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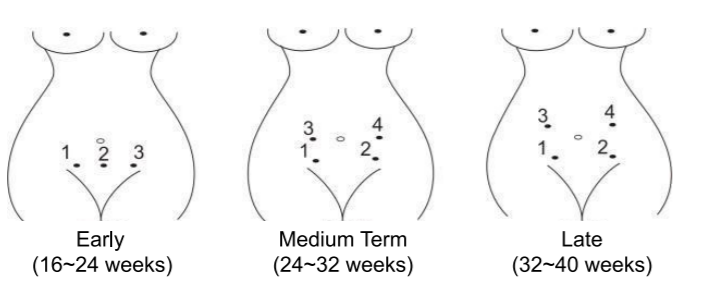
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Finding the Position of Fetus

1. The easiest way is to pay attention to the position of the doctor listening to the fetal heart in the hospital, and repeat the method at home to determine the position of the fetal heart.
2. Since the fetus moves at any time in the abdomen, the position of the fetal heart may also change. The followings are some methods to find the position of the fetal heart.

- Less than 24 weeks of gestation, the fetal heart position is often in the middle or slightly deviated from the umbilicus.
- More than 26 weeks of gestation, the fetal heart rate is most clearly heard on the side where the fetus back is located.
- Since the fetal movement is usually the hands and feet of the fetus, when the right side feels frequent fetal movement, the fetal heart is generally on the left side; otherwise, the fetal heart is generally on the right side.
- Head position and breech position will also affect the position of the fetal heart. In head position, the fetal heart is on the left or right side below the umbilicus, and in breech position it will be on the left or right side of the umbilicus.



Warnings

The normal range of fetal heart rate is 120-160 beats/min. If it is more than 160 beats/min or less than 120 beats/min, you should go to the hospital for a treatment, if you find that you can't hear the fetal heartbeat suddenly in the previous position, but you can feel the fetal movement, it means that the fetal position has changed. Please follow the methods above to search for the fetal heartbeat carefully. If the fetal movement is not obvious, please go to the hospital immediately.

Checking before use

Please open the package carefully, check whether the accessories are complete and whether there is any damage caused by transportation against the packing list below. Please follow the user manual to install and use it. If there is any damage or operational question, please contact our dealer or contact us directly. In order to protect your rights and interests, please ask the sales staff for invoices, receipts and other relevant documents when purchasing the product. The warranty period of this product is one year, and our company promises to guarantee the warranty for non-artificial quality problems within one year. After the warranty period, we only charge for transportation and components (see the warranty card for details).

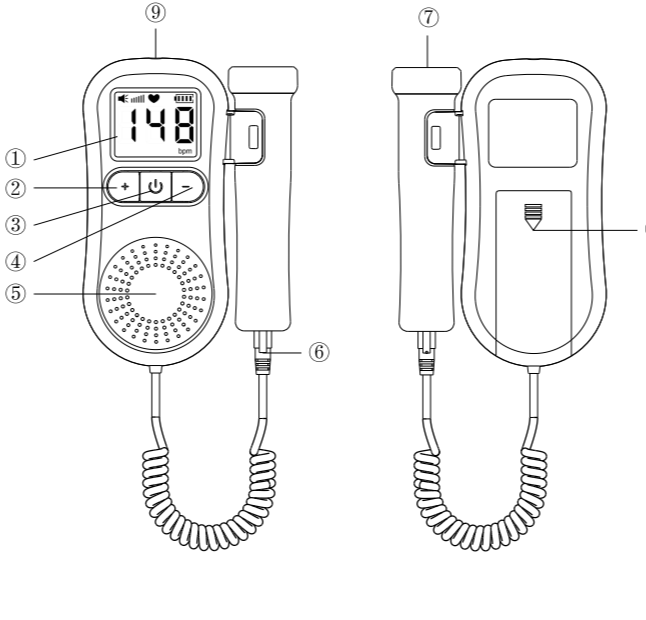
Packaging List

- Main Unit(with probe) x 1
- User Manual x 1
- Certificate x 1

After-sales service

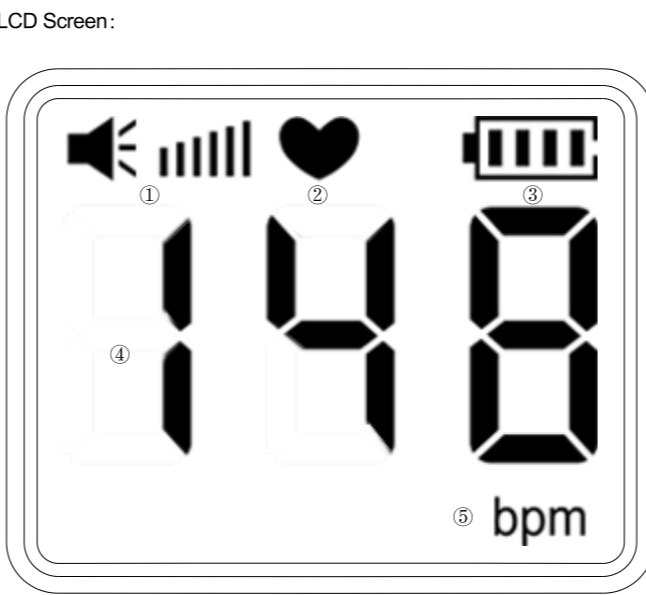
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Main Unit



- LCD Screen
- Voice Up Button
- Power Switch Button
- Voice Down Button
- Speaker
- Probe Plug
- Probe
- Battery Cover
- Headphone Jack

Display



- Volume Display
- Heartbeat Symbol
- Power Display
- Fetal Heartbeat Reading
- Fetal Heartbeat Unit

Buttons

There are three buttons on the front panel of the doppler - including "Voice Up Button", "Power Switch Button" and "Volume Down Button". The main functions are as follows:

1. Power Switch Button

Function: Power ON/OFF

Operation: In the OFF status, press the power switch button lightly to turn it on; In the ON status, press the power switch button lightly to turn off the backlight. In the ON status, press and hold the power switch button for more than two seconds, then release the button to turn it off.

2. Voice Up and Down Buttons

Operation: Adjust the voice, press the up button to increase the volume and down button to decrease the volume.

3. Headphone Jack

You can plug in the headphone to listen to the fetal heart rate. When the headphone is inserted, the external speaker is automatically turned off.

Basic Instruction

- For the first time to use, please open the battery cover and put 2 xAA battery in the compartment.
- Press the Power Switch button to turn it on and it will display "—" on the LCD Screen.
- Put the fetal heart rate probe against the fetal heart position of the pregnant woman's abdomen. (In order to get a good result, please apply some medical ultrasonic coupling gel on the surface of the probe. If there is no coupling gel, you can use water or cooking oil instead, and slick to the skin.)
- Find the fetal heart position and you can hear the fetal heartbeat clearly.
- When the fetal heart rate is not clear or very weak, move the probe position around and adjust the voice buttons until a clear fetal heartbeat is heard.
- After monitoring, press and hold the power switch button for 2 seconds to turn it off, and the display will turn off. If the monitor is not performed within 1 minutes, it will automatically turn off.

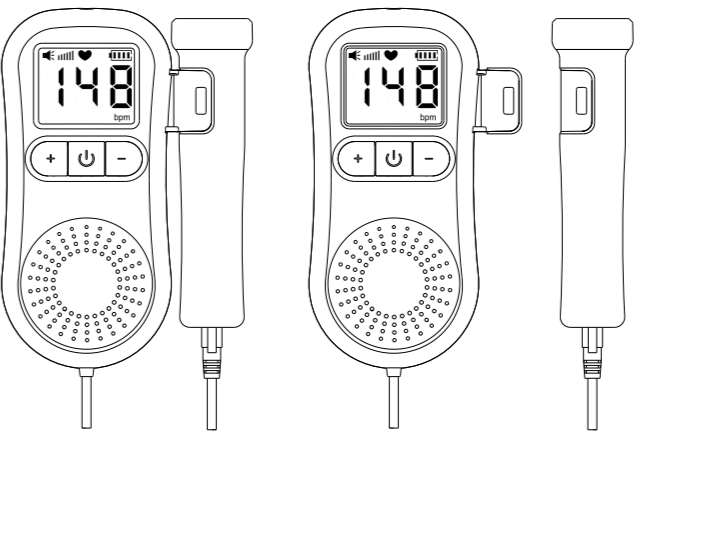
Battery Replacement

Open the battery cover to remove the old batteries, then insert into 2 new batteries to install correctly, then close the battery cover. Warning: For used batteries, please dispose them in an environmental way to avoid pollution.

Operating Probe

Take Out: Hold the main unit with one hand and the probe handle with the other hand, then pull both hands to the sides to take out the probe.

Take In: Hold the main unit with one hand and push the probe to the left of the holder with the other hand, then fasten it.



Warnings & Cautions

- It is a precision electronic circuit inside the monitor, please do not open it without authorization.
- The surface of the monitor can be wiped with non-corrosive detergent. Do not use high temperature disinfection or use corrosive detergent for cleaning. The probe can be disinfected with a small amount of alcohol wipe.
- After each monitoring, clean the probe with a dry cloth or paper towel.
- Please remove the battery and store it if you don't use it recently; dispose of the used battery according to local environmental protection requirements. Do not throw the battery into a fire, it may explode.
- Working Mode: Continuous wave doppler; Automatic shutdown if no signal within 1 minutes
- Do not charge the AA batteries, which will cause explode or fire.
- Do not collide or vibrate violently to avoid damage.
- Please pay attention to waterproof and moisture-proof.

Warnings:

- Cannot be used with high frequency equipment.
- Do not use it in an environment with flammable and explosive anesthetic gas, high or low temperature and humidity.
- Potential electromagnetic interference may affect the result of the monitor. In order to avoid such interference, please use it in an environment away from interference sources.
- Do not discard the used batteries at will, and handle them according to environmental protection requirements to avoid environmental pollution. The main unit and accessories should be recycled according to the local environmental protection requirements after the service life expires.

Specifications

Operation Frequency: 2.5MHz±10%
Comprehensive sensitivity (at a distance of 200mm from the probe surface): ≥90dB
FHR Range: 50 - 220bpm
FHR Resolution: 1bpm **Accuracy:** ±2bpm
Power Supply: DC 3V internal power, Alkaline battery
Battery Type: AAx2
Working Mode: Continuous wave doppler; Automatic shutdown if no signal within 1 minutes
Main Unit Dimension: 143mm(L)×97.5mm(W)×34(H)mm
Main Unit Weight: Approx. 170g (Batteries not included)
Coupling Gel: Resistant 1.7×10⁴cm².s Decreasing 0.02dB/cm²
Sound Output: P_r<1MPa; I_r<20mW/cm²; I_{av}<100mW/cm²

Normal Working Conditions:

Temperature: 5℃-40℃
Relative Humidity: ≤90%
Atmosphere Pressure: 70kPa-106kPa
Life: 5 years
Production Date: Seen on the label

Transport and Storage

It can be transported by many tools, such as air, train or truck. During transportation, it should prevent violent collisions and not mix with corrosive objects. The transportation environment should meet requirements below:

- A) Temperature:** -20℃~+55℃
B) Relative Humidity: 10%~93%
C) Atmosphere Pressure: 50kPa~106kPa

The packaged fetal heartbeat monitor should be stored in a room with a temperature of -20℃~+55℃, a relative humidity of 10%~93%, no corrosive gas and good ventilation.

Accessories

Fetal doppler and ultrasound probe.

Applications

It is suitable for medical institutions or families to detect fetal heart rate of pregnant women.

Safety and Waterproof Level

Anti-electric Shock Type: Internal power supply

Anti-electric Shock Level: BF, I A

Waterproof Level: IPX0

Maintenance:

- Please replace battery when the power is running out. Remove the batteries from the compartment when you won't use it for a long time.
- Check the probe and components of the monitor for cracks, connecting cables and plugs to ensure the safe use and performance of it regularly, avoid use of medical alcohol for cleaning and disinfection.

Cleaning and Disinfection

- Turn off the monitor and remove the batteries before cleaning.
- Wipe the probe with a dry cloth or paper towel after use, or use a small amount of medical alcohol for cleaning and disinfection.

Symbols & Instructions

Symbol	Instruction
	Type BF
	Warning, refer to the accompanying documents
	Waste electrical and electronic equipment alone processing signs, please comply with local laws and regulations

Common Troubleshooting

Problem	Cause Reason	Troubleshooting
No voice	Low voice or low battery	Increase voice or replace battery
Howling	Too loud voice Too much gel Low battery	Decrease the voice Wipe the probe surface Replace battery
Weak voice	Low voice or no gel Low battery	Increase the voice Apply gel or water Replace battery
Low sensitivity	Wrong position of probe No gel	Adjust probe position Apply gel or water
Hoarse voice	Too loud voice	Decrease the voice

Appendix I --- EMC Information

Guidance and manufacture's declaration - electromagnetic emissions - for all EQUIPMENT and SYSTEMS

Guidance and manufacture's declaration - electromagnetic emissions - for all EQUIPMENT and SYSTEMS

The Ziqing TX-01 Fetal Doppler is intended for use in the electromagnetic environment specified below. The customer or the user should assure that it is used in such environment.

Emision test	Compliance	Electromagnetic environment-guidance
RF emissions CISPR 11	Group 1	The Ziqing TX-01 Fetal Doppler uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The Ziqing TX-01 Fetal Doppler is suitable for use in all establishments, including domestic establishments and directly connected to the public low-voltage power supply network in buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2v	Not applicable	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Not applicable	

Guidance and manufacture's declaration - electromagnetic immunity - for all EQUIPMENT and SYSTEMS

Guidance and manufacture's declaration - electromagnetic immunity

The Ziqing TX-01 Fetal Doppler is intended for use in the electromagnetic environment specified below. The customer or the user of the Ziqing TX-01 Fetal Doppler should assure that it is used in the environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance
Electrostatic discharge(ESD) IEC 61000-4-2	±5 kV contact ±8 kV air	±5 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floor are covered with synthetic material, the relative humidity should be at least 30%. The manufacturer may recommend the ESD precautionary procedures to user.
Power frequency magnetic field IEC 61000-4-8	3A/m	3A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Guidance and manufacture's declaration-electromagnetic immunity- For EQUIPMENT and SYSTEMS that are not LIFE_SUPPORTING

Guidance and manufacture's declaration - electromagnetic immunity

The Ziqing TX-01 Fetal Doppler is intended for use in the electromagnetic environment specified below. The customer or the user of the Ziqing TX-01 Fetal Doppler should assure that it is used in the environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms	$d = \frac{2.5}{E_1} \sqrt{P}$ 80 MHz to 800 MHz
Radiated RF IEC 61000-4-3	3 Vm 800 MHz to 2.5 GHz	3 Vm	$d = \frac{2}{E_1} \sqrt{P}$ 800 MHz to 2.5 GHz Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by

Guidance and manufacture's declaration-electromagnetic immunity- For EQUIPMENT and SYSTEMS that are not LIFE_SUPPORTING

Guidance and manufacture's declaration - electromagnetic immunity

The Ziqing TX-01 Fetal Doppler is intended for use in the electromagnetic environment specified below. The customer or the user of the Ziqing TX-01 Fetal Doppler should assure that it is used in the environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance
an electromagnetic site survey, ^a should be less than the compliance level in each frequency range. ^b Interference may occur in the vicinity of equipment marked with the following symbol:			
NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.			
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			
a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the Ziqing TX-01 Fetal Doppler is used exceeds the applicable RF compliance level above, the Ziqing TX-01 Fetal Doppler should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the Ziqing TX-01 Fetal Doppler.			
b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.			

Recommended separation distances between portable and mobile RF communications equipment and the EQUIPMENT or SYSTEM-for EQUIPMENT or SYSTEM that are not LIFE-SUPPORTING

Recommended separation distances between portable and mobile RF communications equipment and the Sionline C Pocket Fetal Doppler

The Ziqing TX-01 Fetal Doppler is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Ziqing TX-01 Fetal Doppler can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment(transmitters)and the Ziqing TX-01 Fetal Doppler as recommended below, according to the maximum output power of the communications equipment.

Separation distance according to frequency of transmitter

Rated maximum output power of transmitter (W)	150 kHz to 80 MHz $d = \frac{1.5}{E_1} \sqrt{P}$	80 MHz to 800 MHz $d = \frac{1.5}{E_1} \sqrt{P}$	800 MHz to 2.5 GHz $d = \frac{2}{E_1} \sqrt{P}$
0.01	0.117	0.117	0.233
0.1	0.369	0.369	0.738
1	1.167	1.167	2.333
10	3.689	3.689	7.379
100	11.67	11.67	23.33

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.
NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.
NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Overall Sensitivity

Distance of Target Reflector (mm)	Distance (m)	Reflector Loss AdB	Frequency Interception		C+	Overall Sensitivity (dB)
			B=2B ₁ B ₂ (dBm)	B ₁ B ₂ (dBm)		
1.56	50	-45.7	1.20	0.976	94	5.93
	75	-45.7	1.20	0.964	90	5.78
	100	-45.7	1.20	0.964	89	5.82
2.38	50	-45.7	1.20	0.966	173	6.02
	75	-45.7	1.20	0.966	178	6.02
	100	-45.7	1.20	0.966	170	5.92
2.38	50	-43.2	1.20	0.964	85	5.76
	75	-43.2	1.20	0.964	85	5.76
	100	-43.2	1.20	0.964	85	5.76
200	-43.2	1.20	0.916	160	5.49	
Doppler Frequency (Hz)			333			12.5

zqing®

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