CHISON
Value Beyond Imaging

SERVICE MANUAL
FOR
DIAGNOSTIC ULTRASOUND SYSTEM
Sonobook8

CHISON Medical Technologies Co., Ltd.

We reserve the right to make changes to this manual without prior notice.

Regulatory Requirement

$C\epsilon$ 0197 This product conforms to the essential requirements of the Medical Device Directive 93/42/EEC. Accessories without the CE mark are not guaranteed to meet the Essential Requirements of the Medical Device Directive.

This manual is a reference for the SonoBook 8. Please verify that you are using the latest revision of this document. If you need the latest revision, contact your distributor.

⚠ <u>NOTE:</u>

Important

1. No part of this manual may be reduced, modified, copied or reprinted, in whole or in part, without written permission from CHISON.
2. The contents of this manual are subject to change without prior notice and without our legal obligation.
3. Please read and understand this manual before service. After reading, keep this manual in an easily accessible place. If you have any question or doubt, please contact CHISON's authorized service engineer.

⚠ <u>*NOTE:*</u>
Important information

1. It is the customer's responsibility to maintain and manage the system after delivery.
2. The warranty does not cover the following items, even during the warranty period:
   a) Damage or loss due to misuse or abuse with system and probes, for example, drop the probe, the liquid or the metal part fall into the system.
   b) Damage or loss caused by Acts of God such as fires, earthquakes, floods, lightning, etc.
   c) Damage or loss caused by failure to meet the specified conditions for this system, such as inadequate power supply, improper installation or environmental conditions.
   d) Damage or loss caused by non approved transportation by CHISON.
   e) Damage or loss due to use the system outside the region where the system was originally sold.
   f) Damage or loss involving the system purchased from a source other than CHISON or its authorized agents.
3. Do not make changes or modifications to the software or hardware of this system and probes.
4. During operate the system, if user has any doubt, difficulty or any unclear, please contact CHISON's authorized service engineer immediately. Please describe the situation clearly to solve the question in time. Before solve the question, please don't operate the system.
5. This system shall not be used by persons other than fully qualified and certified medical personnel.
6. The device can only be sold to qualified medical institutions or doctors. The users shall fully understand and master the devices before operating. The users shall have got the qualification, and shall comply with the local laws and regulations, the local religion and customs, etc.
7. The System modified or repaired by people other than CHISON's qualified service engineers, CHISON shall not be liable for the system.
8. The purpose of this system is to provide physicians with data for clinical diagnosis. It is the physician's responsibility for diagnostic procedures. CHISON shall not be liable for the results of diagnostic procedures

9. This manual contains warnings regarding foreseeable potential dangers, but user shall always be alert to dangers other than those indicated as well. CHISON shall not be liable for damage or loss that results from negligence or from ignoring the precautions and operating instructions described in this operation manual.
10. Due to negligence not following operation manual, CHISON shall not be liable for the results.
11. Each time before and after ultrasound examination, please check the probe surface, probe cable and sheath whether they are abnormal, such as cracking, peeling and deformation. Also check whether the lens is strongly fixed. Abnormal probes may cause electric shock and injure the patient. Once any abnormal, user must stop using and contact CHISON's authorized service engineer.
12. If the probe is dropped or scratched by hard part, please stop using the probe immediately. And contact CHISON's authorized service engineer to make sure the safety and effectiveness is in good condition before use.
13. If there is any liquid or metal to enter to the system, please power off the system and stop using it immediately. Please first contact CHISON's authorized service engineer to make sure it's safe before restart using it.
14. Please don't use solvents (such as paint thinner, benzene), or alcohol) or abrasive cleansers for cleaning the system (including monitor and probes, etc). It may corrode the system and probes.
15. Important data must be backed up on external memory media. CHISON shall not be liable for loss of data stored in the memory of this system caused by operator error or accidents.
16. LCD display screen may have some dark or light dots, it is normal for the LCD. It does not mean that LCD screen is defective.
17. Please put this service manual with the system to ensure operator and manager can reach it at any time.
18. Please start to disassemble the system in 2 minutes after the system is OFF.
19. Please pay attention to the invert part, that there is high voltage on it.
20. While open the metal box, please note the sharp edge of metal part to avoid cutting the finger.

TABLE OF THE CONTEXT

Chapter 1 Introduction

1.1 General Description

This manual contains necessary information for service. Read and understand all the instructions in this manual before service. Always keep this manual with the equipment, and periodically review the procedures.

⚠**Note: The servicing must be performed by CHISON's authorized service engineer.**

1.2 System Overview

Indications for Use

The device is a general-purpose ultrasonic imaging instrument intended for use by a qualified physician for evaluation of Fetal , Abdominal , Pediatric , Small Organ (breast, thyroid, testes) , Neonatal Cephalic , Adult Cephalic, Cardiac(adult, pediatric), Musculo-skeletal (Conventional, Superficial), Peripheral Vascular, Transesophageal, Transrectal, Transvaginal, Urology.
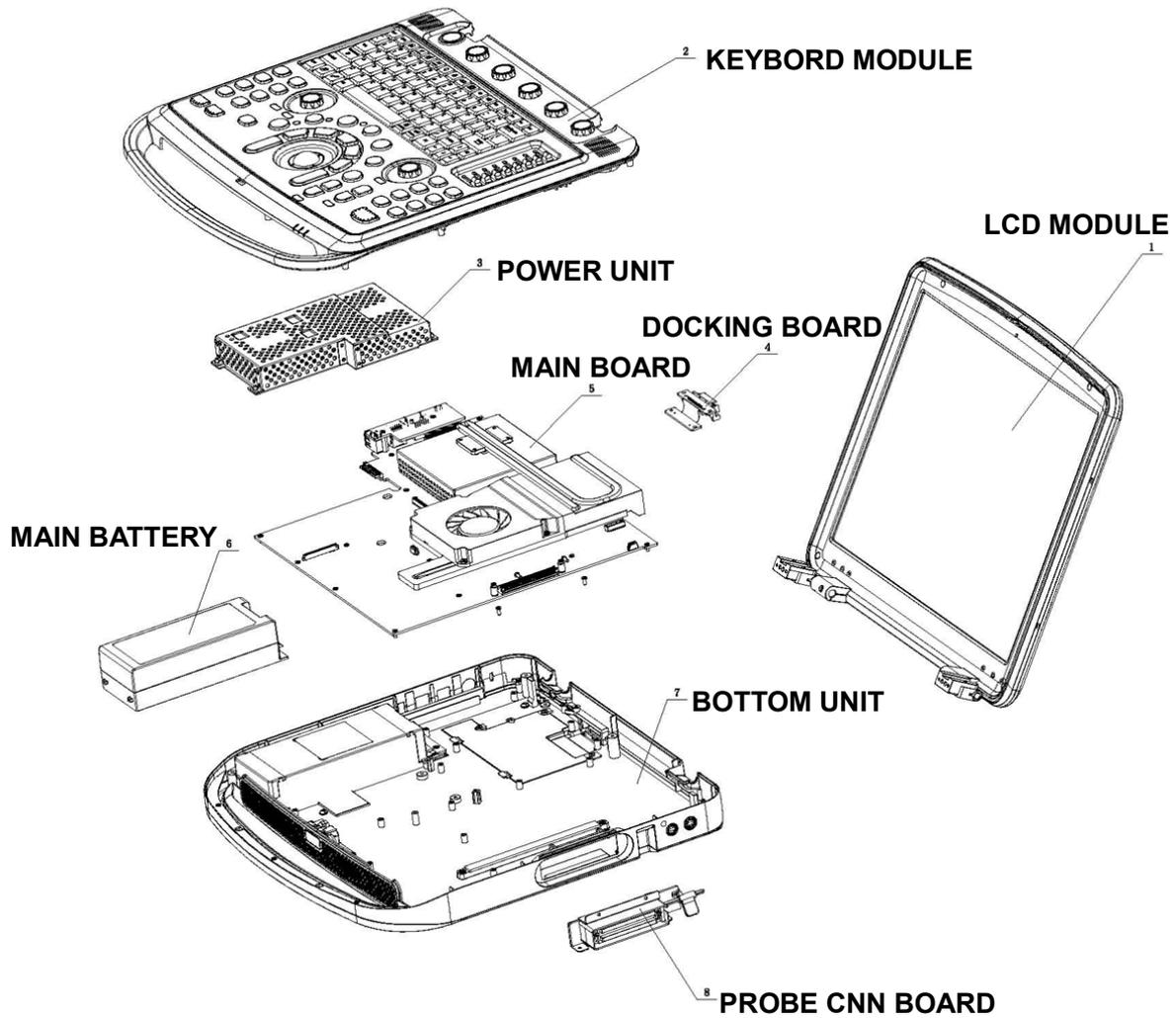
Contraindication

The system is NOT intended for ophthalmic use or any use that causes the acoustic beam to pass through the eye.

1.3 Contact Information

For additional information or assistance, please contact your CHISON service representative.

Chapter 2 Disassembly of SonoBook 8

For SonoBook 8, the FRU parts are separated as below picture.

KEYBORD MODULE

LCD MODULE

POWER UNIT

DOCKING BOARD

MAIN BOARD

MAIN BATTERY

BOTTOM UNIT

PROBE CNN BOARD

To disassemble SonoBook 8, there are some kinds of special tools may be needed.

The list is as below:

No.	Names	Picture	Where to be used
1	ECG wrench		ECG port, Pencil port
2	Internal hexagon wrench（M2.5 or M3.0）		Internal hexagon screw
3	Screw driver		All
4	Lever		LCD monitor
5	Small screw driver		DOCKING BOARD to BOTTOM UNIT

2.1 Shut down

Press <POWER> key at left upper corner until the screen show "turn off confirmation", choose "turn off", shut down the system, disconnect the power adapter. Make sure the system is power off before disassemble the machine.
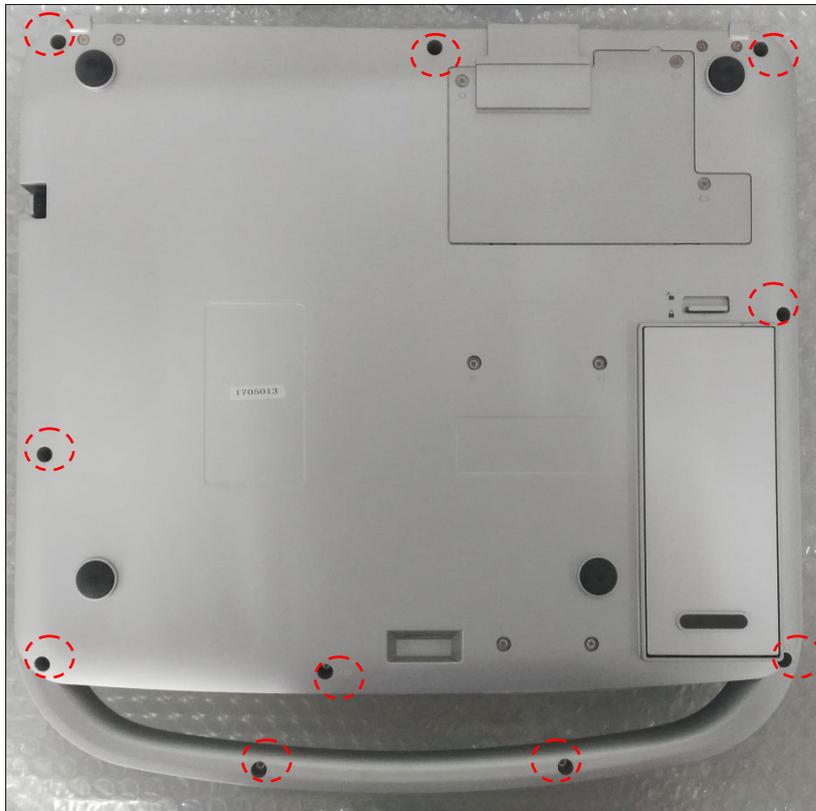
2.2 Remove MAIN BATTERY

Hold the battery lock to unlock status, then remove the battery.

Battery lock

Battery bay
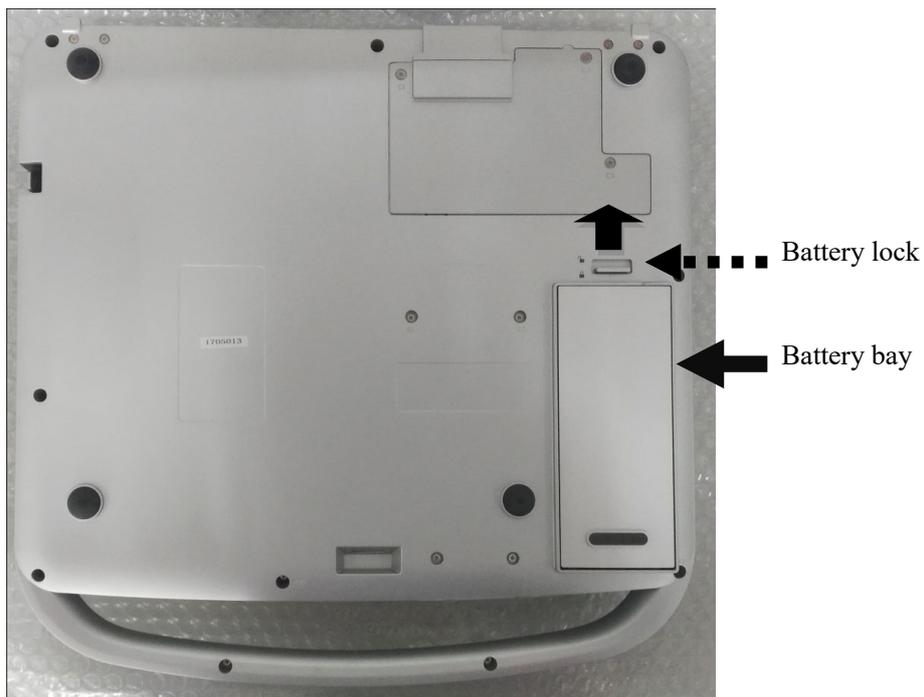
2.3 Disassembly of KEYBOARD MODULE

Remove the screws (A1-A10) on the bottom unit, then disconnect the keyboard cable.
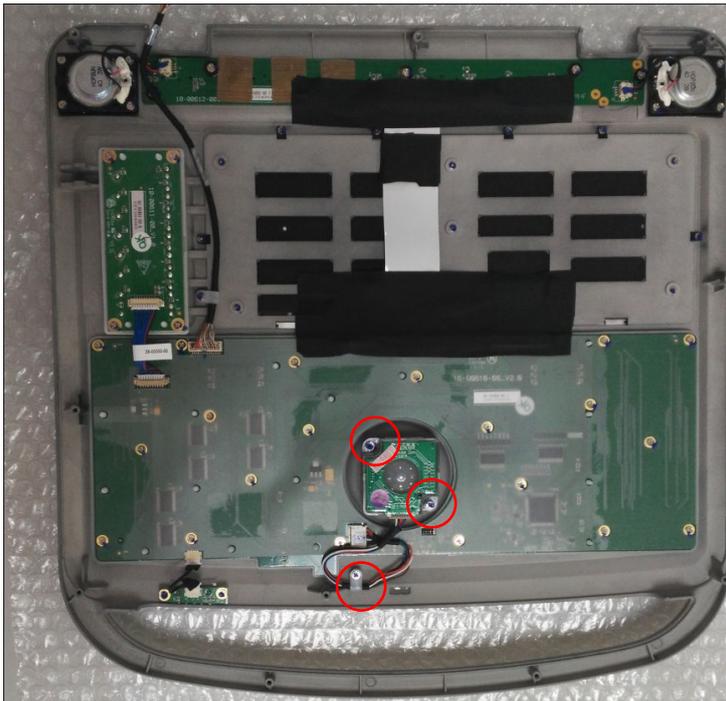
⚠️ _**NOTE:**_

**While assemble the keyboard module, be careful to fix the keyboard cable to connector with right direction.**
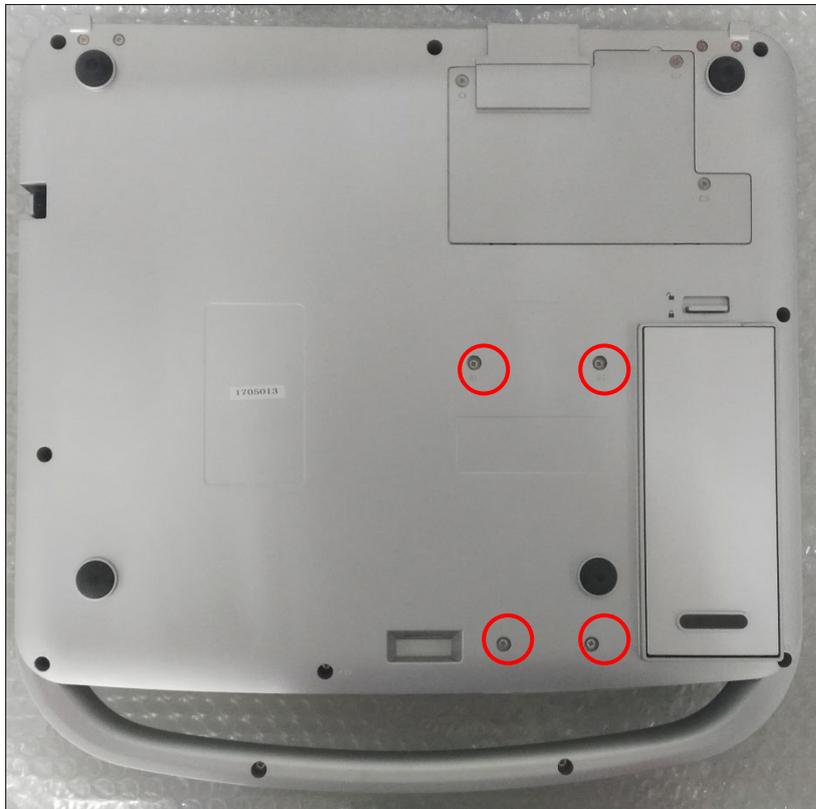
2.4 Disassembly of Trackball

Remove 3 screws and disconnect the trackball cable.

2.5 Disassembly of POWER UNIT

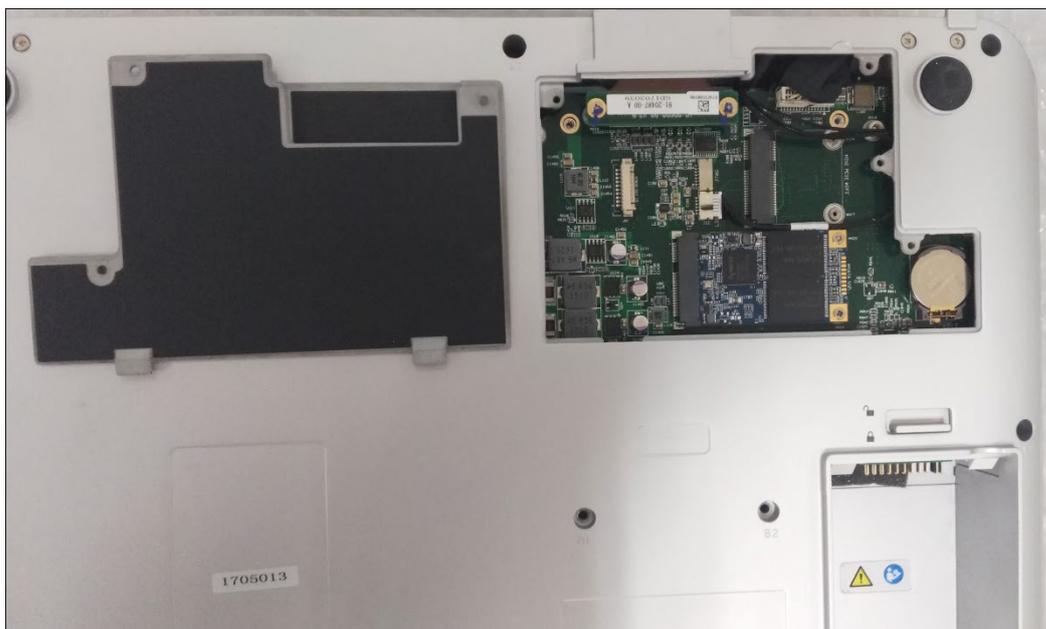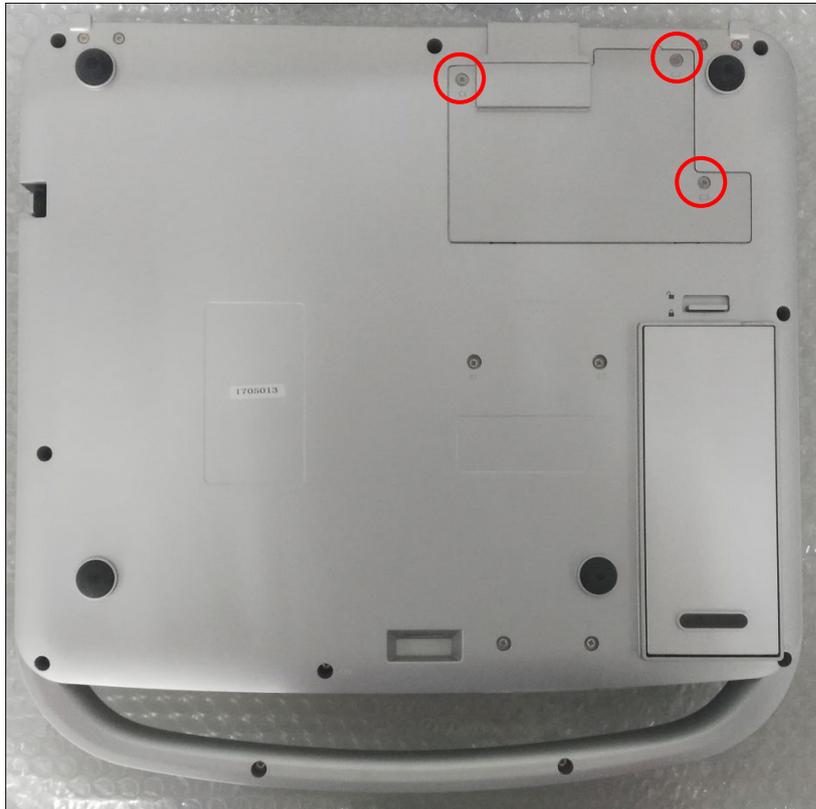1)   Remove the screws(B1-B4) on the bottom unit.

2)   Follow Step 2.3 to remove the KEYBOARD MODULE.
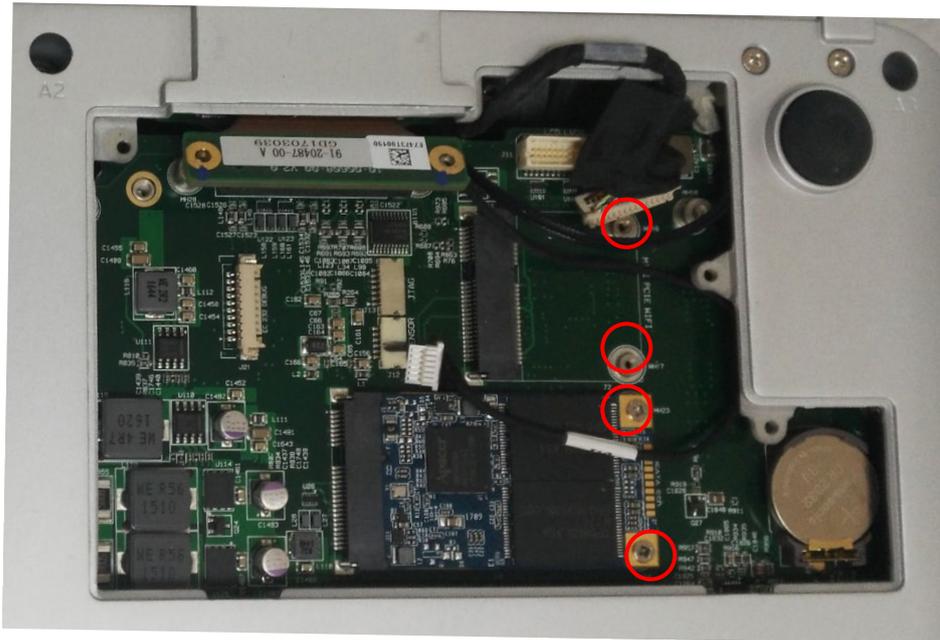
3)   Pull out the POWER UNIT.

⚠️ **NOTE**: *Make sure the correct direction while installing the POWER UNIT.*

2.6 Replace SSD or WIFI module

1) Remove the C1-C3 screws from bottom side to open the SSD cover.

2) Remove the fixing screws and pull out the WIFI module or SSD.

⚠️*NOTE:*

TO install new SSD or WIFI module, please make sure the direction of the module plug match with the socket.

3) Restore option licenses if SSD has been changed.

   a) Plugs USB license gear to ultrasound system.

   b) Gather current Serial NO. and SSD information, and store to USB license gear.

   c) Plugs the USB license gear to a PC which is able to access to Internet.

   d) Run "LicRestore.exe" which is provided by CHISON.

   e) Connect to server to rebrand USB license gear with new SSD.

   f) Plugs USB license gear to ultrasound system to open option functions.

2.7 Disassembly of LCD MODULE

1) remove the 6 screws for the hinge.

2) Follow the step of 2.6 1) to remove the C1-C3 screws from bottom side to open the SSD cover.

3) Disconnect the LVDS cable and light cable.
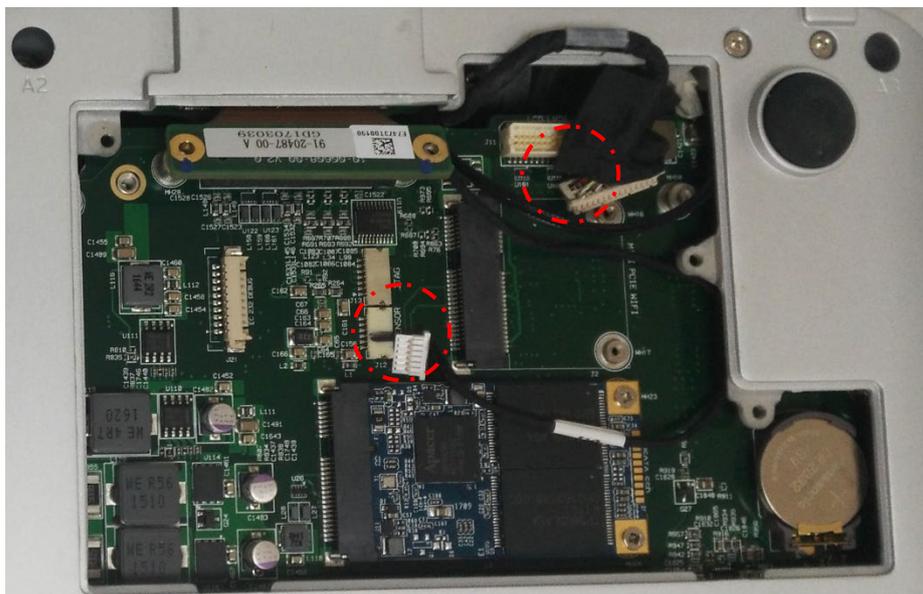
4) Remove the 2 screws for cable clamp.
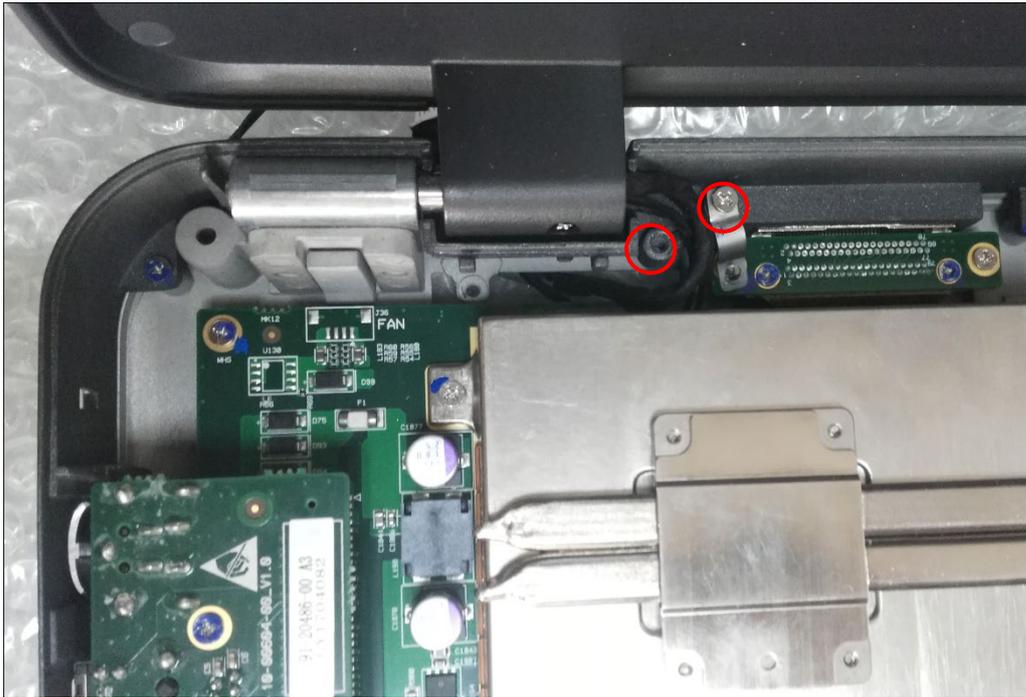
5) Then take out the LCD MODULE carefully.

⚠️ **NOTE: While take out the LCD MODULE , carefully disconnect the LCD cable, avoid any damage for   the cable.**

2.8 Disassembly of MAIN BOARD

1) Remove 2back fixing screws（M2.5*4）of the DOCKING BOARD, pull out the PCB. then remove the LCD cable together.
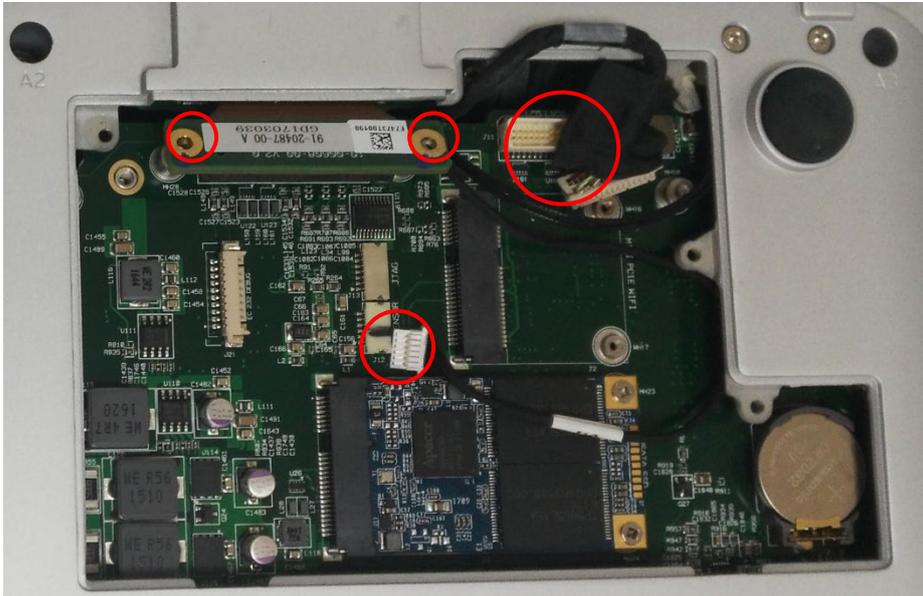
2) Remove 2fixing screws（M2.5*4）of PROBE CNN BOARD, and pull out the PCB.
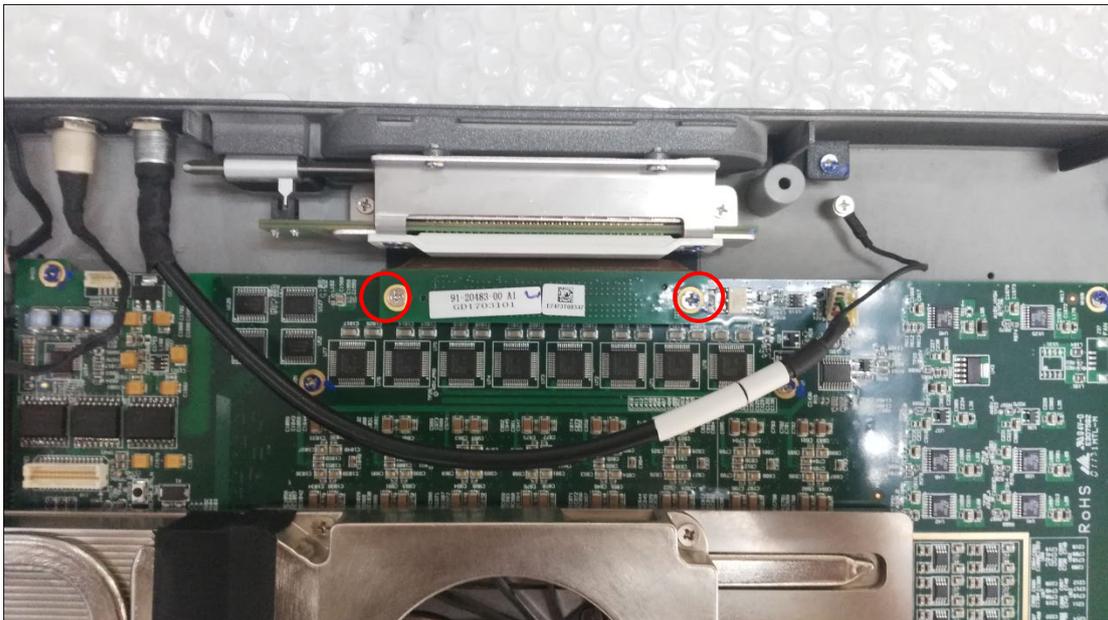
3) Remove 2 fixing screws（M2.5*4）for Battery Bin Cover Plate.
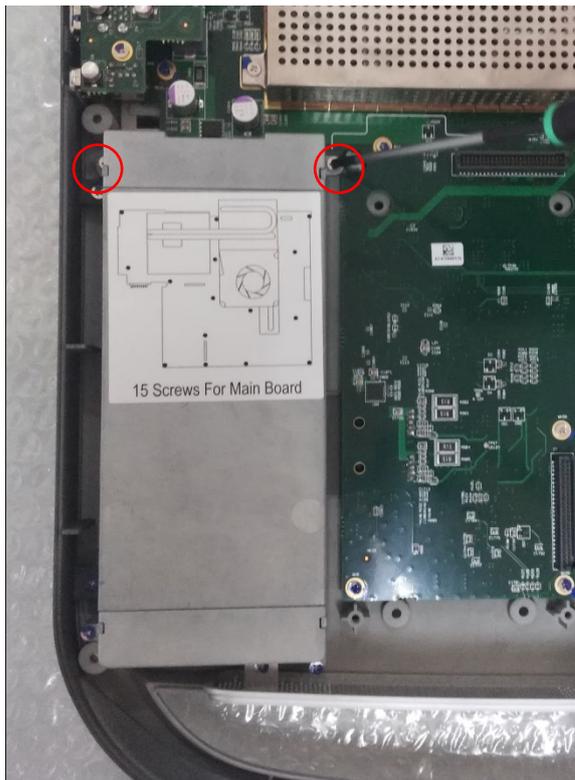
4) Remove 15 fixing screws（M2.5*4） of the MAIN BOARD. Loosen the probe board

slightly with right hand, left hand to hold on Cooling Module, then pull out the MAIN

BOARD.

NOTE:

1. Bend the Docking board and PROBE CNN BOARD, will break the flex plates.

2. Refer to the label in the battery bay for screws location.

2.9 Disassembly of PROBE CNN BOARD

1) Follow the step of 2.8 2), then Remove 4 fixing screws （M2.5*4）.
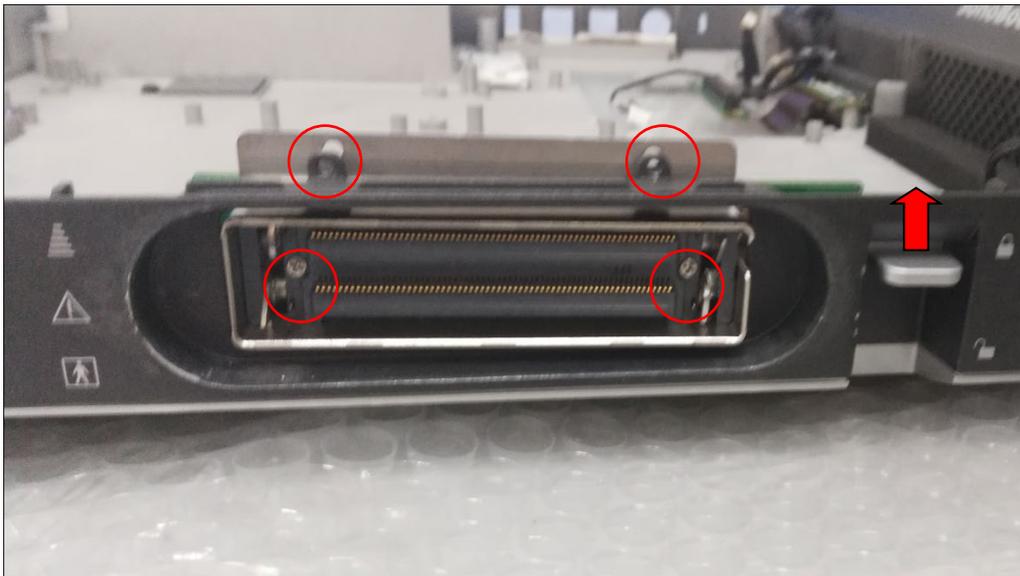
2) Turn the probe connector locking lever to "lock" status, Pull out the PROBE CNN BOARD. Avoid the probe lock wrench hit the black sensor.

2.10 Disassembly of DOCKING BOARD

1) Remove 2 fixing screws（M2.5*4） of the docking board.
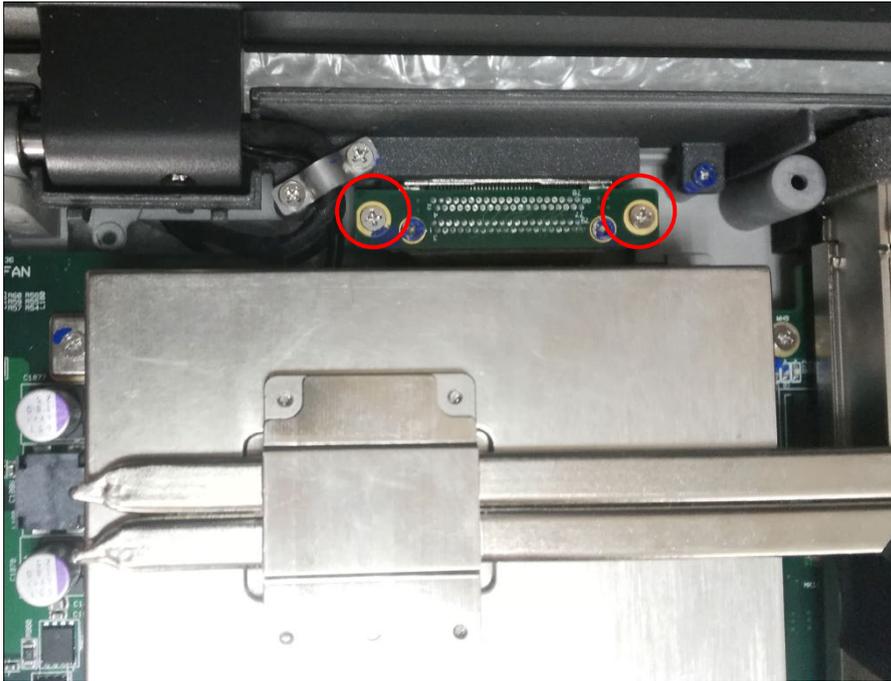
2) Remove 1 fixing screws（M2*4） of the docking board.

2.11 Disassembly of IO DOCK

1) Remove 2 fixing screws（M2.5*4）.
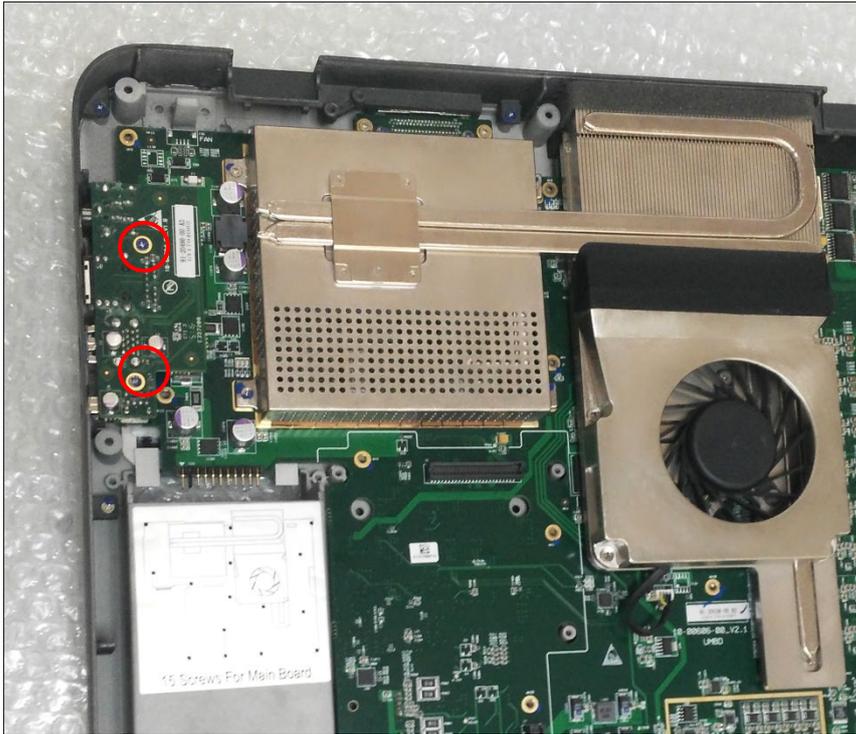
2) Pull out the I/O Board.
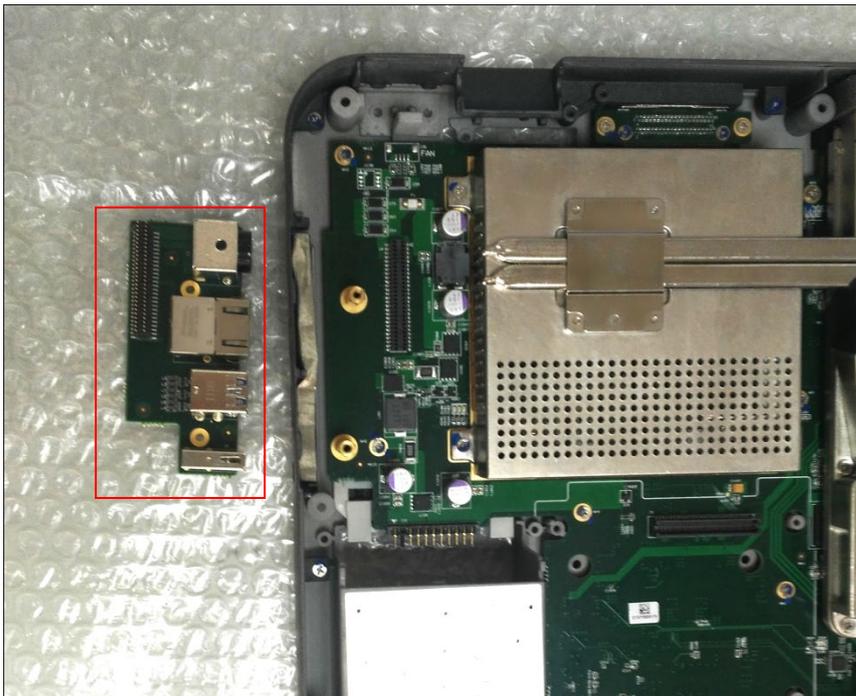
2.12 Disassembly of COOLING MODULE

1) Follow the step of 2.8(disassembly of MAIN BOARD), then remove 2 fixing screws,

disconnect the cable.

2) Remove the 6 screws on the back of the MAIN BOARD.
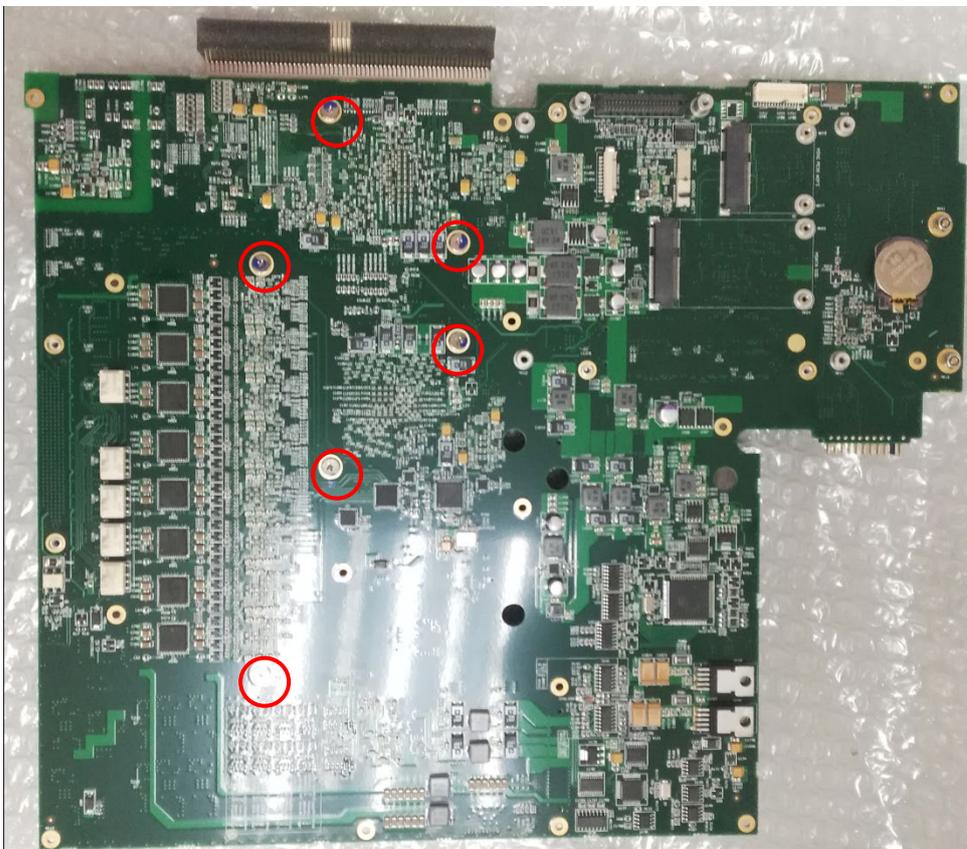
3) Separate the COOLING MODULE from the MAIN BOARD.

2.13 Disassembly of PC MODULE

1) Follow the step of 2.12 (disassembly of COOLING MODULE), then remove 4 screws.

2) Separate the PC MODULE from the MAIN BOARD.
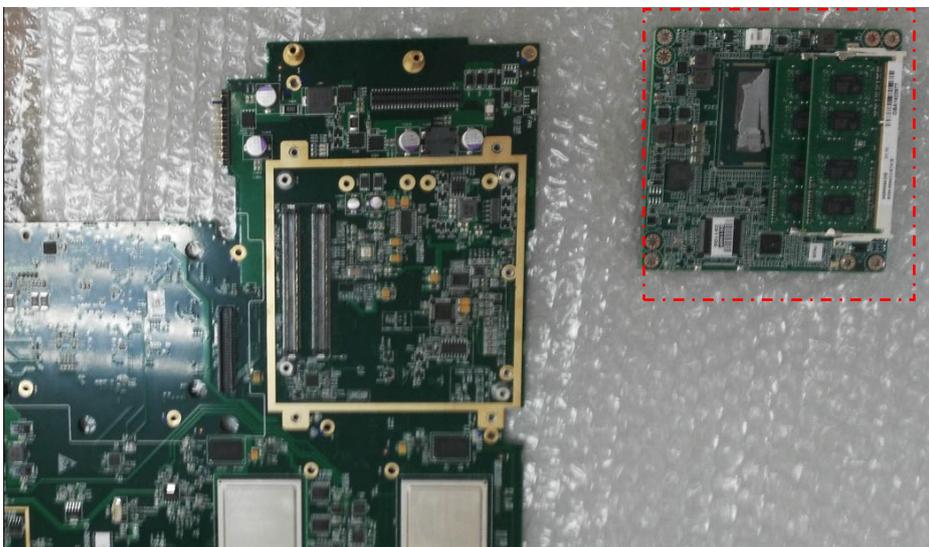
2.14 Disassembly of PENCIL PORT

1) Follow Step2.3 to disassemble keyboard module.

2) Remove one fixing screw, disconnect the pencil transducer cable and use tool to

remove it from the main system.
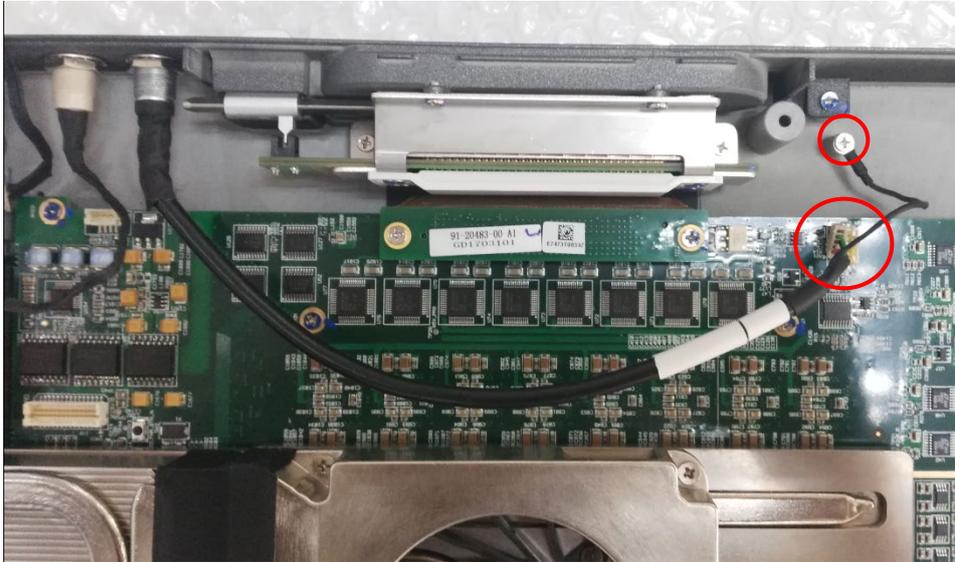
2.15 Disassembly of ECG PORT

1) Follow Step2.3 to disassemble keyboard module.

2) Disconnect the ECG cable and using tool to remove it from the main system.
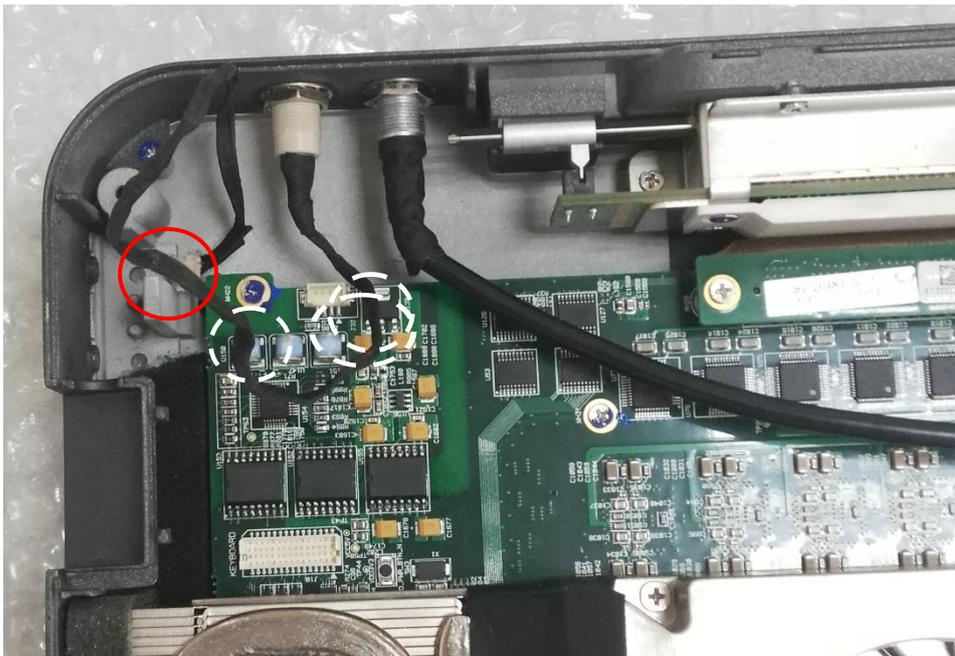
2.16 Disassembly procedures of the separate units

No.	PARTS NAME	Remove the unit need to reference these steps
1.	LCD MODULE	2.6 1) ->2.7
2.	BACK COVER	2.7
3.	FRONT COVER	2.3
4.	HINGE	2.7
5.	SCREW CAP	2.7
6.	HINGE CAP SET	2.7
7.	KEYBORD MODULE	2.3
8.	TRACK BALL	2.3->2.4
9.	U PANEL COVER	2.11->2.3->2.4->2.5->2.6->2.7->2.8->2.9->2.10
10.	POWER UNIT	2.3->2.5
11.	IO DOCK	2.3->2.11
12.	DOCKING BOARD	2.3->2.6->2.10
13.	PENCIL PORT	2.3->2.14
14.	ECG PORT	2.3->2.15
15.	PROBE CNNBOARD	2.3->2.8->2.9
16.	MAIN BOARD	2.3->2.8
17.	MAIN BATTERY	2.2
18.	SSD(STD)V1.0	2.6
19.	SSD(4D)V1.0	2.6
20.	WIFI MODULE	2.6
21.	SSD COVER	2.6
22.	RUBBER FEET	Remove the RUBBER FEET from bottom side.
23.	ADAPTER	Remove the power cord and replace it. Connect the power cord.

Chapter 3 Connection between each unit

3.1   Connection Diagram
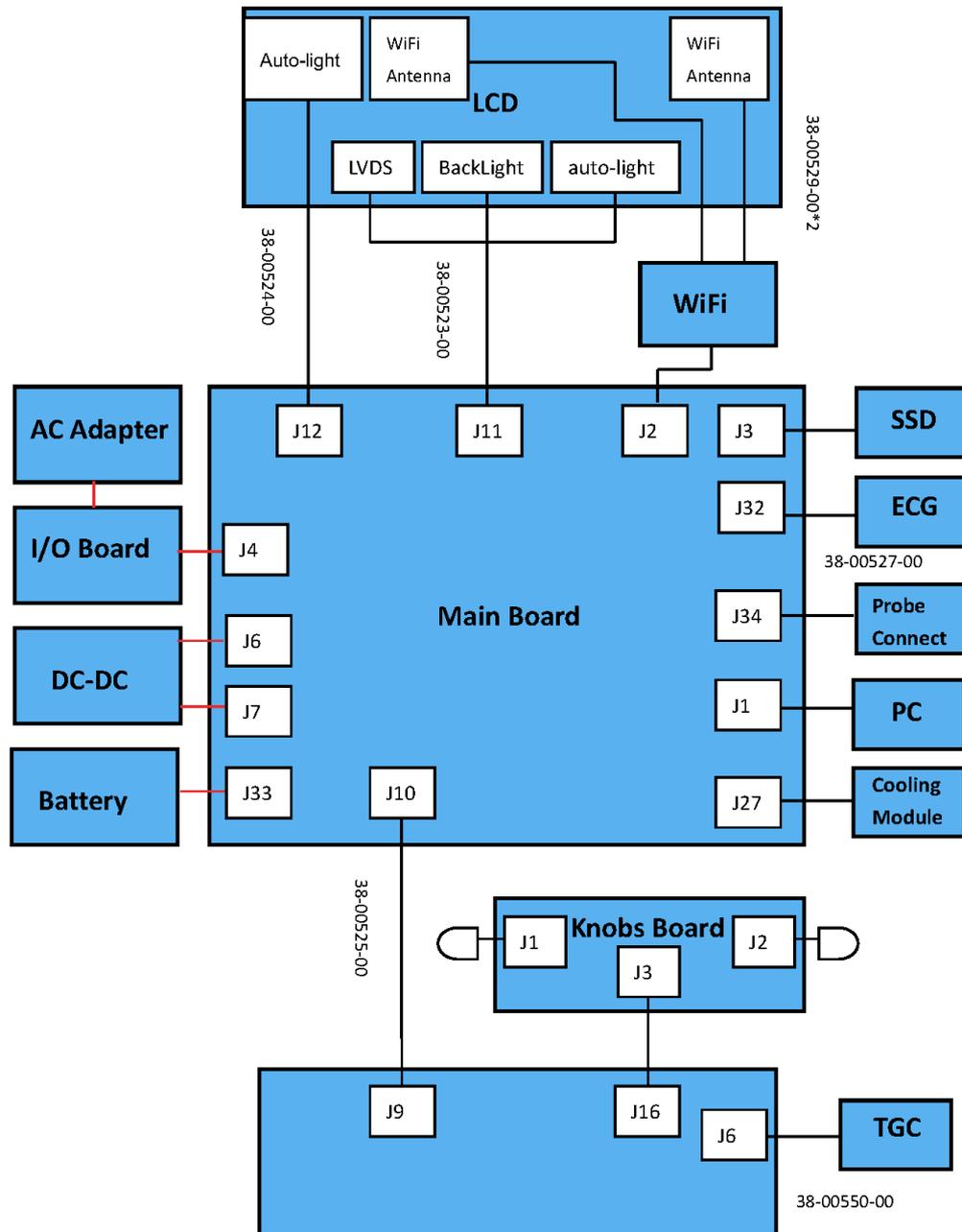
3.2　System Structure Frame
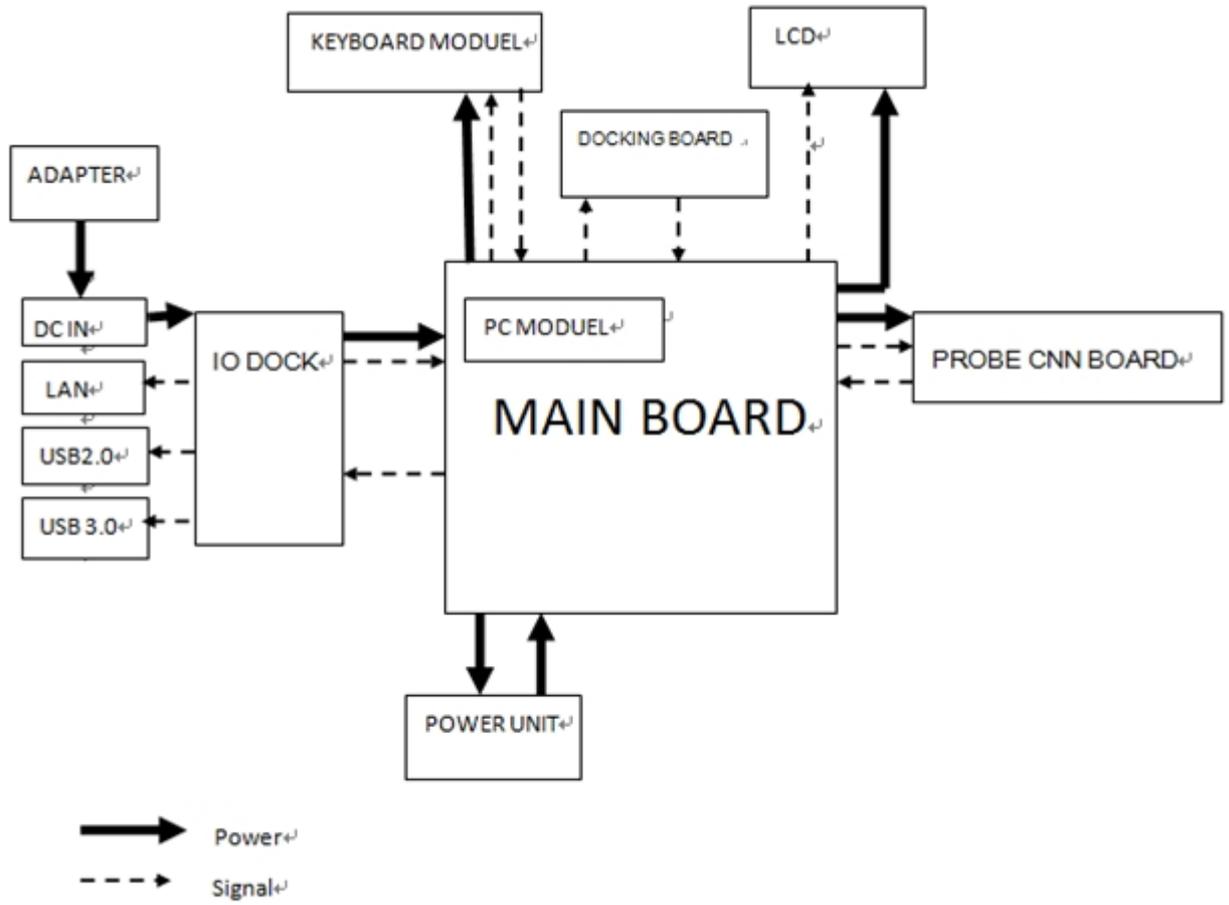
Chapter 4 Common Trouble shooting

4.1 Daily Use Notices

1) Working location should be away from water.

   The following environmental conditions are within system tolerances for operation:

   Temperature: 10º C ~ 40º C
   Relative Humidity: 30%~75%, non-condensing
   Atmosphere Pressure:700hPa ~ 1060hPa

2) It is important to put the machine at the correct location when in use, as the poor placement, it will cause bad heat dissipation, premature cover wear etc.

3) Air circulation requirements of the system and the location of its air filter can cause dust to accumulate rapidly on the air filter and cause the system to overheat. Advise the customer about the need to maintain a low level of dust in the room. Clean the fan filter, if necessary.

4) If any breakdown is suspected, please contact the local CHISON's Authorized Service Representative at the first time. Don't disassemble or repair privately, resulting in unnecessary losses.

⚠ *NOTE:*

Strong radiation sources or powerful electromagnetic waves (e.g. electro-magnetic waves from radio broadcasting) may result in image ghosting or noise. The system should be isolated from such radiation sources or electromagnetic waves.

To prevent damage to the system, do not use in the following locations:

- *Exposed to direct sunlight*
- *Subject to sudden changes in temperature*
- *Dusty*
- *Subject to vibration*
- *Near heat generators*
- *High humidity*
- *Flammable gases*
- *A strong electric/magnetic field(for example, near a voltage transformer)*

This equipment generates, uses and can radiate radio frequency energy. The equipment

may cause radio frequency interference to other medical and non-medical devices and radio communications. To provide reasonable protection against such interference, this product complies with emissions limits for a Group 1, Class B Medical Devices Directive as stated in EN 60601-1-2. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment is found to cause interference (which may be determined by turning the equipment on and off), the user (or qualified service personnel) should attempt to correct the problem by one or more of the following measure(s):

- *reorient or relocate the affected device(s)*
- *increase the separation between the equipment and the affected device*
- *power the equipment from a source different from that of the affected device*
- *consult the point of purchase or service representative for further suggestions.*

4.2 Solutions for Breakdown

Symptom	Classification Description	Breakdown Unit	Solution
The main unit cannot power on	Press the <POWER> key cannot power on the system	No power supply	1) Check the Adapter connection. 2) Check the MAIN BATTERY status
		POWER UNIT	Replace the POWER UNIT
		<POWER> key is not work	Replace the KEYBOARD
	The keyboard light is on, but the LCD screen still dark.	1) MAIN BOARD 2) LCD MODULE	1) Replace the MAIN BOARD 2) Replace the LCD MODULE
	The LCD back light is on.	MAIN BOARD	Replace the MAIN BOARD
	The LCD back light is off.	LCD MODULE	Replace the LCD MODULE
The LCD screen blurred	The LCD screen blurred.	LCD MODULE	Replace the LCD MODULE
Cannot enter the system	The system pop up the message "Disk error" when power on.	1) System 2) SSD	1) Recovery the system 2) Replace the SSD

Symptom	Classification Description	Breakdown Unit	Solution
The system is off automatically.	The system is off automatically in operation.	External reason	Check the installation environment, the site temperature exceeds the specified range.
			Check the installation environment, the voltage is unstable.
			Train the customer doesn't move the system in working status.
		POWER UNIT	Replace POWER UNIT
	The system turn off automatically when startup	POWER UNIT	Replace POWER UNIT
	Reboot the system, but it hangs in startup process	System	Force turns off the system by keep pressing [POWER] key, then use "one key recovery" and update the latest software.
The system time is wrong.	The system time changes to 2002(example) year, sometimes even you adjust it correctly, it will go back soon.	The button battery on MAIN BOARD is out of power.	Replace the button battery on the MAIN BOARD.
	Sometimes the system time is incorrect.		

Symptom	Classification Description	Breakdown Unit	Solution
The system can't recognize the probe	No probe displayed in transducer Selection interface.	1)Software/Probe 2)PROBE CNN BOARD	1) Upgrade the software after "one key recovery"／Replace the probe. 2) Replace the PROBE CNN BOARD.
	DBF, USB items are blank in system information interface.		
	The probe can't be recognized, sometimes it shows wrong ID.		
The KEYBOARD doesn't work properly	Some of the buttons on KEYBOARD are not sensitive, such as Freeze, Report etc.	KEYBOARD.	Replace the KEYBOARD.
	Some of the buttons doesn't work properly.		
	Sometimes the system shows "KEYBOARD error" , most of the buttons don't work.	KEYBOARD	Replace the KEYBOARD
	Most of the buttons on the OP PANEL don't work.	KEYBOARD	1) Restart the system and check it again. 2) Reconnect the KEYBOARD cable. 3) Replace the KEYBOARD cable.
	The system shows " Keyboard error ".		
	The knob doesn't work, such as Frequency adjust.	Knob	Replace the KEYBOARD

Symptom	Classification Description	Breakdown Unit	Solution
The trackball doesn't work properly	The track ball can move up or down, unable to move left or right.	Trackball	1) Reconnect the signal cable for trackball. 2) Replace Trackball
	The trackball doesn't work, but the external USB mouse can work.	Connection	1) Reconnect the signal cable for trackball. 2) Replace Trackball
	The trackball is not sensitive.	Trackball	Clean the trackball
	The trackball is too dirty.	Incorrect operation	Clean the trackball
Abnormal sound with PW mode	No sound with PW mode	Connection	Reconnect the Audio cable
		Interface board	Replace Interface board
	The sound is too small with PW mode	Speaker SET	Replace Speaker SET

4.3 System Popup Message

System Popup Message	How to operate for the popup message
Are you sure to clear all measure results?	[Yes] to clear all measure results, [No] to cancel.
Sent to the Demo directory Successfully.	No Action. It will disappear itself.
Are you sure to delete this measure---[{0}] permanently?	[Yes] to continue, [No] to cancel.
The Disk D is full, Please Check and Retry	Backup the patient to the external USB memory first and delete the patient data in the system.
The preset has been exported successfully!	Click "OK" to close the message.
The new preset will cover your current preset, do you want to continue?	[Yes] to continue, [No] to cancel.
Please don't remove the USB disk or turn off the power!	No Action. It will disappear itself. Don't remove the USB flash disk or turn off the system.
System firmware will be upgraded to the new version. This action will cause the system to shutdown. Do you want to continue?	[Yes] to continue, [No] to cancel.
Formula is wrong, please check it again!	Click "Yes" to close the message and Check the formula.
Formula is correct!	No Action. It will disappear itself
The current firmware version is DBF:{1},USB:{2}.	Click "OK" and the system will shut down automatically.
The preset has been imported successfully! The system will shutdown.	Click "OK" to close the message.
Input error, please check the password and try again. ErrorCode xx.	Check the password and try again.
Please input correct IP	Input the correct IP address.
Please input IP Address.	Input the correct IP address.
License load failed. ErrorCode: xx	License file load failed. See the error code list for details.
The license has been exported to "lic" folder successfully.	Click "OK", Please save the exported license file to a safe place for later use.
The log has been exported to U flash disk successfully.	Click "OK" to save the log to the U disk.

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System Popup Message	How to operate for the popup message
Cannot find any media to export	No media such as CD, USB to backup the data. Please connect some media.
No Demo Images to show!	Send some images to Demo.
There's no valid probe detected.	Please connect some probes.
There is no report belongs to the exam.	Create a report for this exam at first.
Current Probe does not support Biopsy function.	No Action. It will disappear itself
Equation name cannot contains '_' or ' '	Check the equation name.
The Preset has been saved successfully.	Click "OK"
The driver config file has not been found in the .pdv file. Please contact service for support.	Click "Exit", Check the driver file and try again.
The printer driver <{0}> does not exist in this system. You can install it again.	Click "Exit". Reinstall the printer driver .
The printer driver <{1}> has been associated by the printer <{0}>.	Click "Exit"
Please don't pull out the probe while system isn't frozen. It will damage the probe.	Click "OK". First freeze, then disconnect the probe.
It will restore your preset to the factory default, Do you want to continue?	[Yes] to continue, [No] to cancel.
System is being upgraded. Please don't turn off the power!	No Action. Don't turn off the power while upgrading system.
The System SN has been sent to USB flash disk successfully.	Click "OK"
Software will be upgraded to the new version. This action will override the user level presets and cause the system to shutdown. Do you want to continue?	[Yes] to upgrade system software, [No] to cancel.
Upgrade Failed. Please check it and try again. xx	See the error code list for details.
The software system has been upgraded to version {0}.xx	Click "OK"

System Popup Message	How to operate for the popup message
System is being upgraded. Please don't remove the USB flash disk or turn off the power!	No Action. Don't remove the USB flash disk or turn off the power!
The format of default gateway is not correct!	Input the correct gateway.
The format of DNS server is not correct!	Input the correct DNS server in correct format.
The format of IP address is not correct!	Input the correct IP address in correct format.
The format of subnet mask is not correct!	Input the correct subnet mask.
Please input shared Directory	Input the shared dir to add Network Storage.
Please input password	Input the password to add Network Storage.
No printer selected	Select the printer to set as default.
No media is found	Check if there are any media such as U flash disk, CDROM, Network Storage to export data.
Cannot change date and time when examine.	Please first end the current exam to change date.
Now the system is in editing exam status, please press [End] key to quit.	Press "End" key to quit editing exam status.
Fan speed is too low, the system is about to close.	Click "OK" to turn off the system, and check the fan status.

4.4 Error Code List

Error Code	Description error	Solution
000	Success operation.	No action.
001	Can't find the "functions.lic" in the system	Import the "functions.lic".
002	Incorrect "functions.lic" format. Usually because of the file damage or inputting the wrong series number when generate the file.	Regenerate "function.lic"
003	The system time is before the schedule time in "functions.lic", usually has two reasons as below : 1)When the engineer generate the "functions.lic", the local time of his computer is incorrect; 2) The system time is incorrect.	1)Adjust the local time of the engineer's computer and regenerate the "functions.lic"; 2)Enter the BIOS and adjust the system time.
005	Failed to verify 4Dlicense（syslicense_ods4dapi_chison.lic）.	Regenerate 4D license and verify 4Dlicense.
006	Can't find the 4D license under the "lic" folder（syslicense_ods4dapi_chison.lic）.	Check the 4D license, make sure it's under the "lic" folder in USB flash disk.
010	Failed to update the "functions.lic"	Restart the system
012	Wrong password of 4D.	Regenerate the password of 4D.
013	Wrong password.	Regenerate the related password.
015	Failed to verify the extended use password.	Regenerate the related password.
016	Wrong password of Dicom.	Regenerate the related password.
025	The software upgrade process of the current system is not closed.	Use another USB disk and restart he system, try to upgrade again.
026	The system can't verify the upgrade file (software and FPGA update).	Get the new upgrade file and upgrade again.
027	The upgrade file is corrupt.	Change the upgrade kits.
028	The USB disk is not connected well during upgrade.	Check the connection of USB disk and restart the system, try to upgrade again.
030	Failed to export the presets.	The USB flash disk is unplugged during upgrade process.
031	Failed to import the presets.	The USB flash disk is unplugged during upgrade process.
1326	No input the "UserName" and "Password" when building the network hard disk.	Input the "UserName" and "Password".
67	The name of the network is non-existent.	Usually as the share folder name on PC is

			different from the network name.

Chapter 5 System Upgrade

5.1 Attentions for System Upgrade

1) The upgrade files should be at the root of the USB flash disk.

2) Don't plug another USB disk during Upgrade process.

3) When upgrade SW or FW, do not remove the USB flash disk or turn off power. It will cause system damage.

5.2 Before System Upgrade

Before upgrade, backup the patient and examination data , to avoid the damage of hard disk. The steps for backup are as below:

1)   Press END key on the alphanumeric keyboard to end current exam.

2)   Plug the USB disk to the main unit.

3)   Press key to enter the EasyView interface.

4)   Click "Archive" to enter the Archive interface.

5)   Click "Select All" to select all patients; click "Backup" to backup the patients' information and data to the destination.

6)   Select the Destination and press "OK" to start the backup.

Recover from the external memory. Choose the target source, then it will display the patient data in the list as below picture. Choose the data and click "Recover" to recover to the local memory.

5.3 Solutions for Upgrade Failure

No.	Error code	Description error	Solution
1	025	It means the software upgrade process of the current system is not closed.	Use another USB disk and restart he system, try to upgrade again.
2	026	It means the system can't verify the upgrade file.	Get the new upgrade file and upgrade again.
3	027	It means the upgrade file is corrupt.	Use another unzip tool or re-download the upgrade files.
4	028	It means the USB disk is not connected well during upgrade.	Check the connection of USB disk and restart the system, try to upgrade again.

5.4 Software and Firmware Upgrades

1) Plug the USB disk which contains the upgrade file to the main unit.

2) Press ⚙ key on the alphanumeric keyboard, click the [System Settings] page to enter the system setting interface, click "Upgrade".
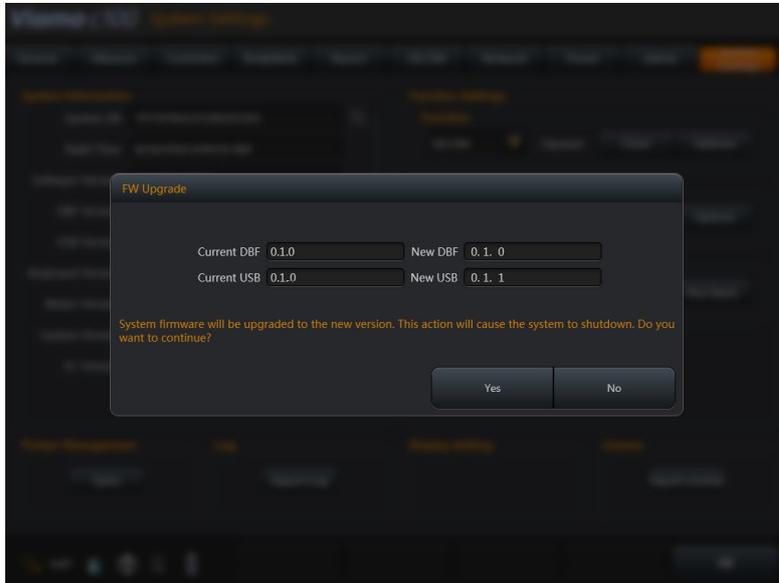
Click "Yes" to upgrade FW, when the system finished the upgrade, click "OK" to finish the FW upgrade and enter the SW upgrade processing.

Click "No" to skip the FW upgrade and enter the SW upgrade processing.
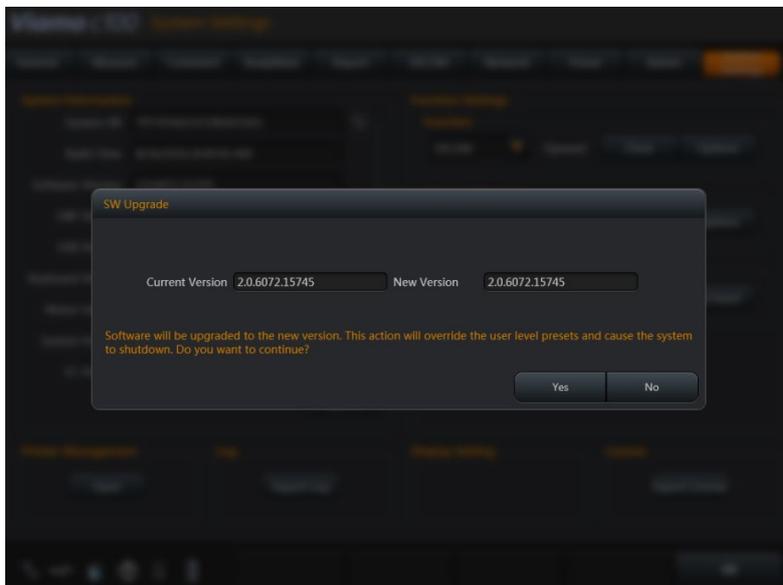
Click "Yes" to upgrade SW, after the system finish the upgrade, click "OK" to finish the upgrade, the system will shut down automatically.

Click "No" to exit the upgrade processing.

5.5 Keyboard and Motor Upgrade

1) Plug the USB disk which contains the upgrade file.

2) Press ⚒key on the alphanumeric keyboard, click the [System Settings] page to enter the system setting interface, click " ⬆ " will pop up the Upgrade dialogue, click "Yes" to confirm the upgrade and "No" to cancel the upgrade processing.
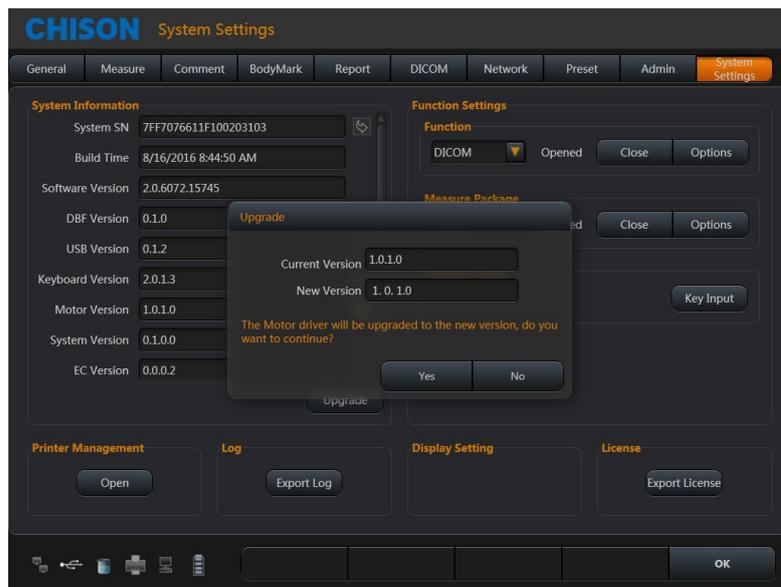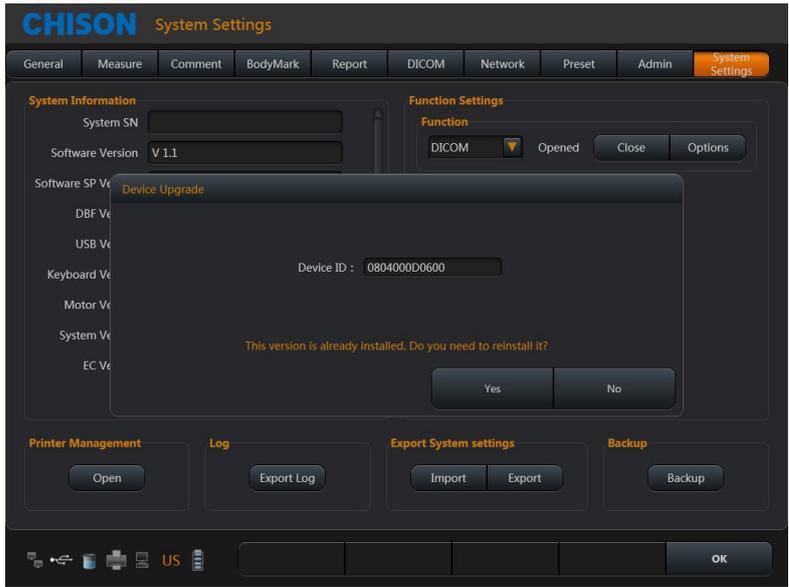

3) Upgrade successfully and restart the system manually.

5.6 Upgrade to support card reader

1) Connect the card reader with the system.

2) Make sure your software version is released after version V1.1 2.0.6397.42496.

   Make sure you can see an upgrade arrow beside system version in "System Settings" interface.
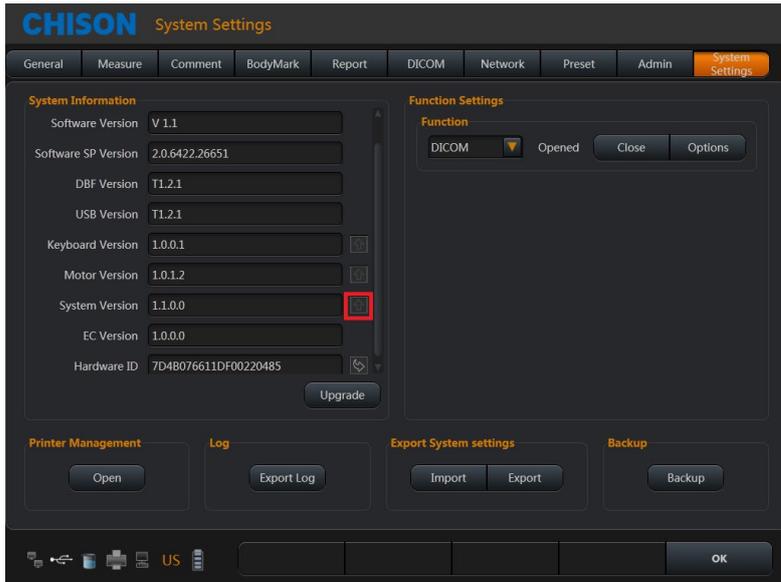
3) Put the upgrade package named as "DEV_GL_0804000D0600.zip" under the root of your U disk.

4) Connect the U disk with the system, press ![wrench icon] key to enter "System Settings" interface.

5) When the upgrade arrow beside the system version lights, click the arrow and press "Yes" to start the upgrade process.
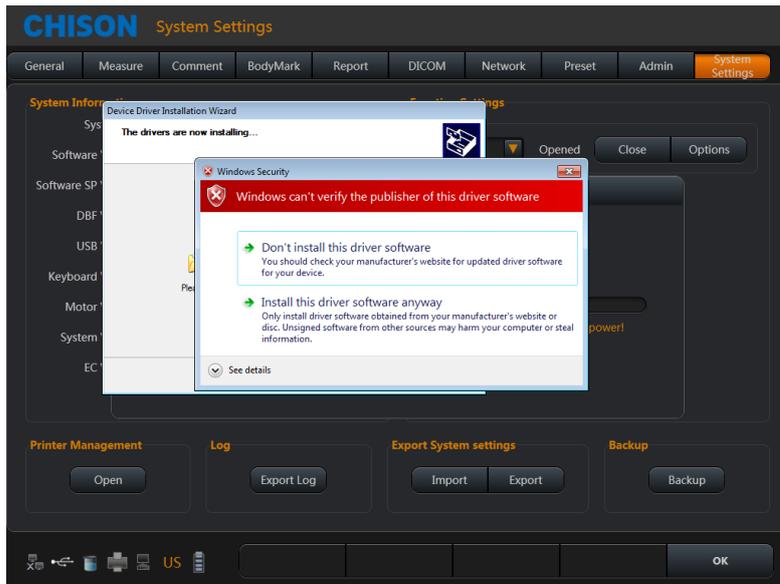
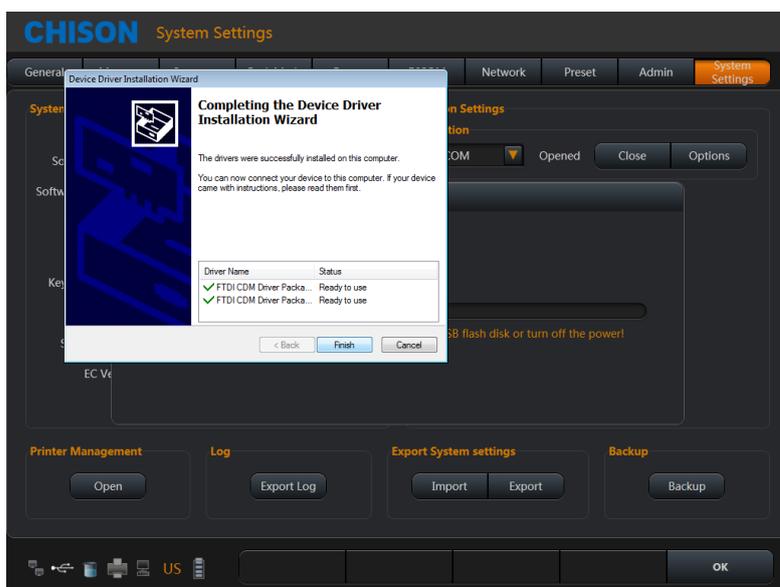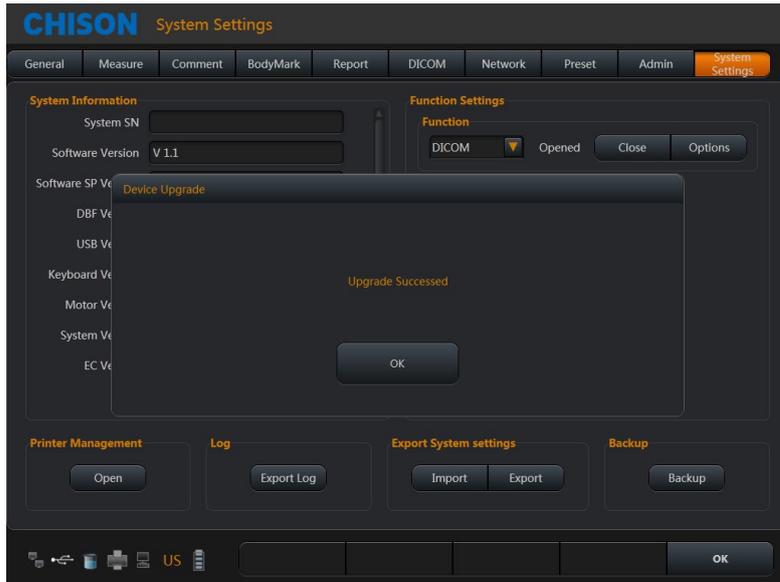6) Follow the prompts to install the driver.

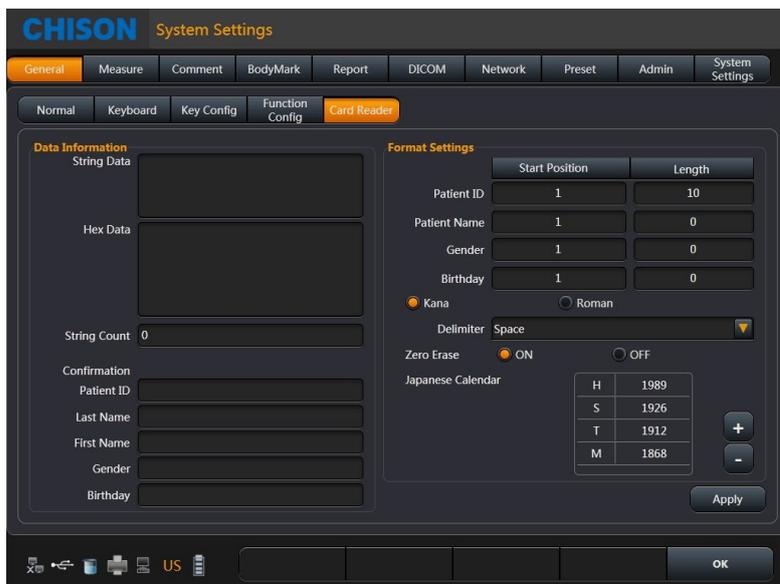Press "Next"
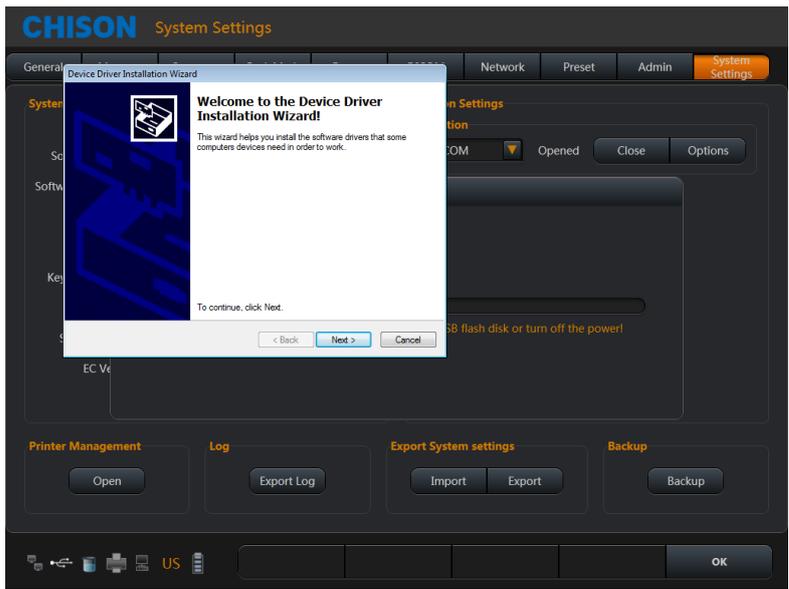
Select "install this driver software anyway".

Press "Finish"

7) After finishing the driver installment, the system will prompt "Upgrade Successed", press "OK", the system will shut down automatically.
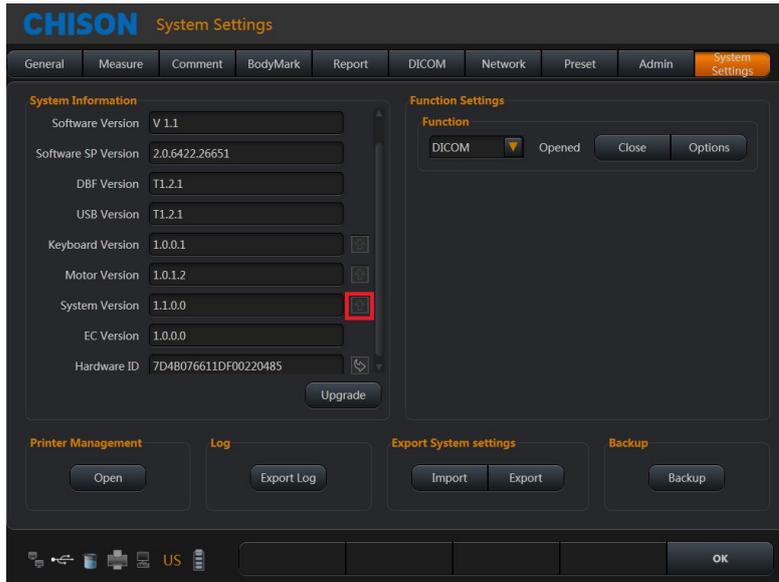
8) Turn on the system, enter the "Card Reader" interface to test the card reader function.

5.7 Upgrade to support Wi-Fi dongle

1) Connect Wi-Fi dongle with the system.

2) Make sure your software version is released after version V1.1 2.0.6397.42496.

   Make sure you can see an upgrade arrow beside system version in "System Settings" interface.
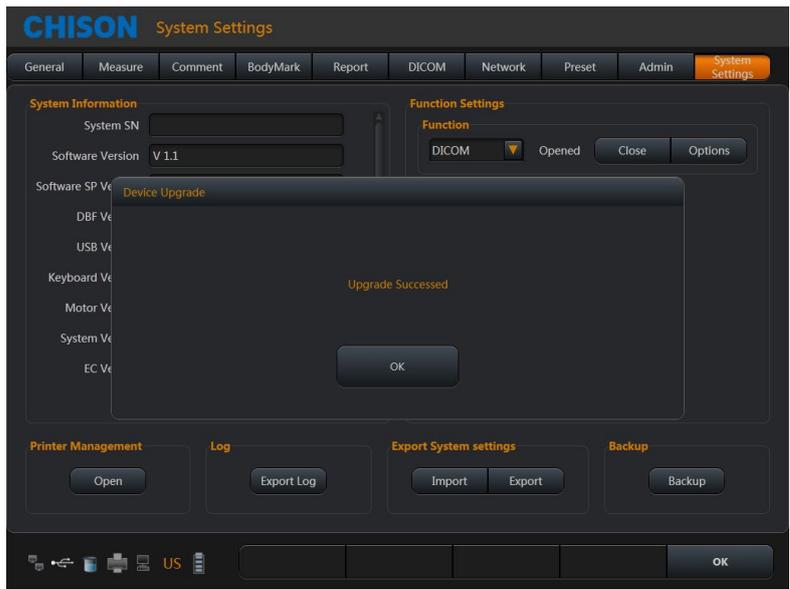
3) Put the upgrade package named as "DEV_GL_0B0517BA0200.zip" under the root of your U disk.

4) Connect the U disk with the system, press key to enter "System Settings" interface.

5) When the upgrade arrow beside the system version lights, click the arrow and press "Yes" to start the upgrade process.
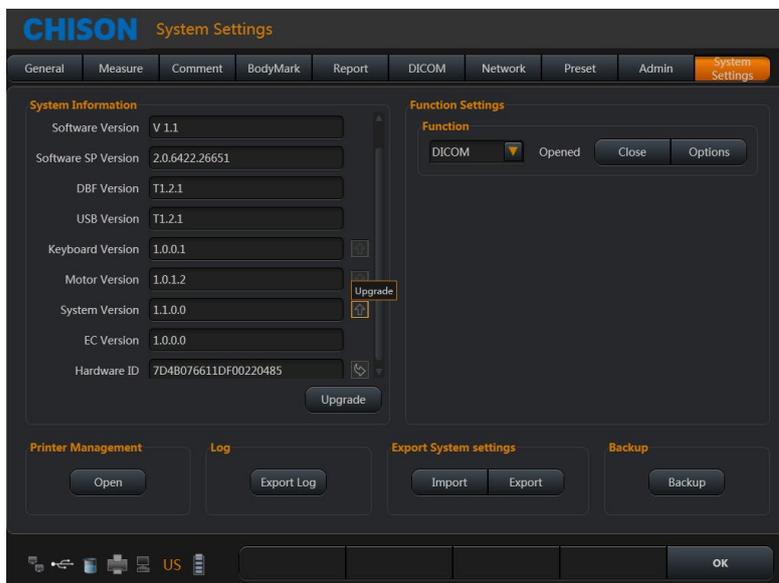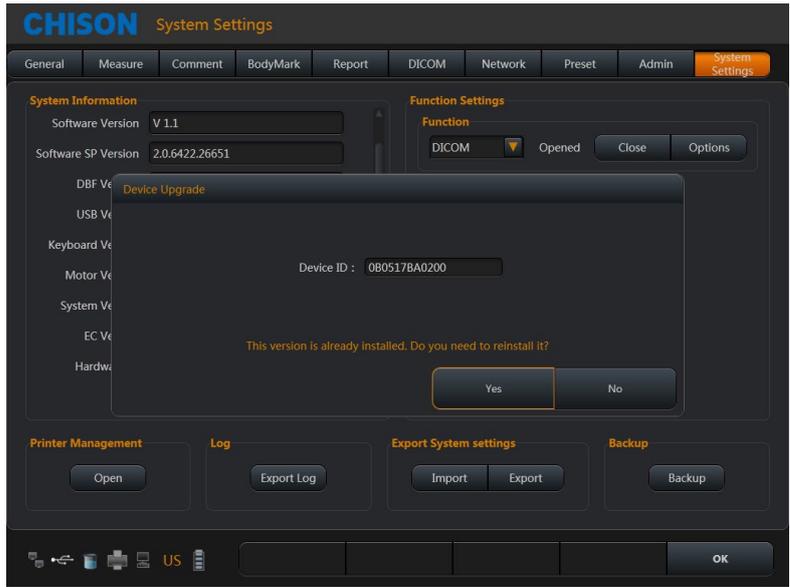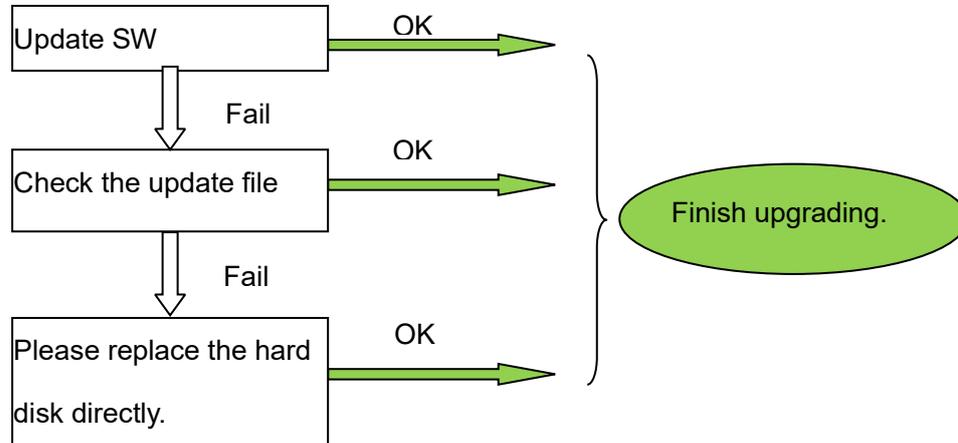
6) A few seconds later, the system will prompt "Upgrade Successed", press "OK", the system will shut down automatically.
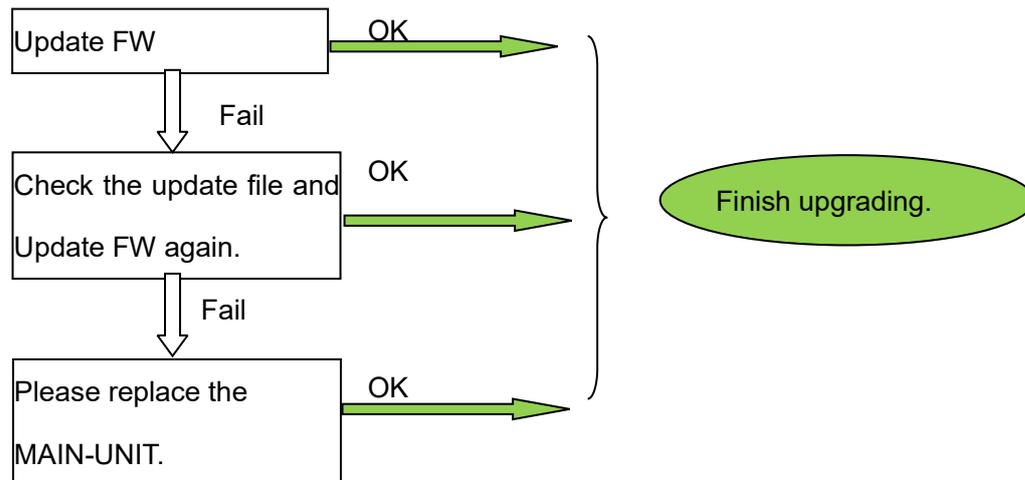
5.8 Flowchart for Upgrade Failure

1) Software

Update SW	OK →
Check the update file	OK →
Please replace the hard disk directly.	OK →

Fail
Fail

Finish upgrading.

2) Firmware

| Update FW | OK → |
| Check the update file and Update FW again. | OK → |
| Please replace the MAIN-UNIT. | OK → |

Fail
Fail

Finish upgrading.

5.9 Setting for Video Printer

⚠️*CAUTION*: Please make sure the printer is power on and connected well with Main unit, then set the system as below.

Press the ⌗ key on the alphanumeric keyboard to enter the system setting interface.

Click the [General] page to enter the general settings interface.

Click the [Keyboard] page to enter the keyboard settings interface.
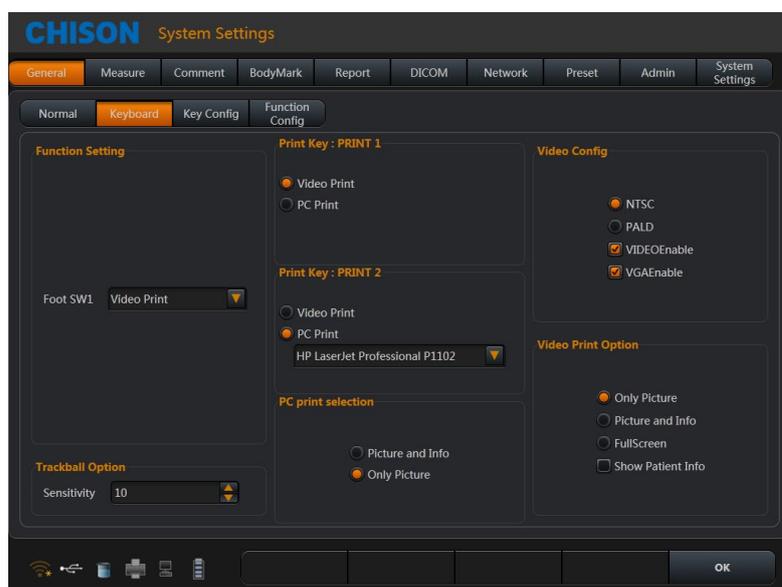
1) Choose "VIDEO Enable" in "Video Config".

2) Choose "Only Picture" or the other option in "Video Print Option" to setup the print area.

3) Choose "Video Print" under "Print key" or "Foot SW1".

⚠️*NOTE: The system can't print the system information.*

5.10   Setting for PC Printer

1)   Place the printer smoothly.

2)   Connect the printer to the main unit.

3)   Set the print manager. Please see more information in 7.8 of OPERATION MANUAL.

4)   Choose "PC print selection" in system setting, chooses "Picture and Info", or "Only Picture".

⚠*NOTE: CHISON's Warranty only cover material and parts costs for repair, but do not cover any labor cost or onsite service cost at end user's side.*

Chapter 6 System One-Key-Recovery

This system has one-key-recovery function. User can use this function to recovery system when the system has problems.
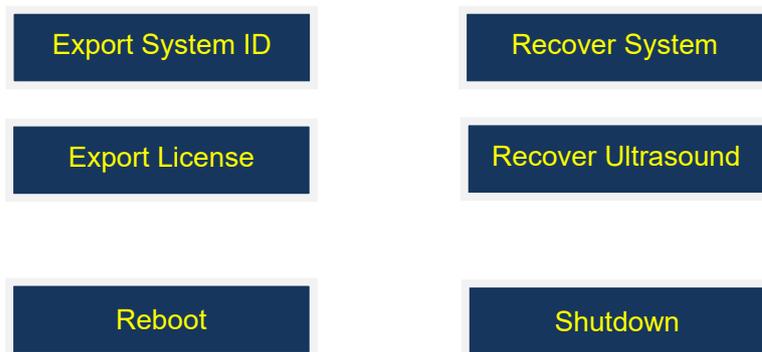
Detailed operations are as follows:

1. Press ⏻ button to power on the system.

2. Press <SYS> key when the system enter into the following boot screen:

```
Press <sys> Key to Enter Recovery System
[===      ]
```

3. Select Recover System or Recover Ultrasound.

System Recovery

Export System ID	Recover System
Export License	Recover Ultrasound
Reboot	Shutdown

Recover System: Recover system including ultrasound software.

Recover Ultrasound: Recover ultrasound software only.

Export System ID: Export System ID to the media.

Export License: Export license to the media.

Reboot: Reboot system.

Shutdown: Shutdown system.

4. After click "Recover System", the following interface will pop up.

Click "OK" to confirm and start the recovery.

Click "Cancel" to cancel the system recovery

5. After finishing the recover, the system will pop the interface, and click "OK" to exit.

Select "Reboot" to reboot system.