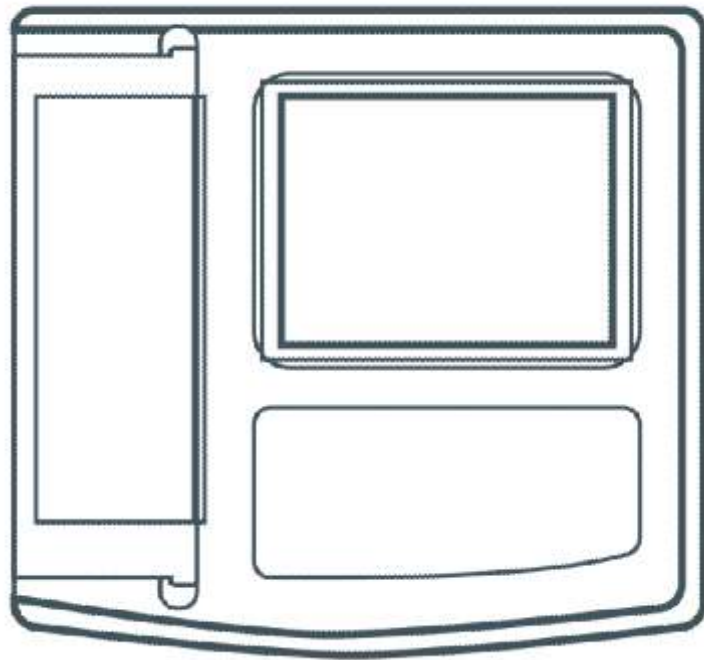


Service Manual

Electrocardiograph EKG1212T



Meditech Equipment Co., Ltd.

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All of our products have passed strict production guard, quality inspection and got high-normal quality certification. For the problems about payment, consignment and quality in the production and management process, our company will try our best to give proper solution actively with the attitude that "Be serious and responsible to seek long cooperation".

Product Quality Promise:

- 1) Our company will give free repair for product's quality problems during warranty period, which do not contain improper use or human damage, or directly replace by customers.
- 2) For products beyond warranty period, our company will repair, but charge for accessories and upkeep, taking the circumstances into consideration.
- 3) For product failure caused by improper use or human damage, we will try our best to repair, but charge for accessories and upkeep, taking the circumstances into consideration.
- 4) When it is necessary to replace parts during repair and adding part cost, we will give user prior notice and ask for agreement, After the feature disappears, we will return you the parts replaced.

Convention

 **Warning**  **Point some information you should know to avoid injury to patient and medical staff.**

 **Caution**  **Point some information you should know to avoid damage to the device.**

 **Note**  **Point some important information you should pay attention to.**

To be familiar with the device and operations are prerequisite for authorized personnel to repair, so before servicing, read the device's *User Manual* carefully.

General Safety Information

Warning

- ❖ Before disassembling, ensure all external power supply and USB cable have been cut off.
- ❖ There may be electrical shock when opening the device enclosure. All servicing to the device must be carried out by personnel trained and authorized by our company.
- ❖ Servicing personnel must wear corresponding apparatus (such as static bangle, etc.).

Caution

- ❖ Before disassembling, please turn off the power, and disassemble all the peripheral equipment, for some circuits and equipment are still working in the instance of power off and direct disassembling will cause damage to some circuitry.
- ❖ When disassembling the lines, avoid directly pulling and drawing, first make sure how they connect, then pull out without strong force.
- ❖ Use proper tools, such as screwdriver and tweezers, etc., and be careful during operation to avoid any human damage to the device.
- ❖ After repair, do necessary maintenance to device.

Note

- ❖ For most parts or accessories of this device are tiny, such as screw and washer, etc, it is important to strictly record the location and size for each part and accessory, and put the parts disassembled in sorts, which will help improve service efficiency.
- ❖ Disassemble the device strictly according to correct steps described in the manual.
- ❖ Please refer to the user manual for safety information.
- ❖ Other important safety information is located in this manual where is appropriate.

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Chapter 1 Overview

1.1 Introduction

12-channel Electrocardiograph is such a kind of electrocardiograph, which gathers 12-lead ECG signals simultaneously and prints out the ECG waveforms with thermal printing system. Its major functions are as follows: recording and displaying ECG waveforms in manual/auto ways; measuring and diagnosing ECG waveform parameters automatically; electrode-off and paper lack prompt; optional interface languages (Chinese/English); powered either by AC or DC; selectable rhythm lead to detect abnormal heart rate conveniently; case database management, etc.

800*600 dots high resolution LCD screen; 1680 dot wide, it can print 12-channel ECG waveforms. You can operate either by buttons or touch screen, which is convenient and quick.

1.2 Performance

1.2.1 Specification

- 1.2.1.1 Input mode: floating and defibrillation protection
- 1.2.1.2 Lead: standard 12-lead
- 1.2.1.3 Patient leak current: $<10\mu\text{A}$
- 1.2.1.4 Calibration voltage: $1\text{mV}\pm 5\%$
- 1.2.1.5 Input impedance: $\geq 50\text{M}\Omega$
- 1.2.1.6 Frequency response: $0.05\text{Hz}\sim 150\text{Hz}(-3\text{dB}\sim +0.4\text{dB})$
- 1.2.1.7 Time constant: $\geq 3.2\text{s}$
- 1.2.1.8 CMRR: $>60\text{dB}$, $>100\text{dB}$ (add filter)
- 1.2.1.9 Input circuit current: $\leq 50\text{nA}$
- 1.2.1.10 Sampling accuracy: 12-bit
- 1.2.1.11 Filter: AC filter: $50\text{Hz}/60\text{Hz}$, EMG interference filter: $25\text{Hz}/35\text{Hz}(-3\text{dB})$, baseline filter
- 1.2.1.12 Recording mode: thermal printing system
- 1.2.1.13 Paper size: $210\text{mm}(\text{W})\times 20\text{m}(\text{L})$
- 1.2.1.14 Auto record: set record according to auto record format and mode, automatically switching leads, measuring and analyzing.
- 1.2.1.15 Rhythm record: set record according to rhythm record format and mode, automatically measuring and analyzing.
- 1.2.1.16 Manual record: set record according to record format, manually switching leads.
- 1.2.1.17 Paper speed:
 - Auto record: $25, 50\text{mm/s}$, $\pm 5\%$
 - Rhythm record: $25, 50\text{mm/s}$, $\pm 5\%$
 - Manual record: $5, 6.25, 10, 12.5, 25, 50\text{mm/s}$, $\pm 5\%$
- 1.2.1.18 Sensitivity: $2.5, 5, 10, 20, 40\text{mm/mV}\pm 5\%$, standard sensitivity: $10\text{mm/mV}\pm 2\%$
- 1.2.1.19 Measurement parameters: HR, P-R interval, P Duration, QRS Duration, T Duration, Q-T interval, Q-Tc, P Axis, QRS Axis, T Axis, $R(\text{V}_5)$, $S(\text{V}_1)$, $R(\text{V}_5)+S(\text{V}_1)$
- 1.2.1.20 Safety classification: class I, type CF and defibrillation-proof applied part
- 1.2.1.21 Polarizing voltage: $\pm 300\text{mV}$
- 1.2.1.22 Noise level: $<15\mu\text{Vp-p}$
- 1.2.1.23 Fuse specification: two AC time lag fuse($\phi 5\times 20\text{mm}$), T1.6AL250V
- 1.2.1.24 Waterproof degree: IPX0
- 1.2.1.25 Working mode: continuous working

1.2.1.26 Dimension: 340mm(L)×320mm(W)×85mm(H)

1.2.1.27 Weight: 3.2Kg

1.3 Appearance

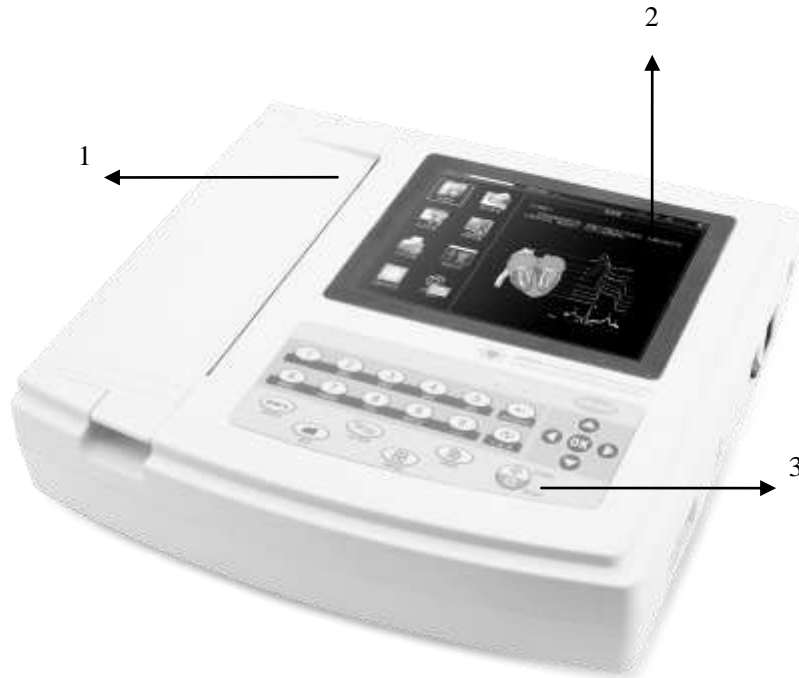


Figure 1-1 Front view

1. Paper Cabinet Cover

It is used to fix the print paper.

2. Display

Display patient's ECG and relative information.

3. Button

Control operation and enter information.

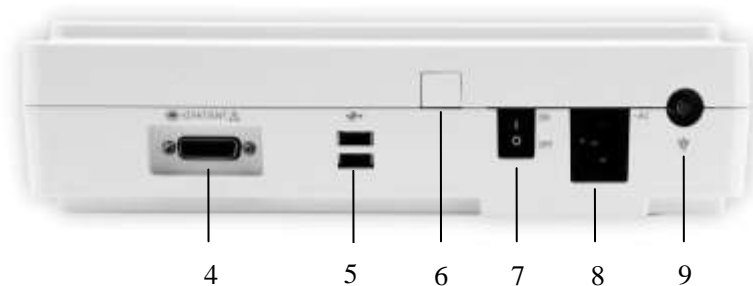


Figure 1-2 Side view

4. lead connector

The port to connect the lead cable.

5. USB interface

Communicate with computer, transmit ECG data and analysis results to computer for storage, management and

analysis, which is convenient for clinical researching, teaching and training. At the same time, it is convenient for updating procedure, exporting case and connecting printer, etc.

6. Reserved

7. Mains switch

Control "ON/OFF" of AC.

8. Input plug

Connect with AC power cable

9. Equipotential Terminal

Connect with equipotential earth wire.



Figure 1-3 Bottom view

10. Battery compartment

Built-in rechargeable lithium battery.

11. Fuse socket

Built-in fuse(T1.6A L250V), which can avoid the high voltage and current damage to human body arising from mains pollution.

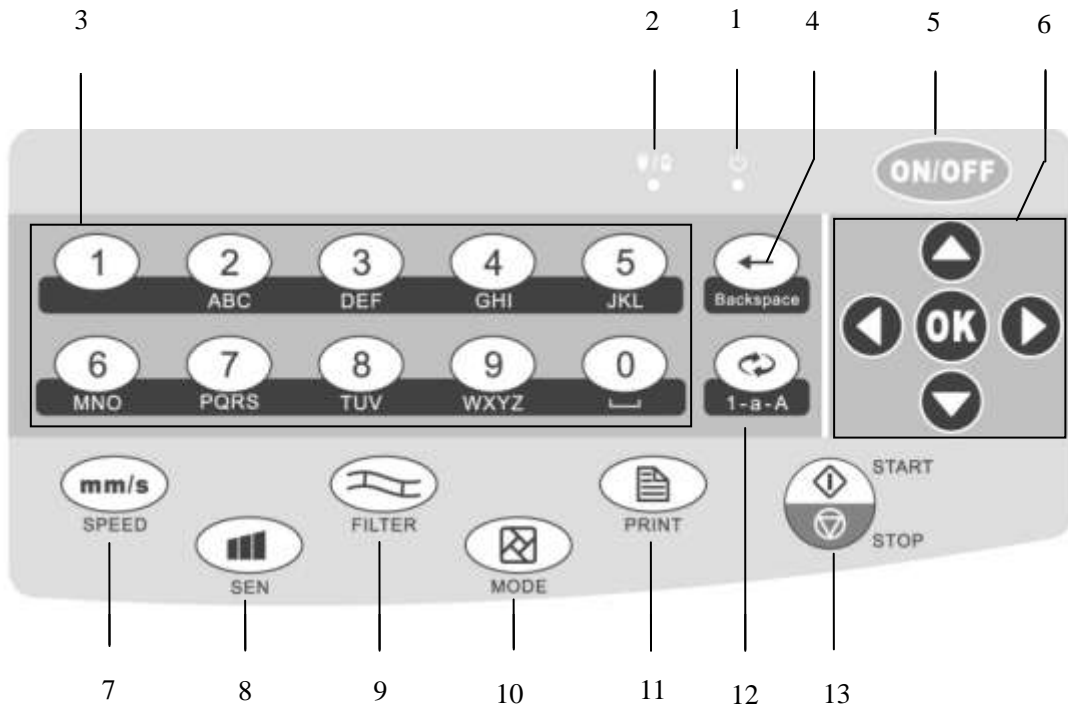


Figure 1-4 Sketch map for key area

1. Power on indicator light.

After turning on the device, it is always green.

2. Power state indicator

It indicates that the device is powered by AC when it is green. while red and green, it indicates the battery is charging.

3. Number/Capital and Small letter/Character key

Be used to enter patient information, hospital name, bed No, Chinese and English can be switched.

4. Backspace

Be used to change the information entered, long press it to empty the title bar.

5. ON/OFF

Short press it under “ON” state, it will prompt whether to power off, long press it to turn off the device.

6. Direction key

Up, down, left, right and confirm key.

7. SPEED

Change the recording speed of ECG waveform.

8. SEN

Switch the sensitivity manually.

9. FILTER

Filter mode setting.

10. MODE

In “Collection” interface, select the print mode by “MODE” key.

11. PRINT

Be used to print/stop printing the ECG waveform collected.

12. Switch input method

In input state, it can be switched among number-English lowercase-English capital-character.

13. Collection system setting key

Be used to set ECG waveform collection and display mode.

1.4 Environment

Temperature

Working: 5°C~40°C

Transport and storage: -40°C~55°C

Humidity

Working: 20%~80%(non-condensing)

Transport and storage: ≤95%(non-condensing)

Atmospheric pressure

Working: 860hPa~1060hPa

Transport and storage: 500hPa~1060hPa

Power supply

AC: 100V~240V(50/60Hz)

DC: 14.8V, 3700mAh rechargeable lithium battery

Chapter 2 Hardware Principle

2.1 Module composing

Principle sketch map of EKG1212T is shown as Figure 2-1.

Error! Reference source not found.Error! Reference source not found.

Figure 2-1 Logic sketch for the device

2.1.1 Mainboard

Receive and analyze the signal from SCM of each module, coordinate the operation of intelligent subsystems, such as print controller, LCD display and key board driver, take charge of waveform printing driver, control information display, key board management and other controls of the device.

2.1.2 MOF7224 power board

Change the AC voltage or battery voltage to stable DC voltage required by the device, finish charging for battery and AC/DC

2.1.3 DC/DC power board

Change the voltage from AC-DC power board to various voltage values required by circuit, and charging for battery.

2.1.4 Collection board

Connect with lead cable, take charge of lead input signal collection, digital filter, gain control, lead-off detection, and so on.

2.1.5 Key board

Finish key operation, supply power for key board by the connection between DC-DC power board and mainboard.

2.1.6 Print board

Control printing, implement such functions as step motor driving and paper-lack detection.

Chapter 3 Device Check





3.1 System check

Refer to User Manual for routine tests. The following contents are used to prompt test point and the contents not specified in the User Manual.

3.1.1 Appearance and main parts check

- 1) Neat and beautiful appearance, smooth surface, uniform color, no mechanical damage and cracks, etc.
- 2) No coating peeling and corrosion on panels, characters and markings should be clear, smooth and firm.
- 3) No gas mark, cracking, deformation and perfusion overflow for the plastic parts.
- 4) Legible marks, including defibrillation and Equipotential Terminal marks.
- 5) Panel joint should be contacted closely, fixed well, and no clearance and sliding after fixing.
- 6) Paper cabinet cover is fixed well.
- 7) Flexible and reliable adjustment parts, and no loose for fasteners.
- 8) Complete accessories and right marks.

3.1.2 Basic function check

- 1) Install the thermal recording paper before power on, press  to turn on the device,  turns to green, the LCD can display clearly and normally. When the device works with AC,  displays charging state (red and green) or full charging (green), the power change displayed on top right indicates that it is charging, and  indicates full charging.
- 2) Flexible keys operation and accurate keys function, no failure keys or even keys.
- 3) Contents on lead indication bar and system state information bar display normally, the functions such as print, calibration, menu, shortcut setting are normal.
- 4) Print function: waveform, character and symbol can be printed. During recording, corresponding lead, paper speed, gain, AC working state can be printed.
- 5) Upload function: connect the device with PC by the upload line, shown as Figure 3-1. Open the PC software (ECG_SYNC), click real-time collect and Confirm key, PC software can receive data and display 12-lead waveform.



Connect the other end of the upload line to the PC

Figure 3-1 Connect with the upload line

3.2 Parameter check

The following check and calibration are to ensure the device accuracy, and it should be calibrated once per year, and calibrated once after each maintenance.

Inspection equipment: Verification instrument for Electrocardiograph and Electroencephalograph(Verification instrument for short), Multiparameter Simulator

Check methods are as followings:

3.2.1 Calibration voltage

Set sensitivity on the device to 10mm/mV, record speed to 25mm/s. Set the Verification instrument to “Signal source” mode by “S+ST” key, and set to “1 light of signal source” by “S+‘SU+’” key, then “Sine wave” will be exported. Adjust output signal frequency to 10Hz by pressing “SU” key, after pressing “OP1” key, adjust output signal amplitude to 1mV by pressing “SU” key. Then record II waveform whose results should be in the range of 9.5mm~10.5mm.

3.2.2 Sensitivity

3.2.2.1 Sensitivity control

Set the Verification instrument to “1 light of signal source”, then “Sine wave” will be exported, adjust output signal frequency to 10Hz by “SU” key, after pressing “OP1” key, adjust output signal amplitude to 1mV by pressing “SU” key. Set sensitivity on the device to 5mm/mV, 10mm/mV, 20 mm/mV, then the amplitude of corresponding II waveform should be in the range of 4.75mm~5.25mm, 9.5mm~10.5mm, 19mm~21mm.

3.2.2.2 Minimum signal recognizing

Set sensitivity on the device to 10mm/mV, record speed to 25mm/s. Set the Verification instrument to “1 light of signal source”, then “Sine wave” will be exported. Adjust output signal frequency to 10Hz by pressing “SU” key, after pressing “OP1” key, adjust output signal amplitude to 20 μ V by pressing “SU” key. Then observe II waveform, which should have obvious change.

3.2.2.3 Polarizing voltage

Set sensitivity on the device to 10mm/mV, record speed to 25mm/s. Set the Verification instrument to “ECG” mode by “S+ST” key, and set to “ECG 6 light” by “S+‘SU+’” key, then “Square wave” will be exported. Adjust output signal amplitude to 1mV by pressing “SU” key, after pressing “OP1” key, adjust output signal cycle to 1s by pressing “SU” key, press “S+OP2” key, the first bit displays “.”(add +300mV polarizing voltage), then record II waveform. Press “S+OP2” key again, the first bit displays “—”(add -300mV polarizing voltage), then record II waveform. The results should be in the range of 9.5mm~10.5mm.

3.2.3 Noise

Set sensitivity on the device to 20mm/mV, record speed to 25mm/s. Set the Verification instrument to “ECG” mode by “S+ST” key, then set to “ECG 7 light” by “S+‘SU+’” key, screen prompts “UU”. Press K1, K2 key simultaneously on the Verification instrument, the it will display “∩ o”. Record each channel for 10s on the device to find the maximal amplitude one, output signal amplitude of recording waveform should be less than 1/3mm, namely noise amplitude should be less than 15 μ V(peak-peak value).

3.2.4 50Hz AC filter

Set the sensitivity on the device to 10mm/mV, record speed to 25mm/s. Set the Verification instrument to “Signal source” mode, and set to “1 light of Signal source” by “S+‘SU+’”, then “Sine wave” will be exported, adjust output signal frequency to 50Hz by pressing “SU” key, after pressing “OP1” key, adjust output signal amplitude to 1mV by “SU” key, make trace deflect 10mm, open 50Hz AC filter, trace deflection amplitude for II waveform should be less than 1mm. Press “OP1” key to switch to frequency adjustment, adjust output signal frequency to 30Hz by pressing “SU” key, trace deflection amplitude for II waveform should be less than 7mm.

3.2.5 Frequency characteristic

3.2.5.1 Amplitude frequency characteristic

Set the sensitivity on the device to 10mm/mV, record speed to 25mm/s. Close the filter, set the Verification instrument to “Signal source” mode by “S+ST” key, and set to “1 light for Signal source” by “S+‘SU+’” key, then “Sine wave” will be exported, adjust output signal frequency to 10Hz by pressing “SU” key, after pressing “OP1” key, adjust output signal amplitude to 1mV by pressing “SU” key. Keep constant signal amplitude, respectively set frequency to 0.05Hz(set the record speed to the minimum), 1Hz, 30Hz, 50Hz, 75Hz, then the results should be in the range of 7~10.5mm.

3.2.5.2 Low-frequency characteristic

Set the Verification instrument to “ECG” mode by “S+ST” key. And it will display “———” after pressing “S+OP1” key, set to “ECG 5 light” by pressing “S+‘SU+’” key, output signal cycle to 10s, amplitude to 1mV square signal, when trace amplitude value for II waveform fades to 3.7mm, corresponding time T should be more than 3.2s.

3.2.6 Paper speed

Set the sensitivity on the device to 10mm/mV, record speed to 25mm/s. Set the Verification instrument to

“Signal source” mode, and set to “3 light of signal source” by pressing “S+‘SU+’” key, then “Triangular wave” will be exported, adjust output signal frequency to 25Hz(40ms) by pressing “SU” key, after pressing “OP1” key, adjust output signal amplitude to 0.5mV by pressing “SU” key. The distance taken by 10-cycle II waveform on the recording paper should be $10\text{mm}\pm 0.5\text{mm}$. Set the record speed to 50mm/s, triangular wave frequency to 50Hz(20ms), the distance taken by output 10-cycle II waveform on the recording paper should be $10\text{mm}\pm 0.5\text{mm}$.

3.2.7 CMRR

Set sensitivity to 10mm/mV, record speed to 25mm/s. Connect the device with EGC-1CMRR, then measure the CMRR of each lead one by one, the maximal value of record waveform should be less than 10mm, namely the CMRR for each lead should be more than 60dB.



3.2.8 Interference

Set the sensitivity on the device to 10mm/mV, record speed to 25mm/s. Set the Verification instrument to “Signal source” mode by “S+ST” key, and set to “1 light for signal source” by “S+‘SU+’” key, then “Sine wave” will be exported.

Separately connect V6 and RL on the device to RA and RL on the Verification instrument, after short connect other lead, connect to LL, select P after pressing “S+OP1” key, adjust output signal frequency to 40Hz by pressing “SU” key, after pressing “OP1” key, adjust output signal amplitude to 3mV by pressing “SU”key, check trace deflection peak-peak value for each channel(except for V6), which should be less than 0.5mm.

Connect V6, LL, LA, RA on the device to LL on the Verification instrument, RL connects to RL, after short connect other lead, connect to RA, select P after pressing “S+OP1” key, adjust output signal frequency to 1Hz by pressing “SU” key, after pressing “OP1” key, adjust output signal amplitude to 4mV by pressing “SU” key, check deflection peak-peak value for V6 trace in the range of $\pm 20\text{mm}$ should be less than 0.5mm.

Chapter 4 Device Disassembling/Assembling

 **Note**  Please read Chapter1 Safety carefully before any operation.

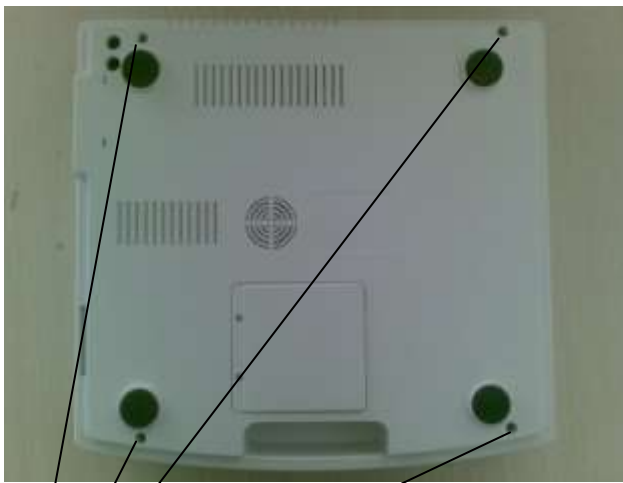
4.1 Disassembling

Note: please first turn off the device before disassembling.

1. Disassembly of enclosure

Use the screwdriver to open device's enclosure according to Figure 4-1 and the following steps.

- ① Take out the four screws(M3×12) fixed top and bottom enclosure.



Screws(M3×12)

Figure 4-1

- ② After opening, the interior structure and connection are showed as Figure 4-2.

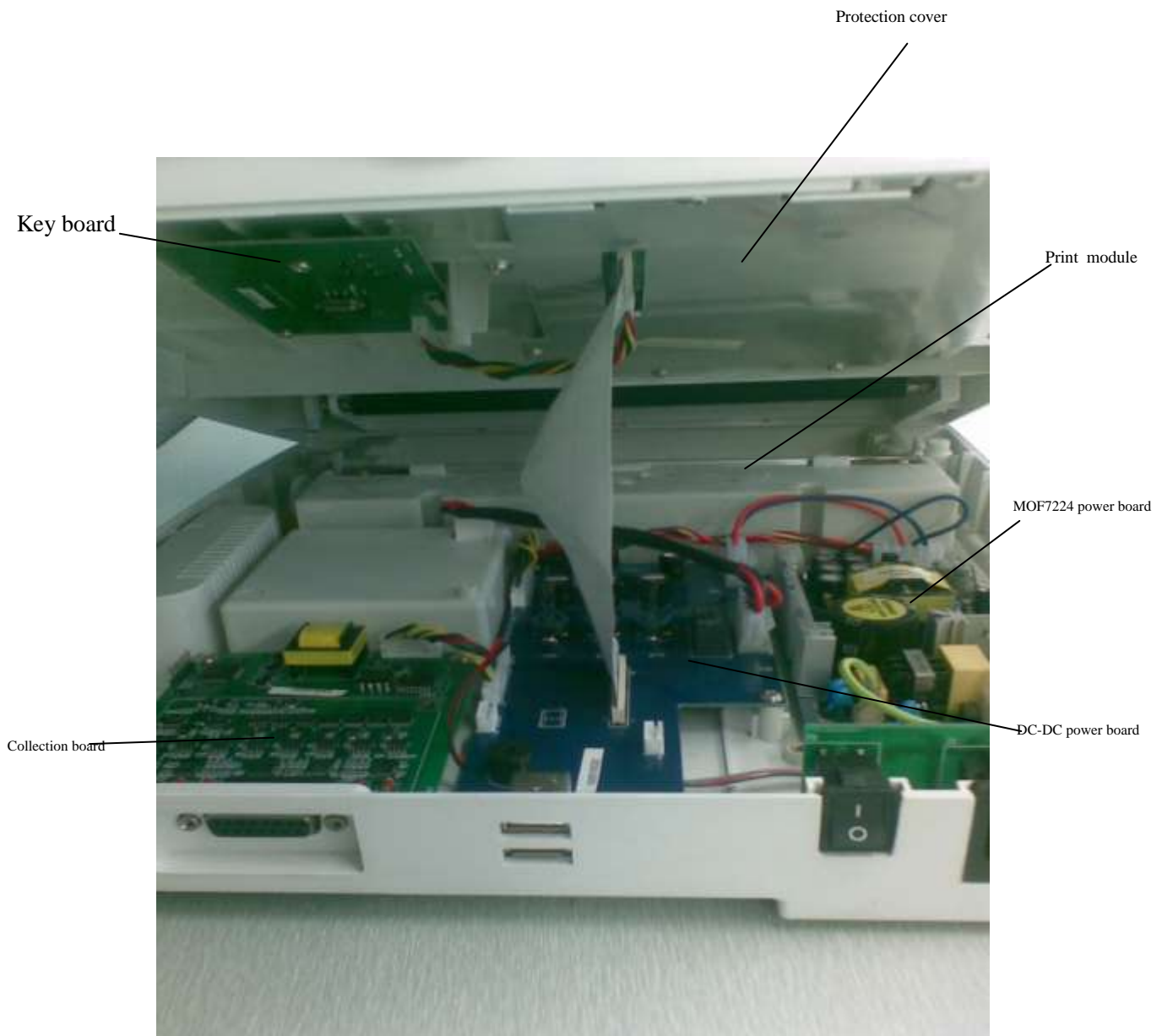


Figure 4-2

2. Disassembly of each module

Use the screwdriver to disassemble each module one by one according to Figure 4-2 and the following steps.

- ① Pull out the cable connected to top and bottom enclosure.
- ② Pull out the connection lines connected to each board.
- ③ Take out the four screws(M3*6) fixed the collection board, then disassemble it.
- ④ Take out the four screws(M3*6) fixed the power board, then disassemble it.
- ⑤ Take out the four screws(M3*6) fixed the key board, then disassemble it.
- ⑥ Take out the eight screws(M3*6) to disassemble the protection cover of the mainboard, then remove the screws to disassemble the mainboard.
- ⑦ Take out the four screws(M3*6) to disassemble the printer, reverse the device, then the print board can be seen. Remove the connection lines and the four screws(M3*6), pull out the cable, then the print board can be disassembled.

Refer to Annex III for the detailed description of each board.

4.2 Assembling

- 1) Fix each board with screws according to Figure 4-2.
- 2) Fix all connection lines with screws according to Figure 4-2.
- 3) Buckle the top enclosure on, and fix it with four screws(M3×12).

4.3 Maintenance

Please never open the enclosures of device in order to avoid potential shock hazard. Any servicing or upgrade to the device must be carried out by personnel trained and authorized by our company. It's obligatory to use fittings from our company in servicing.

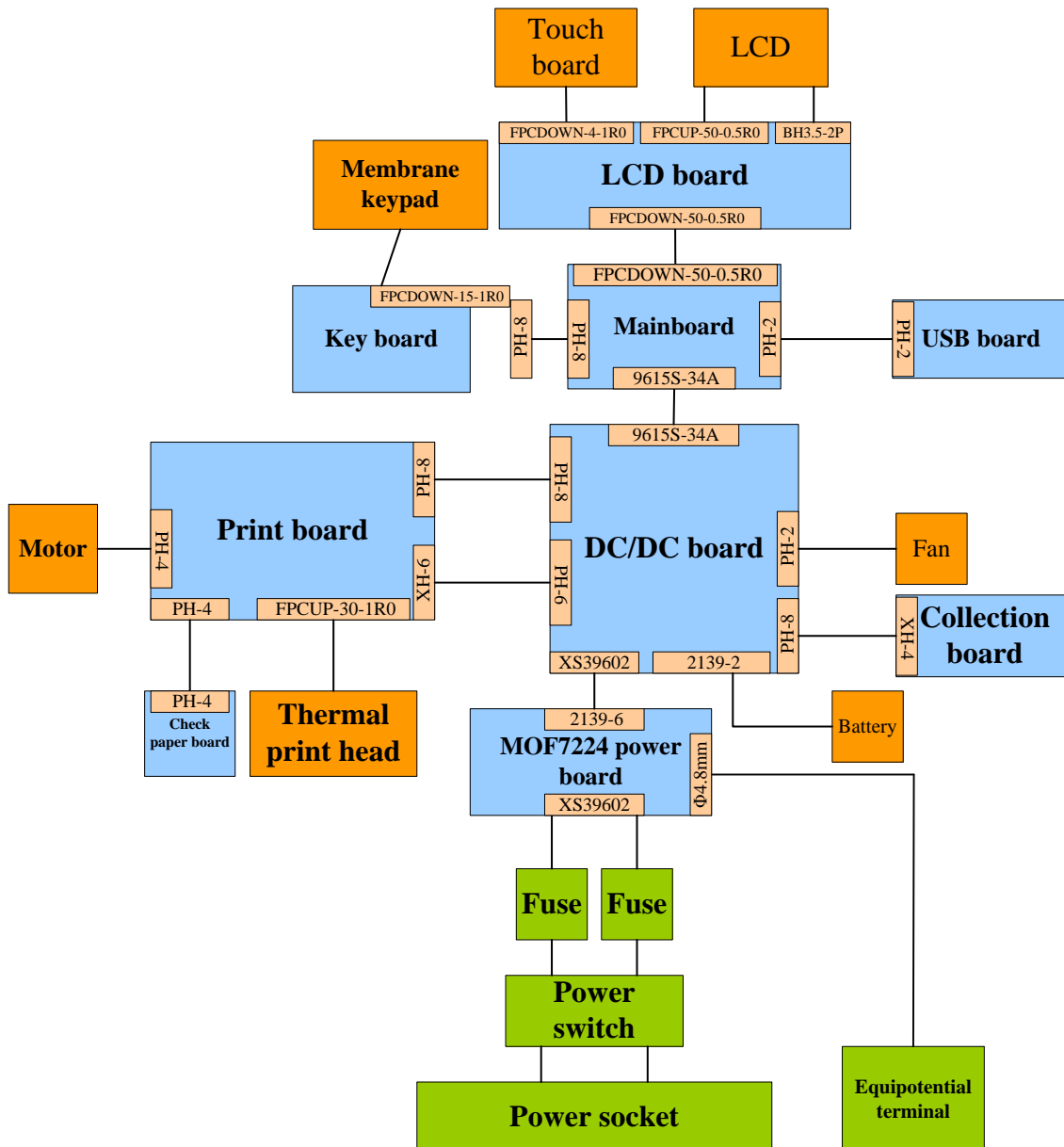
Please pull the power plug out at the time of power failure. if the device won't be used for long, put it in the shady, cool and dry place, and charge it once per 3 months.

Chapter5 Failure Analysis and Troubleshooting

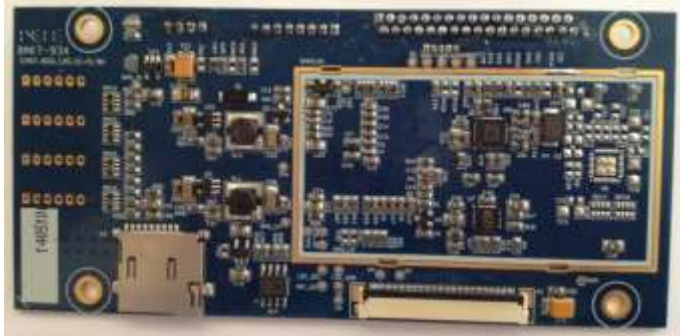

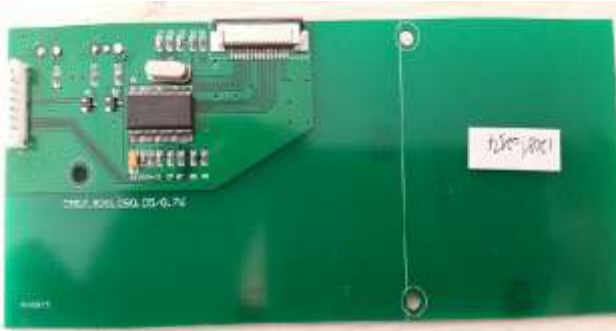

No.	Trouble	Analysis	Solution
1	Big interference, disordered waveform.	<ol style="list-style-type: none"> 1) The earth wire is connected improperly. 2) Two terminals of lead cable connect unsteadily. 3) AC interference. 4) The patient is nervous, and not quiet. 	<ol style="list-style-type: none"> 1) Check lead cable, earth wire and power cord. 2) Please keep the patient in proper state.
2	Baseline is rough	<ol style="list-style-type: none"> 1) AC interference is too large. 2) The patient is nervous, and EMG interference is too large. 	<ol style="list-style-type: none"> 1) Improve the environment. 2) If the sickbed is metal, please replace it. 3) The power cord and lead cable are not parallel or too close.
3	Waveform is not regular, with too great wave or beeline	<ol style="list-style-type: none"> 1) Conductivity of electrode is bad. 2) Low-battery. 3) Contact between electrode and skin is bad. 4) The plug between lead cable and main unit is not tight. 5) Contact between lead cable and electrode is bad. 	<ol style="list-style-type: none"> 1) Use alcohol of high quality. 2) Clean the electrode plates and the skin under them with alcohol. 3) Charge the battery.
4	Unstable baseline	<ol style="list-style-type: none"> 1) Low-battery. 2) Patient moves. 	<ol style="list-style-type: none"> 1) Charge the battery. 2) Let the patient keep calm.
5	Unclear waveform	<ol style="list-style-type: none"> 1) The printer head is dirty. 2) Thermal paper has some problems. 	<ol style="list-style-type: none"> 1) Clean the printer head with alcohol under the condition of power failure and use it after the alcohol is volatilized. 2) Replace the thermal paper specified.
6	The battery can't be started or has bad ability to take load.	<ol style="list-style-type: none"> 1) Low battery. 2) Battery is broken. 3) DC-DC power board is broken. 	<ol style="list-style-type: none"> 1) Charge the battery immediately. 2) Replace a battery. 3) Replace a DC-DC power board.
7	Abnormal or no paper speed	<ol style="list-style-type: none"> 1) The gear is too tighten. 2) Recording paper is placed improperly. 3) Motor is broken. 4) Print board is broken. 	<ol style="list-style-type: none"> 1) Check the gear and print paper. 2) Replace a motor. 3) Replace a print board.
8	No display for LCD or LCD displays less than 7 segments.	<ol style="list-style-type: none"> 1) FPC socket on the LCD is inserted improperly. 2) FPC socket connected LCD board with mainboard is inserted improperly. 3) LCD is broken. 4) LCD cable is broken. 	<ol style="list-style-type: none"> 1) Check whether all FPC sockets are inserted properly. 2) Check LCD and CPU power supply.

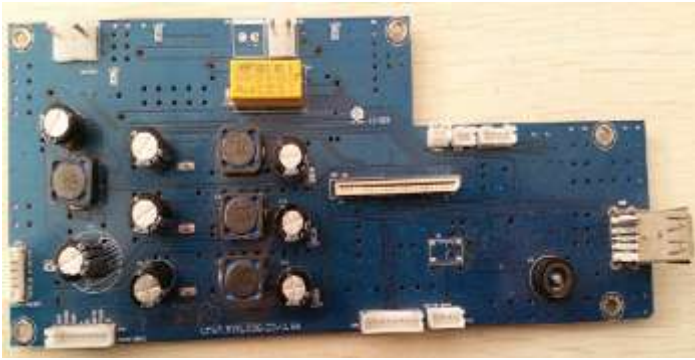



9	Automatic power off.	<ol style="list-style-type: none"> 1) Battery power is used up. 2) AC voltage is too high. 3) AC interference is too large. 	<ol style="list-style-type: none"> 1) Charge the battery. 2) Adjust the adjustable resistor on the AC-DC power board. 3) Screw down the fixed knob on the plug of the lead cable.
10	Key failure	<ol style="list-style-type: none"> 1) The connection line connected to key board is inserted improperly or broken. 2) Key board is broken. 	<ol style="list-style-type: none"> 1) Check the connection lines or replace them. 2) Replace a key board.
11	Overtime or blank print.	<ol style="list-style-type: none"> 1) The connection line between power board and print board is inserted improperly or broken. 2) Print board is broken. 	<ol style="list-style-type: none"> 1) Check the connection lines or replace them. 2) Replace a print board.


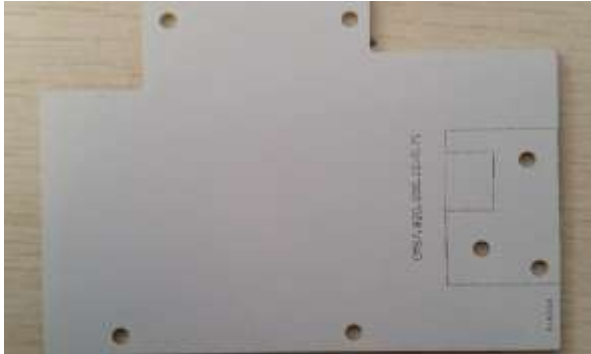


Annex I Internal Connection Diagram



Annex II Board description

Board name and No.	Picture
EKG1212T main board	 <p>A blue printed circuit board (PCB) with various electronic components. It features a central integrated circuit (IC) in a square package, surrounded by smaller components like resistors and capacitors. There are several connectors along the edges, including a large multi-pin connector at the bottom and a smaller one on the left. The board is populated with numerous surface-mount components.</p>
EKG1212T LCD board	 <p>A green PCB with a central IC and various components. It has two large connectors at the bottom. A white label with handwritten text is visible on the right side. The board is populated with various electronic components, including resistors, capacitors, and a central IC.</p>
EKG1212T key board	 <p>A green PCB with a central IC and various components. It has a single connector at the top. A white label with handwritten text is visible on the right side. The board is populated with various electronic components, including resistors, capacitors, and a central IC.</p>
EKG1212T print board	 <p>A green PCB with a central IC and various components. It has several connectors along the edges. The board is populated with various electronic components, including resistors, capacitors, and a central IC.</p>

<p>EKG1212T DC-DC power board</p>	 A blue printed circuit board (PCB) for a DC-DC power converter. It features several electrolytic capacitors of various sizes, a central transformer, and various integrated circuits. A yellow component is visible at the top. The board is populated with numerous surface-mount components and has several connectors along its edges.
<p>EKG1212T collection board</p>	 A green PCB populated with a dense array of integrated circuits, resistors, and other electronic components. A large yellow transformer is mounted on the left side. A multi-pin connector is visible on the right edge. The board is densely packed with components.
<p>MOF7224 power board</p>	 A blue PCB with a prominent yellow transformer in the center. A yellow warning label with a lightning bolt symbol and the text "Hochspannung! DANGER" is placed over the transformer. The board includes several electrolytic capacitors and other electronic components. A white star-shaped component is visible in the foreground.
<p>EKG1212T power interface board</p>	 A close-up view of a green PCB. It features a large, dark grey metal component, likely a power connector or terminal block, mounted on the board. The board has several through-hole components and a circular hole. Text on the board includes "CMS7. 920. 090. 08/0. 9" and "12".

<p>EKG1212T check paper board</p>	 <p>A green printed circuit board (PCB) for a check paper board. It features a small black component labeled 'J2' and several surface-mount components. The board is marked with 'CHS7. 820. 090. 08 / 0. 70' and '67401'.</p>
<p>EKG1212T network card board</p>	 <p>A white printed circuit board (PCB) for a network card. It has a rectangular shape with several mounting holes and a small component on the right side. The board is marked with 'CHS7. 820. 090. 10 / 0. 70'.</p>
<p>EKG1212T USB board</p>	 <p>A green printed circuit board (PCB) for a USB board. It features a USB Type-A connector, a white plastic component, and several circular holes. The board is marked with 'CHS7. 820. 090. 11 / 0. 70'.</p>
<p>EKG1212T battery separator</p>	 <p>A white printed circuit board (PCB) for a battery separator. It has a rectangular shape with a notch on the right side and a black arrow pointing to the right. The board is marked with 'CHS7. 820. 090. 12 / 0. 70'.</p>

Annex III Product Failure Feedback Table

Product Failure Feedback Table					
Client Name		Linkman		Telephone	
Product Name		Product Model		Purchase Date	
Product Number					
No.	Failure Description(attached figure)	Frequency	Date		
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

⚠ Note ⚠ This table is used for failure information feedback to help our company deal with new failures in time and give good solution. Please fill in carefully.



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