



# Service Manual

## FlexScan<sup>®</sup> EV2480

 Important notice for using this Service Manual

## Important Safety Notice

### General Notice

- Repair must be performed by professional service technicians in a EIZO-authorized repair center.
- Only trained service personnel who are familiar with this EIZO product should perform for it.
- Service personnel should have prior repair knowledge and experience as well as appropriate training for the product before performing service procedures.
- EIZO products contain high voltage circuit. Only experienced service personnel should perform repairs or service work on high voltage monitors. When the cabinet of product is removed and the product is operating, there is a risk of an electric shock hazard.
- Unplug the power cord before servicing.  
Operation of the product with the cabinet removed involves a shock hazard or may result in a damage of the circuit. Ensure the power cord is disconnected before removing the cabinet and replacing any parts in the unit.
- Connect the earth lead of the power cord with the ground.  
Securely connect the earth lead of the power cord of the products and the measuring equipment. There is a risk of the electric shock hazard or damage.
- Always use approved tools and test equipment for servicing.
- DO NOT wear any metal or accessories. There is a risk of an electric shock.
- Perform the inspection of the measuring equipment before service work.
- Before starting daily service work, perform the inspection of the measuring equipment and record its results.
- This document is a typical dis/assembly procedure. Monitor construction may slightly differ for each model.

### Servicing Environmental conditions

- Working environment  
The repair work must be carried out indoor where air or temperature is controlled to meet the following temperature and humidity range;  
Temperature: 25+/-10 degree  
Humidity: 30 - 80% RH
- Wear for Servicing
  - Wrist strap (Recommended resistance value:  $5 \times 10^5 - 1 \times 10^7 \Omega$ )  
When using a wrist strap without resistance, there is a risk of an electric shock.
  - Conductive shoes (Recommended resistance value:  $1 \times 10^5 - 1 \times 10^8 \Omega$ )
  - Anti-static wear

## INFECTION PREVENTION

- Adopt measures against the infection by cleaning and sterilization before starting the repair if the product returned or may be returned from the medical facilities.

### Before Disassembling

- Unplug the power cord before servicing. The conductive area may become high voltage which may cause an electric shock or other hazardous danger.
- DO NOT touch the sharp edge of the chassis. It can result in injury.
- DO NOT hurt the surface of the LCD panel. It can cause a damage to the LCD panel or result in injury.
- DO NOT touch the high voltage part that exposed inside of monitor by mistake. If carelessly touched, it may result in damage to the circuit or may cause an electric shock.
- DO NOT change the original design of the product. This will cause smoke, electric shock or damage to the circuit.
- DO NOT short any portion of circuit while the product is in operation. This will cause smoke, electric shock or damage to the transistors, ICs or other parts or circuit in the unit.
- When handling harness components, handle them with care to avoid touching the metal parts at both ends with your hands. There is the possibility that the corrosion of copper parts occurs, and it might cause the disconnection or short-out.
- Handling the PCB unit with care.
  - When handling PCB unit (ASSY PCB), make sure to use the wrist strap or handle PCB unit on the area that measures against the static electricity.
  - DO NOT put much stress (not to crush or not to bend it) on if there are any components or the earth spring etc. that mounted on the back side of PCB when handling PCB.
- Handling the LCD panel, with care.
  - When replacing the LCD panel, make sure to implement the anti-static measures enough.
  - DO NOT put stress on the display surface when handling. There is the possibility that it causes a tiny bright dot and a pressure mura.
  - Handle with care without putting stress on the display surface when handling, keeping, and transporting. Especially, the frameless model, there is the possibility that it causes the line defect.
  - Handle the curved panel with the utmost of care. There is possibility that it causes the crack by putting stress on the display surface.

## Safety test

The following test should be carried out;

Important Note:

If it becomes necessary to make any additional change to the monitor after safety test or the device has to be reopened, the entire safety test must be repeated.

- Earth Continuity Test (Low resistance test)

This test is performed by measuring the resistance between the third pin (ground) and outside metal body of the product under test. The maximum acceptable value is generally 0.5 ohms although certain standards may specify 0.1 ohms.

This test is generally carried out at a slightly higher current (e.g. 25–60 A) so that the ground bond circuit maintains safe voltages on the chassis of the product, even at a high current, before the circuit breaker trips.

This test is essential so that the product does not cause an electric shock resulting from insulation failure.

- Withstand Voltage Test

This test is carried out by applying a significantly higher than operating voltage to the device under test. In this test, the insulation of a product, stressed to a greater extent than under normal operating conditions, should not be breached for the product to pass.

## ASSY-STAND-UNIT and MLD-REAR-COVER Disassembly

1. Place the monitor on a conductive mat, with the screen surface to the bottom.
2. Remove ASSY-STAND-UNIT by pushing the button and sliding ASSY-STAND-UNIT to down side (arrow direction side).

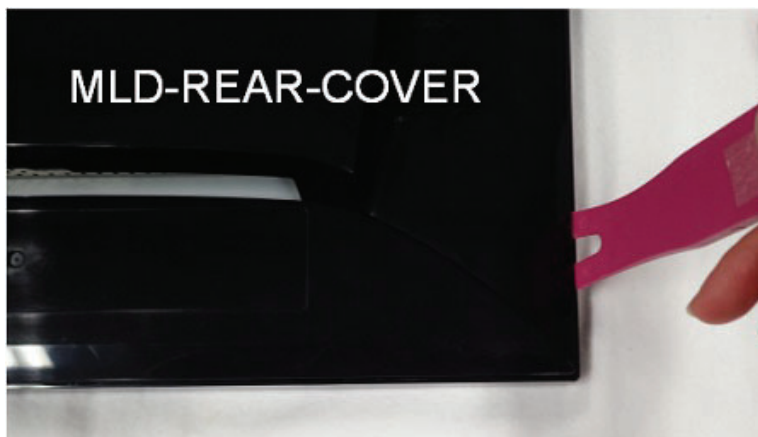


3. Remove 2 screws (a).
4. Unhook 8 tabs (hooks) on the top side and each 4 tabs (hooks) at left/right/bottom sides.



### Detailed description of how to remove MLD-REAR-COVER

Insert the plastic spatula to a space between MLD-REAR-COVER and MLD-MID-COVER, and slightly lift up the tool to unhook tabs.



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## ASSY-POWER-UNIT Disassembly

### **CAUTION**

Discharge the electricity from the capacitor before disassembling ASSY-POWER-UNIT.

\*It is not necessary to remove SHIELD from ASSY-POWER-UNIT of EV2480 when disassembling. There is no chance to cause an electric shock unless removing SHIELD. Please refer to the following note only when removing SHIELD.

When removing the POWER-SUPPLY unit, the electricity may still remain in the capacitor. Touching POWER-SUPPLY unit carelessly may cause an electric shock. Please follow the instruction below to discharge.

The most area of POWER-SUPPLY unit is operated by the voltage of the primary power supply. Please pay careful attention not to be electrified by touching or letting other PCBs or steel plates touch it.

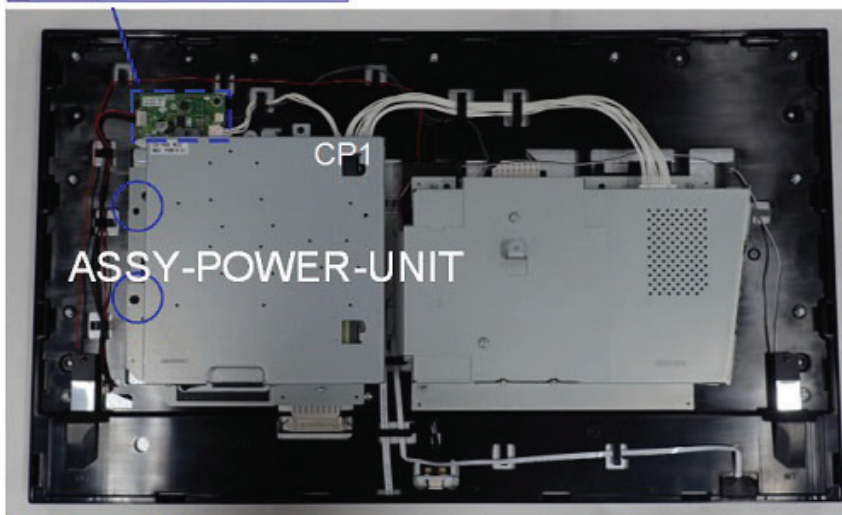
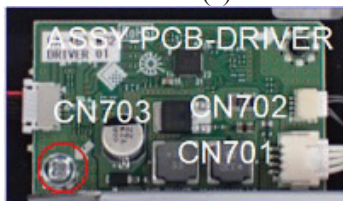
Please also be aware that the voltage from normal operation sometimes remains even when it is separated from the input voltage; therefore, connect approx. 470 ohm resistor (rating approx. 5W) to between C30 terminals for over 1 second to discharge before handling.

The voltage from normal operation sometimes remains in POWER-SUPPLY unit even when it is separated from the input voltage; therefore, it might give stress to the other parts or break the other parts by short when connecting to the other PCBs as it is. To avoid such troubles, connect 15 ohm resistor (rating over 5W) between following parts on POWER-SUPPLY unit and chassis a for over 1 second to discharge before taking out or inserting the harness between POWER-SUPPLY unit, which has been once charged, and other PCB.

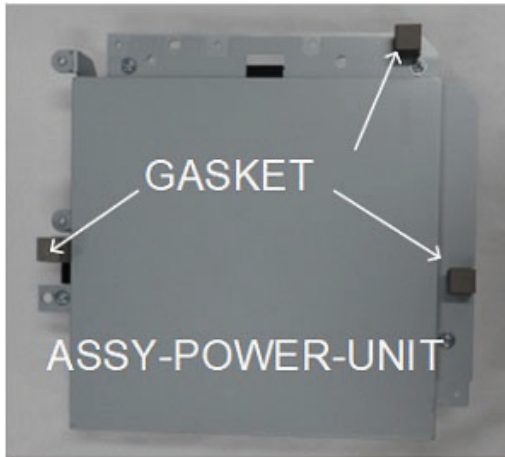
- Discharge point : land near C27(There is DISCHARGE POINT)  
\*It is possible to discharge at between # 3,4 and # 5,6 of CP1.

The electrolytic capacitor tends to generate "restriking voltage" so that it could automatically get recharged without being energized. Make sure to discharge the electrolytic capacitor right before you touch it.

1. Take the previous steps up to [ASSY-STAND-UNIT and MLD-REAR-COVER Disassembly](#).
2. Disconnect harnesses from connectors (CN701, CN702, and CN703) on ASSY-PCB-DRIVER and a connector (CP1) on ASSY-POWER-UNIT.
3. Remove 1 screw (b) on ASSY-PCB-DRIVER and take out ASSY-PCB-DRIVER.
4. Remove 2 screws (c) on ASSY-POWER-UNIT and take out ASSY-POWER-UNIT.



5. Place ASSY-POWER-UNIT with the side without gaskets attached down.
6. Remove 3 GASKETs on ASSY-POWER-UNIT.



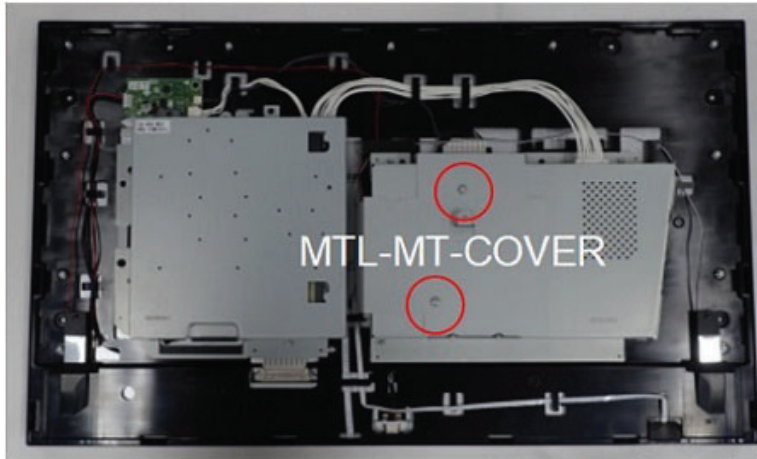
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## ASSY-PCB-MAIN Disassembly

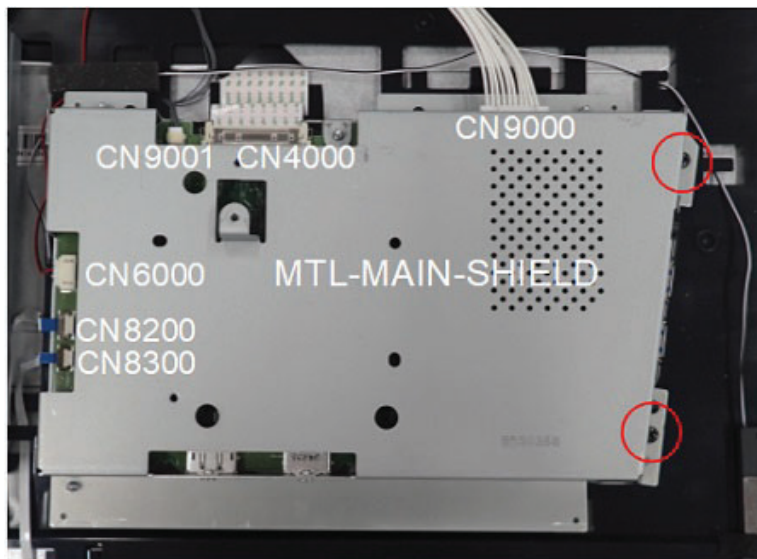
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1. Take the previous steps up to [ASSY-STAND-UNIT and MLD-REAR-COVER Disassembly](#).
2. Remove 2 screws (d) on MTL-MT-COVER to take out MTL-MT-COVER.



○ :d

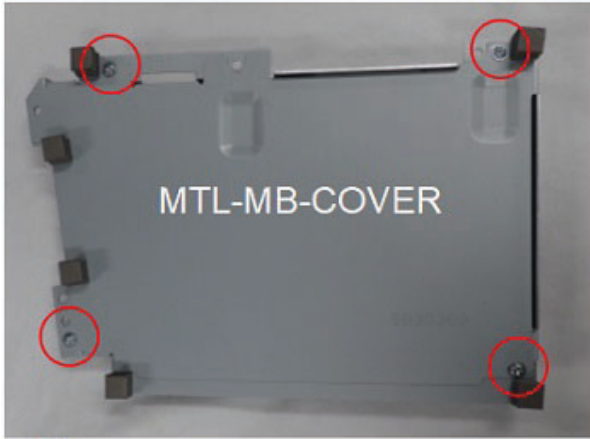
3. Disconnect harnesses from connectors (CN4000, CN6000, CN8200, CN8300, CN9000, and CN9001) on ASSY-PCB-MAIN.
4. Remove 2 screws (e) that fix MTL-MB-COVER.
5. Take out ASSY-PCB-MAIN together with MTL-MAIN-SHIELD and MTL-MB-COVER.



○ :e

6. Place ASSY-PCB-MAIN with the MTL-MAIN-SHIELD side down.

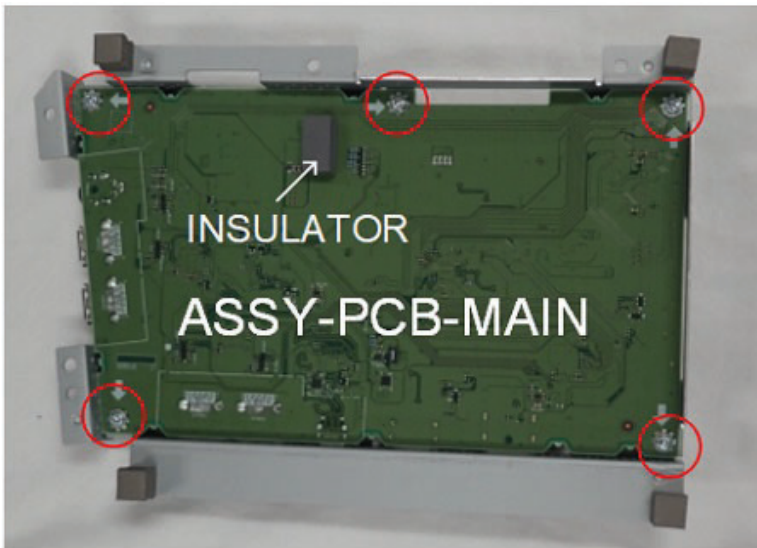
7. Remove 4 screws (f) on MTL-MB-COVER to take out MTL-MB-COVER.



○ :f

8. Remove an INSULATOR from the backside of ASSY-PCB-MAIN.

9. Remove 4 screws (g) on the backside of ASSY-PCB-MAN and 2 screws (h) on the side of MTL-MAIN-SHIELD and take out ASSY-PCB-MAIN form MTL-MAIN-SHIELD.



○ :g ○ :h

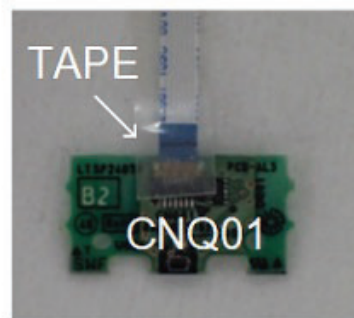
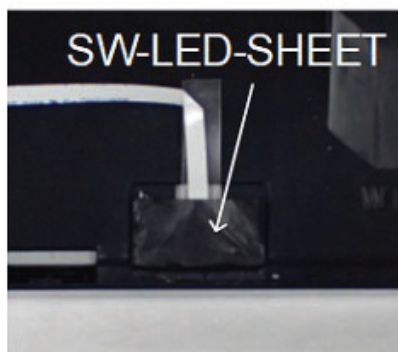
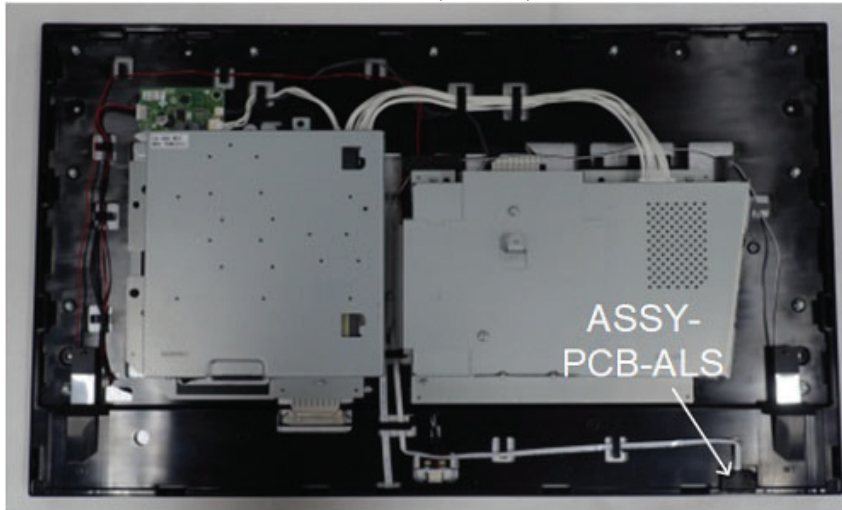
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## ASSY-PCB-ALS Disassembly

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1. Take the previous steps up to [ASSY-STAND-UNIT and MLD-REAR-COVER Disassembly](#).
2. Remove SW-LED-SHEET that fixes ASSY-PCB-ALS on MLD-MID-COVER.
3. Take out ASSY-PCB-ALS from MLD-MID-COVER.
4. Remove a TAPE that fixes a harness (MAIN-ALS) on ASSY-PCB-ALS.
5. Disconnect a harness from a connector (CNQ01) on ASSY-PCB-ALS.

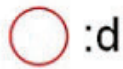
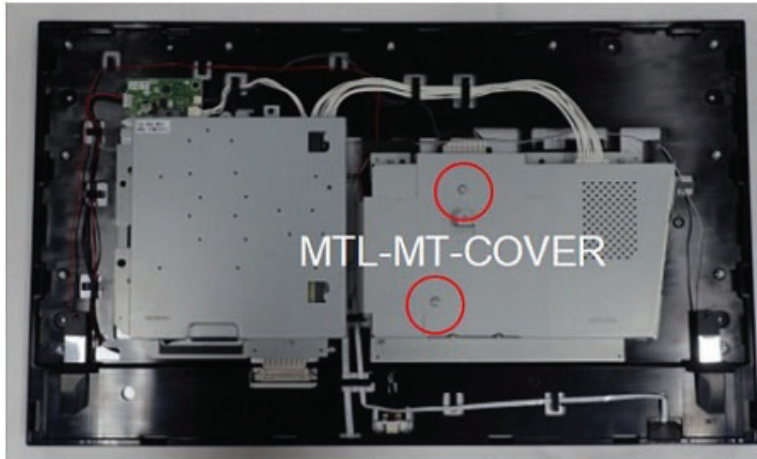


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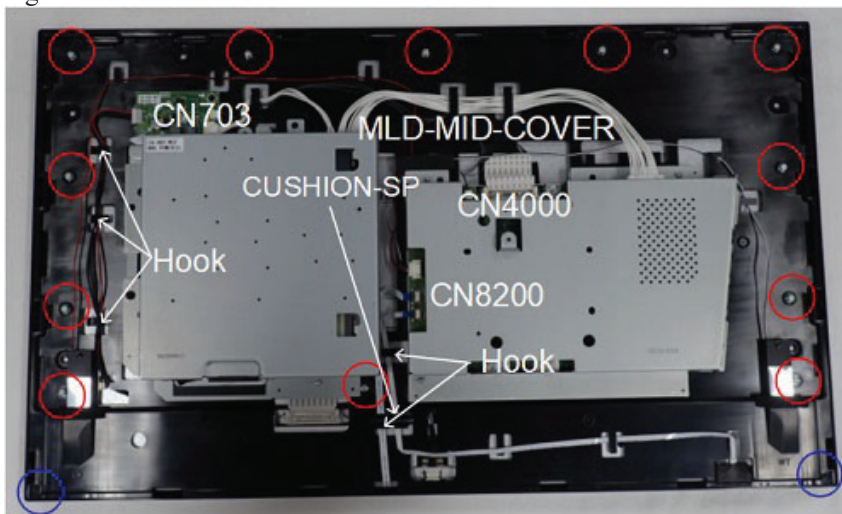
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## UNIT-LCD Disassembly

1. Take the previous steps up to [ASSY-STAND-UNIT and MLD-REAR-COVER Disassembly](#).
2. Remove 2 screws (d) on MTL-MT-COVER to take out MTL-MT-COVER.

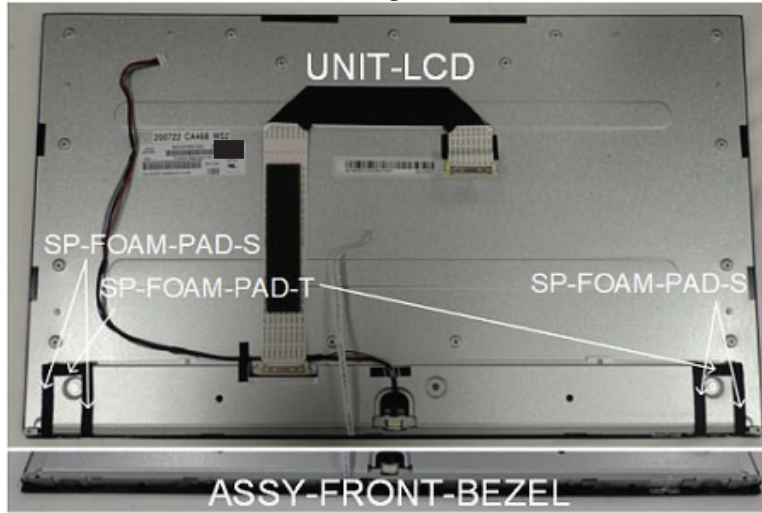


3. Disconnect harnesses from connectors (CN4000 and CN8200) on ASSY-PCB-MAIN and a harness from a connector (CN703) on ASSY-PCB-DRIVER.
4. Remove 12 screw (j) and 2 screws (k) on MLD-MID-COVER.
5. Remove a CUSHION-SP that fixes harnesses.
6. Release harnesses from hooks of MLD-MID-COVER and take MLD-MID-COVER together with PCBs.

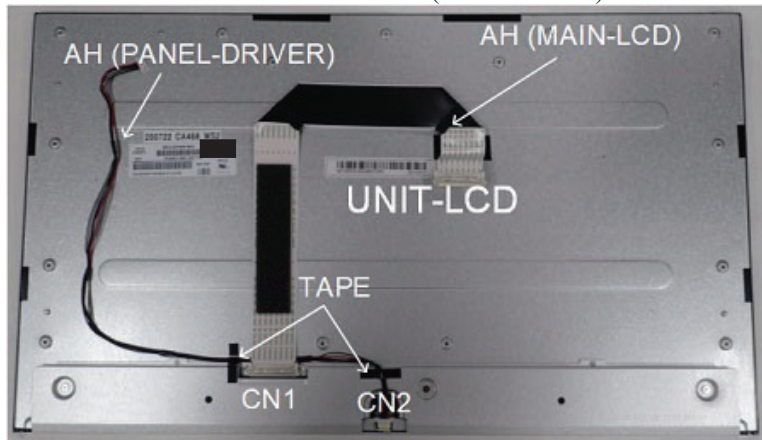


7. Remove 2 each SP-FOAM-PAD-Ss (4 pcs in total) and 1 SP-FOAM-PAD-T (2 pcs in total) from the backside of UNIT-LCD.

8. Take out ASSY-FRONT-BEZEL together with ASSY-PCB-SW from UNIT-LCD.



9. Remove 2 TAPES that fix harnesses (PANEL-DRIVER, MAIN-LCD) from the backside of UNIT-LCD.  
10. Disconnect harnesses from connectors (CN1 and CN2) on UNIT-LCD.

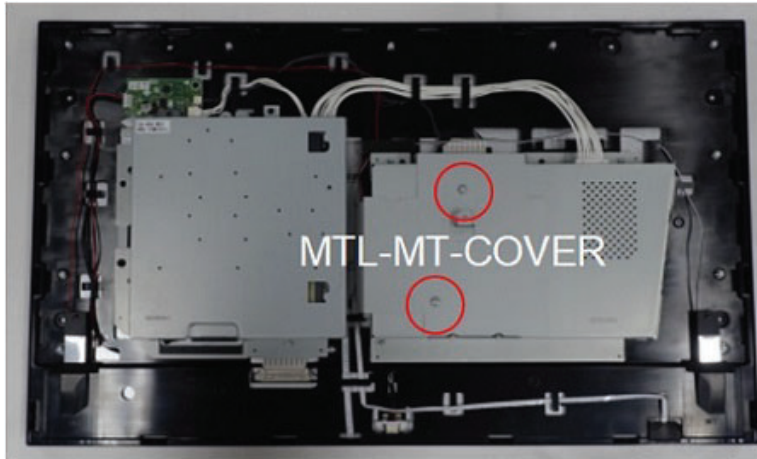


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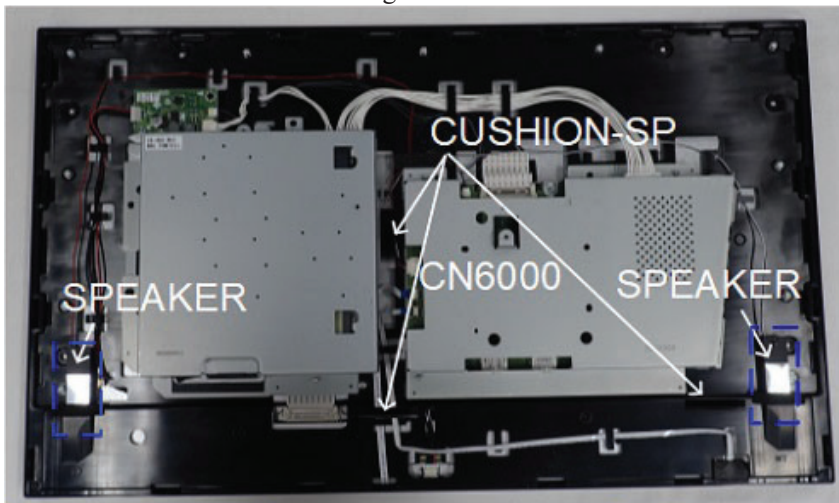
## SPEAKER Disassembly

1. Take the previous steps up to [ASSY-STAND-UNIT](#) and [MLD-REAR-COVER Disassembly](#).
2. Remove 2 screws (d) on MTL-MT-COVER to take out MTL-MT-COVER.



○ :d

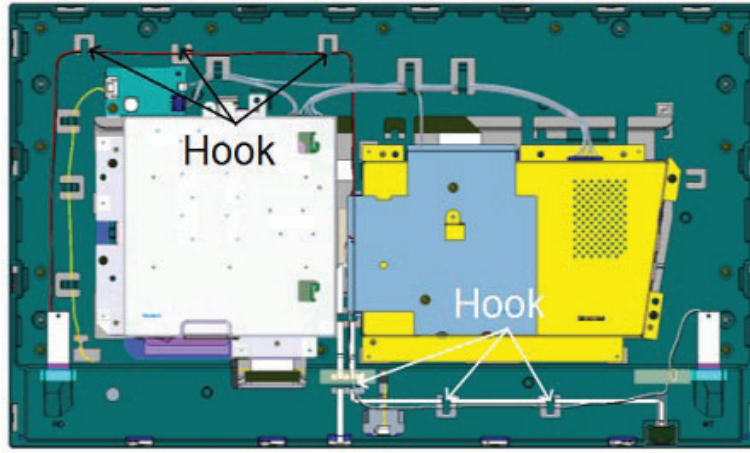
3. Disconnect a harness from a connector (CN6000) on ASSY-PCB-MAIN .
4. Remove 3 CUSHION-SPs that fix the speaker harnesses.
5. Remove a SP-FOAM-PAD-T each (2 pcs in total).
6. Remove 1 screw (m) each (2 screws in total) on SPEAKER.
7. Take out SPEAKERS with releasing the harnesses from hooks of MTL-MT-COVER.



○ :m

\*Please note that the harness of actual speaker (white colored one) is not passed

through over MAIN unit but under MAIN unit as shown in the below drawing.



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