, followed by observation of the uterine position. Size. The sagittal section, muscle wall and endometrial echo conditions and the longitudinal section of the cervix, to the left and right swing can show bilateral ovarian Sound image, and then counterclockwise rotation probe 90 °, the uterus and double annex to do cross-section scan. As most of the transvaginal ultrasound examination using the general examination of the bed, rather than gynecological examination bed, sometimes affect the operation of the vaginal probe can be taken to correct some, such as some of the former uterus or obese women, , Placed in the buttocks, so that the buttocks elevation, conducive to the operation of the probe and the comprehensive observation of the organ, and sometimes scan the organ position is higher, can gently press the abdominal wall, so that pelvic organs close to the probe easy to scan.

4. Limitations: Most of the vaginal probe using high-frequency probe, focusing area within the 10cm range, more than 10cm range of the package is difficult to show the whole picture, must be combined with abdominal probe.

7.11 Image printing

Connect the VIDEO IN port (video input) of the video printer to the VIDEO OUT (video output) on the rear panel of the device, and press the video printer manual.

7.12 Shut down

Turn off the left side of the host power switch.

Note: If the device is not used for a long time, remove the battery from the main unit and unplug the adapter AC power plug.

Attention
Do not pull out or plug in the power plug when the power switch is switched on. If you want to turn on the power immediately after turning off, wait 2-3 minutes and then turn it on to avoid damage to the instrument.

Chapter 8 Daily Maintenance

8.1 Life period

Check the equipment power cord and probe cable regularly, if found damaged, broken phenomenon, prohibited use, immediately replaced.

According to the manufacturer's design, production and other related documents, the product's life expectancy is generally 6 years, constitute the product of raw materials will gradually aging over time, the product beyond its life to continue to use, may produce performance degradation and failure rate significantly High problem.

Note:

1. The disposal of the product should comply with the user's local regulations.

2. Do not waste it with your household waste.

WARNING: Manufacturer will not be liable for any risks arising from continued use over the product's lifetime.

8.2 Host maintenance

8.2.1 The appliance's use environment should meet the requirement of 4.1.

8.2.2 When the instrument housing is to be cleaned, it should be wiped off with a soft cleaning cloth (or with a little neutral detergent) in the off state, and it is strictly scrubbed with organic solvents such as alcohol and gasoline.

8.2.3 Instruments should not be frequent open and close. After the shutdown to be reopened, wait for at least 2-3 minutes after the trip.

8.2.4 If the instrument is used less, at least one week should be energized once, the powering time is about 4 hours.

8.2.5 When the instrument is parked for a long period of time, it should be stored in the packing box according to the original packaging, and the storage should be in accordance with the "storage environment" requirement in 4.2.

Note:

- 1. Use the cleaning agent, please refer carefully to the manufacturer's instructions.**
- 2. Note that the display is clean, because the display is easy to scratch and damage, should be wiped with a soft dry cloth.**
- 3. Do not clean the inside of the instrument.**
- 4. Do not place the instrument in the liquid.**
- 5. Do not leave the cleaning agent on the surface of the instrument.**
- 6. Although the instrument shell and most of the cleaning agent will not play a chemical reaction. We recommend that you do not use detergent anymore to avoid damaging the instrument surface.**

Warning

In order to avoid accidents, clean the instrument and the probe should be in the off state.

8.3 Probe maintenance

8.3.1 Probe is a valuable and fragile objects, is strictly prohibited collision, fall. When pausing the diagnosis, place it in the probe box and press the "FREEZE" key to put the probe in the "frozen" state.

8.3.2 The probe is slightly impacted and will be damaged. Be especially careful not to be hit or hit hard.

8.3.3 Probe head (sound through the window), should be careful not to scratch.

8.3.4 Non-conductive "medical ultrasonic coupling " should be used in the inspection, and no conductive or

corrosive coupling shall be used.

8.3.5 Cleaning, Sterilization and Disinfection of Probes: After each diagnosis, it should be disinfected after each use. 5% sodium hypochlorite can be diluted with water 100 times to make effective chlorine content of 500mg / L dilution, with the dilution of the probe or spray the surface of the probe, the role of 10 minutes.

8.3.6 The probe is a conventional anti-soaking part, and it is forbidden to immerse any conductive liquid to avoid corrosion of the probe. The position of the probe immersed in water shall not exceed 5mm.

8.3.7 The probe and the host connected, not free to disassemble, so as not to probe plug, socket contact bad.

Note:

- 1. A long-term repeated contact with the probe may damage the probe.**
- 2. The probe must be cleaned after each use.**
- 3. Do not use the surgical brush to clean the probe, even if the use of soft brush may damage the probe, can only use a soft cloth.**
- 4. Probe and the patient's contact time should not be too long, so as not to cause the patient discomfort.**

To extend the life of the probe and get the best performance, do the following:

1. Check the probe cable regularly, socket and sound window parts.
2. Turn off the probe before connecting or removing the probe.
3. Do not drop the probe to the floor or hard objects, is strictly prohibited collision probe sound window, or easy to damage.
4. Do not heat the probe.
5. Do not bend or pull the probe cable, otherwise it may cause the cable to connect the internal fracture.
6. Use the coupling only in the head of the probe and clean the probe after use.
7. After cleaning the probe, you must carefully check the probe's sound window, shell and cable, if found to crack or damage should be prohibited.
8. Place the probe in the probe case when not in use.
9. It is recommended that all intracavitary probe clinical use of sterile probe sets and sterile coupling . Do not open the probe jacket and the coupler pack before checking

8.4 About the battery

1. The instrument is equipped with rechargeable lithium-ion battery, battery capacity: 8800mAh.
2. The new battery must pass two or three full charge and discharge (normal use, non-forced discharge) cycle, then will have the best function.
3. Battery can be charged and discharged hundreds of times, but will still wear and tear. Every month the battery should be checked, when you find the battery can be significantly reduced the use of time, please replace the new battery.
4. Be sure to use the charger (ie, AC adapter) specified by Dawei Medical (Jiangsu) Co., Ltd. , Ltd. for charging. Do not connect the battery to a charger (AC adapter) when not charging. The battery is connected to the charger (AC adapter) for no more than 10 hours, otherwise it may shorten battery life. If the battery is not used for a long time, the battery will discharge itself over time.
5. To prevent battery failure, the battery should be charged once every 3 months.
6. Extreme temperature (subcooling or overheating) The environment will affect the battery charging effect. Do not charge the battery in hot or extremely hot conditions! Do not use or store batteries near heat sources (such as fire or heaters)! If the battery leaks or smells, it should be removed immediately from the open flame.
7. Do not continue using damaged batteries and chargers (AC adapter).
8. Do not attempt to disassemble the battery.
9. Do not short-circuit the battery.
10. Do not throw the battery in the fire or to the battery heating, or easy to cause an explosion.

11. Do not put the battery into water or wet it.
12. Do not reverse the positive and negative.
13. Do not connect the battery directly to a wall outlet or on-board cigarette lighter outlet.
14. Do not use the wire or other metal objects to shorten the battery positive and negative, prohibit the battery with the necklace, hairpin or other metal objects with the transport or storage.
15. Do not use nails or other sharp objects to pierce the battery shell, prohibit hammering or pedaling the battery.
16. Do not strike, throw or use the battery to be mechanically shocked.
17. Do not directly solder the battery terminals.
18. Do not disassemble the battery in any way.
19. Do not place the battery in a microwave or pressure vessel.
20. Prohibited with a battery (such as dry batteries) or different capacity, model, variety of batteries used in combination.
21. If the battery is being used or charged, it should be removed from the appliance or charger immediately and stopped using the battery if it is odor, heat, deformation, discoloration or any other abnormality.
22. Dispose of used batteries in accordance with local regulations on proper disposal of waste.
23. The diagnostic instrument is in the scanning display working state, connect the adapter after 8 hours of continuous operation should be able to work properly. AC power automatically turn to the internal battery DC power supply, the diagnostic device using internal power supply should work for more than 3 hours.

8.5 Instrument testing and calibration

1. Annual leakage detection equipment, referring to the data shown in the following table.

Test Item			Standard Requirement
Patient leakage current (m A)	Normal state	DC	0.01
		AC	0.1
	Single fault condition	DC	0.05
		AC	0.5
	Signal input / output section plus net voltage		5
Housing leakage current (m A)	Normal state		0.1
	Single fault condition		0.5
Dielectric strength under normal operating temperature (V)	A-a2		4000V/1minNo flashover no breakdown
	B-a		4000V/1minNo flashover no breakdown

2. Test the software for measuring obstetrics, area and circumference every year. See Appendix B for specific data.

Chapter 9 Examination and Clearance of Simple Fault

In the process of using the instrument, if you encounter difficulties, they have no way to solve, please consult the company's professional and technical personnel or with the company after-sales service department. The following is a list of common troubleshooting methods, for reference only.

Examination

- Whether the power supply is operate normally and whether the main frame's power line is connected and inserted into the power source socket or not shall be checked.
- Whether the probe is connected with the main frame in a correct manner shall be checked.
- Clearance of Other Faults (Refer to the Form Below)

Serial No.	Fault Symptom	Clearance Method
1	Turn on the appliance's power source switch, if the power source indicator does not brighten up, there will be no signal displayed on the screen	1.Check the power source; 2.Check the power line and slug; 3.Check whether the fusing pipe is burnt or not; 4.Check the brightness adjusting knob of the monitor is closed or not
2	There's intermittent stripe interference, snow-shape interference	1.Check the power source, may be it is disturbed by fire-striking by other equipment; 2.Check the environment, may be it is caused by electric or magnetic field near the appliance; 3.Check whether the appliance's power source and probe's slug and socket are well connected.
3	Unclear image on the screen	1.Adjust STC (total gain, near field and far field gain) of the appliance; 2.Adjust the brightness and contrast potentiometer; 3.Clean the filter of the appliance
4	Unclear image in near field	Adjust the total gain and near field gain on the appliance's panel
5	Unclear image in far field	Adjust the total gain and far field gain on the appliance's panel

Chapter 10 Transportation and storage

10.1 Environmental Requirement

Diagnostic system can be transported by ordinary transport, transport should prevent rain and snow splash and mechanical collision, and shall not be mixed with corrosive substances, mixed transport.

The storage system should be dry, the ambient temperature: $-40\text{ }^{\circ}\text{C} \sim +55\text{ }^{\circ}\text{C}$, relative humidity: $<80\%$ ($20\text{ }^{\circ}\text{C}$), indoor should avoid strong sunlight and other gases can cause corrosion, the room should be well ventilated.

10.2 Storage

When the instrument is stored for more than 3 months, the instrument should be removed from the box for 4 hours and the instrument should be placed in the warehouse in the direction indicated on the box. Do not stack the equipment, do not close to the ground, walls and roof, should be moisture and moisture.

Storage requirements are detailed in Section 4.2. Indoor ventilation is good, to avoid strong sunlight and corrosive gas erosion.

10.3 Transportation

The logo on the box is in accordance with the requirements of GB / T191-2000 "Packaging and Storage Icon", which is equipped with simple shockproof facilities suitable for aviation, railway, road and ship transport. Should avoid rain and snow, upside down and collision.

Electronic Information Products Pollution Control

<Electronic Information Products Pollution Control Regulations>(No. 39) on March 1st, 2007 implementation, press <Electronic Information Products annotation> electronics applications belong to the class of diagnostic medicine using ultrasonic diagnostic system electronic information products. According to <electronic Information Products pollution Control Regulations>(No. 39) requirements for pollution control and product identification contained toxic and hazardous substances or elements as follows:

1. Logo

In the diagnosis, the Electronic Information Products Pollution Control logo as shown below:



Mark in the number "10" for the environmental protection use period (in years), which is the diagnostic from production start date of 10 years, toxic and hazardous substances or elements contained in the product under normal use conditions leakage will not occur or mutation users using the product will not cause serious pollution to the environment or cause serious harm to the person or property.

2. Names and contents of toxic and hazardous substances or elements

Part name	Toxic and hazardous substances or elements					
	Plumbum (Pb)	Mercury (Hg)	Cadmium (Cd)	Chromium VI [Cr(VI)]	Polybrominated biphenyls PBB	Polybrominated diphenyl ether (PBDE)
Top cabinet	○	○	○	○	○	○
Lower cabinet	○	○	○	○	○	○
Keyboard	○	○	○	○	○	○
Power supply	×	○	○	○	○	○
Probe	×	○	○	○	○	○
Main board	×	○	○	○	○	○
Packing box	×	○	○	○	○	○
Operating manual	×	○	○	○	○	○
<p>○: Said limit requirements of the hazardous substance content in the part of all homogeneous materials are specified in the following SJ/T11363-2006</p> <p>×: Said limit requirements of the hazardous substance content beyond the part of some homogeneous materials are specified in the following SJ/T11363-2006</p>						

Appendix A Acoustic output report

B Mode

Nominal frequency: 3.5MHz

Mode : C1-9/60R/3.5MHz

Index Definition			MI	1.4.1.1.1.1.1.1.1TIS			TIB	TIC
				Scan ning	Non-scanning		Non-scann ing	
					A _{aprt} ≤1cm ²	A _{aprt} >1cm ²		
Maximum Index Numeric			0.85	0.98	-	-	-	p.s.
Related sound parameters	P _{ra} (MPa)		1.46					
	P (mW)			115.2	-		-	#
	P _α (z _s)&I _{ta,α} (z _s)Min(mW)					-		
	Z _s (cm)					-		
	Z _{bp} (cm)					-		
	Z _b (cm)					-		
	I _{pi,α} in max z (cm)		5.30					
	d _{eq} (cm)						-	
	f _{awf} (MHz)		2.91	2.91	-	-	-	#
	A _{aprt} diameter	X (cm)		1.64	-	-	-	#
Y (cm)			1.30	-	-	-	#	
Others	t _d (μsec)		0.52					
	pr _r (Hz)		3787					
	p _r in maxI _{pi} (MPa)		2.48					
	d _{eq} in maxI _{pi} (cm)						-	
	I _{pa,α} in maxMI (W/cm ²)		207.9					
Operation conditions	Focus		1	1	-	-	-	#
	Power,%		80	80	-	-	-	#
	Angel,°		30	30				
	Focus Position		7	7				
1. PS1: if no maximal TIS Numeric,needn't any TIS formula information.								
2. PS2: not for transcranial or new baby head,needn't any TIS information.								
3. PS3: if the instrument while meeting 51.2aa)and 51.2dd)exemption clause,needn't MI and TI information.								

B Mode

Nominal frequency: 7.5MHz

Mode : L1-4/7.5MHz

Index Definition			MI	TIS		TIB	TIC	
				Scan ning	Non-Scanning			Non- Scan ning
					A _{aprt} ≤1cm ²	A _{aprt} >1cm ²		
Maximum Index Numeric			0.54	0.64	-	-	-	p.s.
Related sound parameters	P _{ra} (MPa)		1.30					
	P (mW)			24.0	-		-	#
	P _α (z _s)&I _{ta,α} (z _s)Min(mW)					-		
	Z _s (cm)					-		
	Z _{bp} (cm)					-		
	Z _b (cm)						-	
	I _{pi,α} in max z (cm)		4.9					
	d _{eq} (Z _b) (cm)						-	-
	f _{awf} (MHz)		5.70	5.70	-	-	-	#
	A _{aprt} diamete	X (cm)		1.02	-	-	-	#
		Y (cm)		0.71	-	-	-	#
Others	t _d (μsec)		0.28					
	p _{rr} (Hz)		5649					
	p _r in maxI _{pi} (MPa)		3.41					
	d _{eq} in maxI _{pi} (cm)						-	
	I _{pa,α} in maxMI (W/cm ²)		109.6					
Operation conditions	Focus		1	1	-	-	-	#
	Power,%		80%	80%	-	-	-	#
	Focus Position		3	3	-	-	-	#
PS1: if no maximal TIS Numeric,needn't any TIS formula information.								
PS2: not for transcranial or new baby head,needn't any TIS information.								
PS3: if the instrument while meeting 51.2aa)and 51.2dd)exemption clause,needn't MI and TI information.								

B Mode

Nominal frequency: 6.5MHz

Mode : EC1-3/13R/6.5MHz

Index Definition			MI	TIS			TIB	TIC
				Scan ning	Non-Scanning		Non- Scan ning	
					A _{aprt} ≤1cm ²	A _{aprt} >1cm ²		
Maximum Index Numeric			0.64	0.23	-	-	-	p.s.
Related sound parameters	P _{ra} (MPa)		1.38					
	P (mW)			10.0	-		-	#
	P _α (Z _s)&I _{ta,α} (Z _s)Min(mW)					-		
	Z _s (cm)					-		
	Z _{bp} (cm)					-		
	Z _b (cm)					-		
	I _{pi,α} in max z (cm)		2.48					
	d _{eq} (Z _b) (cm)						-	
	f _{awf} (MHz)		4.66	4.66	-	-	-	#
	A _{aprt} diamete	X (cm)		0.63	-	-	-	#
	r	Y (cm)		0.79	-	-	-	#
Others	t _d (μsec)		0.31					
	p _{rr} (Hz)		4807					
	p _r in maxI _{pi} (MPa)		2.05					
	d _{eq} in maxI _{pi} (cm)						-	
	I _{pa,α} in maxMI (W/cm ²)		120.1					
Operation conditions	Focus		1	1	-	-	-	#
	Power,%		80	80	-	-	-	#
	Angel,°		120	120				
	Focus Position		3	3	-	-	-	#
PS1: if no maximal TIS Numeric,needn't any TIS formula information.								
PS2: not for transcranial or new baby head,needn't any TIS information.								
PS3: if the instrument while meeting 51.2aa)and 51.2dd)exemption clause,needn't MI and TI information.								

Appendix B Packing list

Standard packing	1	Main unit		1		
	2	Convex	3.5MHz/R60	1		
	3	User manual		1		
	4	Warranty Card		1		
	5	Qualification certificate		1		
	6	Adapter	Input 100~240V Output 14±0.5V 3A	1		
	7	Battery		1		
	8	screwdriver		1		
	9	screw		1		
OPTIONAL	1	Linear probe	7.5MHz			
	2	Micro convex	6.5MHz/R13			
	3					