



Service Manual

FlexScan[®] EV2490

 [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.



3. Remove 2 screws.
4. Unhook 8 tabs (hooks) on the top side and each 4 tabs (hooks) at left or right sides and 4 tabs (hooks) on the bottom side in order.
*Release hooks at the (1) bottom, (2) left or (2) right, (3) top in order.



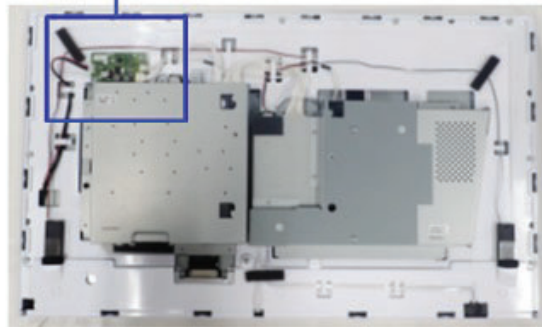
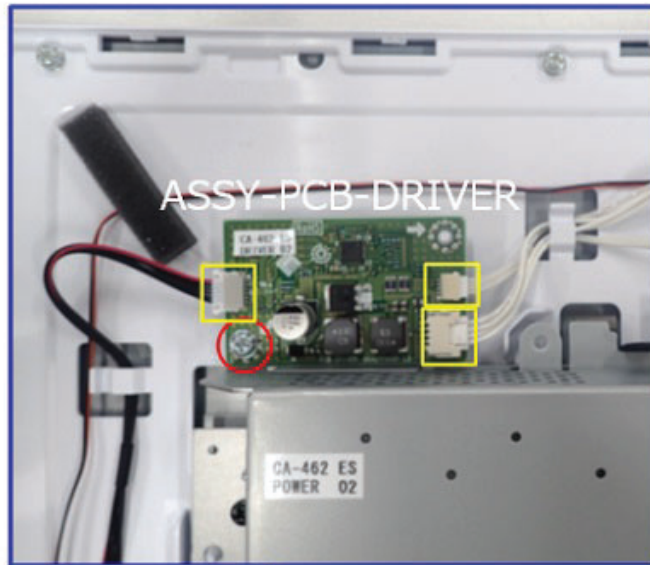
Detailed description of how to remove MLD-REAR-COVER

- (1): Insert the plastic spatula to the space between MLD-REAR-COVER and MLD-MID-COVER and slightly lift up the tool to unhook tabs on the bottom side.
- (2): Unhook tabs on the left and right side from the bottom to the top.
- (3): Unhook tabs on the top side by lifting MLD-REAR-COVER from the bottom side.



ASSY-PCB-DRIVER Disassembly

1. Take the previous steps up to [ASSY-STAND-UNIT and MLD-REAR-COVER Disassembly](#).
2. Disconnect harnesses from connectors on ASSY-PCB-DRIVER.
3. Remove a screw on ASSY-PCB-DRIVER to take out ASSY-PCB-DRIVER.



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ASSY-PCB-POWER Disassembly

CAUTION

Discharge the electricity from the capacitor before disassembling PCB-POWER.

*It is not necessary to remove SHIELD from ASSY-PCB-POWER of EV2490 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 PCB-POWER, the electricity may still remain in the capacitor. Touching PCB-Power carelessly may cause an electric shock. Please follow the instruction below to discharge.

The most area of ASSY PCB POWER 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 C0117 terminals for over 1 second to discharge before handling.

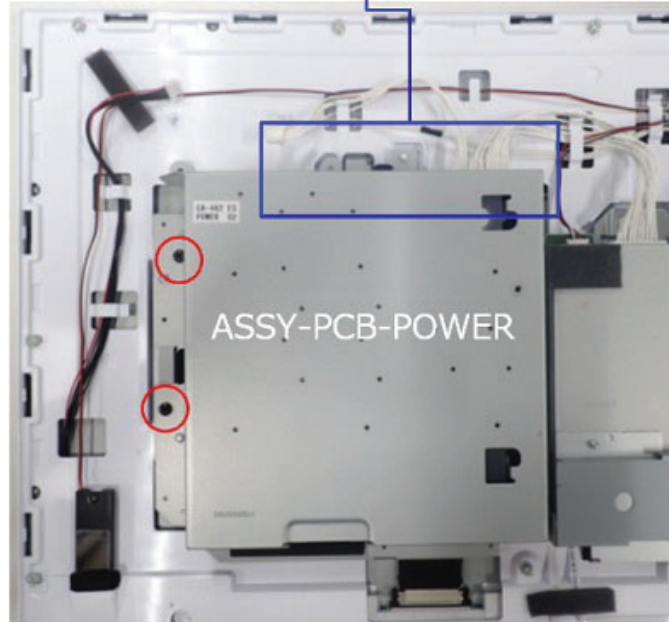
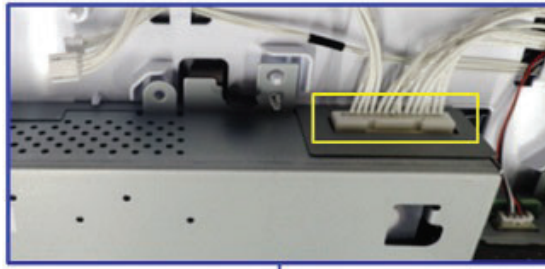
The voltage from normal operation sometimes remains in ASSY-PCB-POWER even when it is separated from the input voltage; therefore, it might give stress to the other parts or break the other parts by short when connecting to the other PCBs as it is. To avoid such troubles, connect 15 ohm resistor (rating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

- Discharge point : land near C0504 (There is DISCHARGE POINT)
*It is possible to discharge at between # 3,4 and # 5,6 of CN0501.

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-PCB-DRIVER Disassembly](#).
2. Disconnect harnesses from connectors on ASSY-PCB-POWER.

3. Remove 2 screws (c) on ASSY-PCB-POWER and take out ASSY-PCB-POWER.

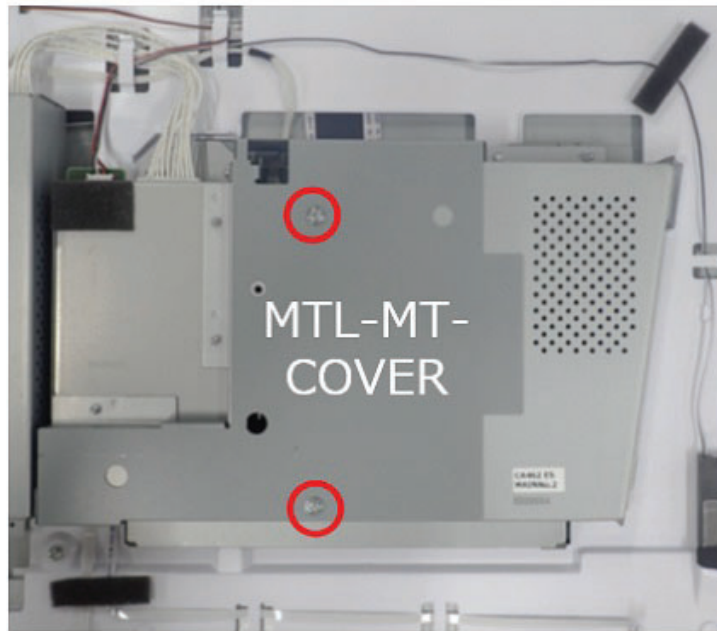


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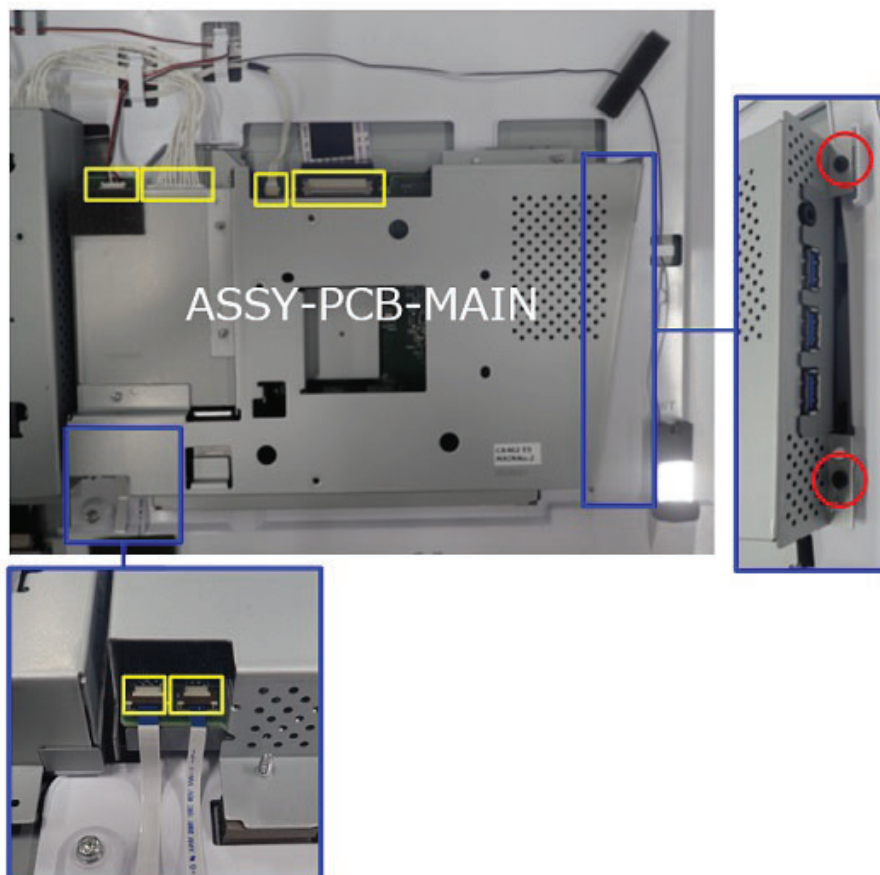
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ASSY-PCB-MAIN Disassembly

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



3. Disconnect harnesses from connectors on ASSY-PCB-MAIN.
4. Remove 2 screws on ASSY-PCB-MAIN and take out ASSY-PCB-MAIN.

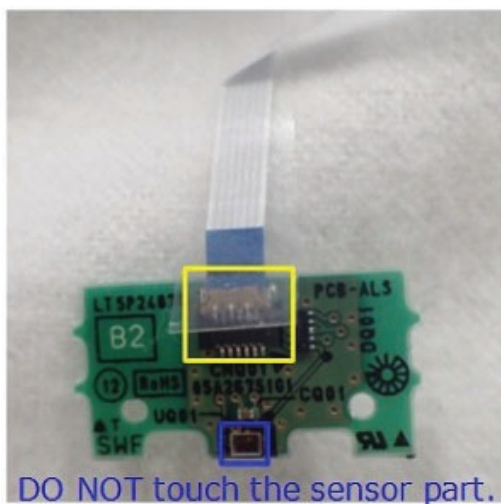
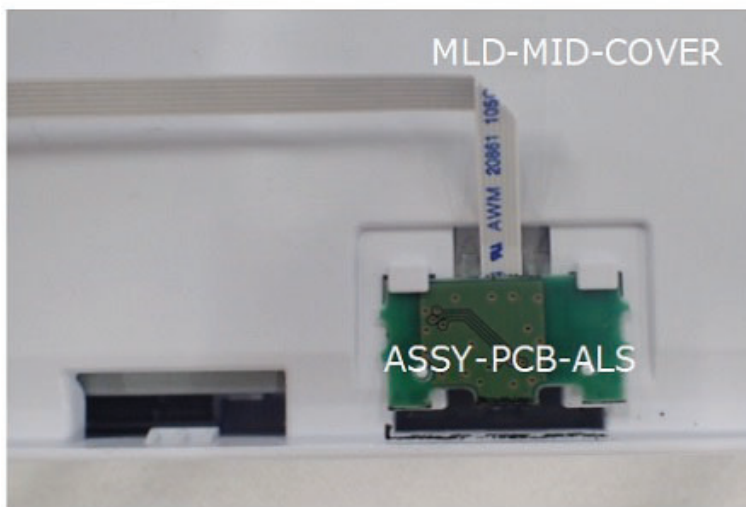
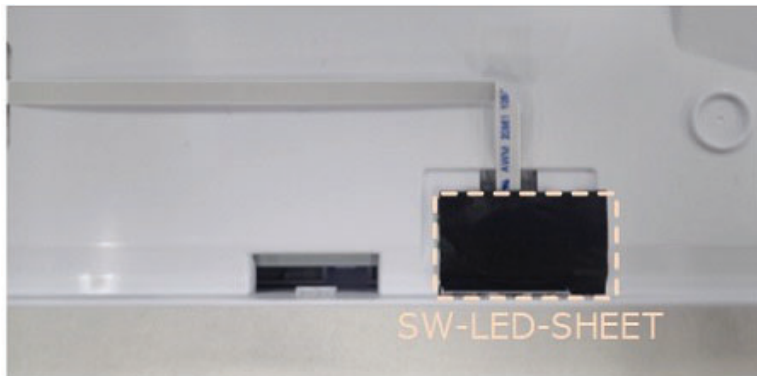


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SSY-PCB-ALS Disassembly

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

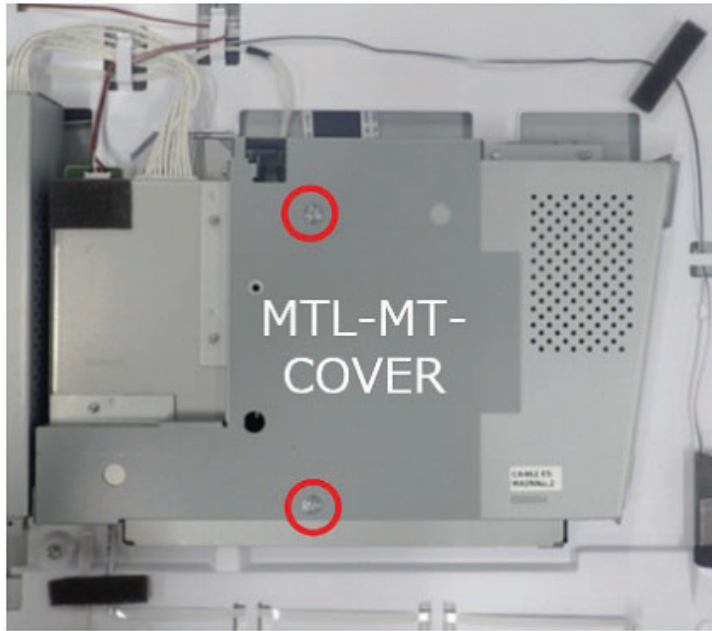


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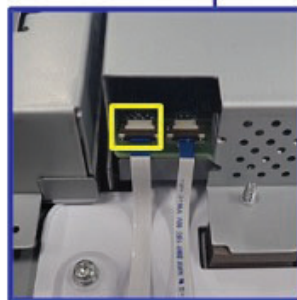
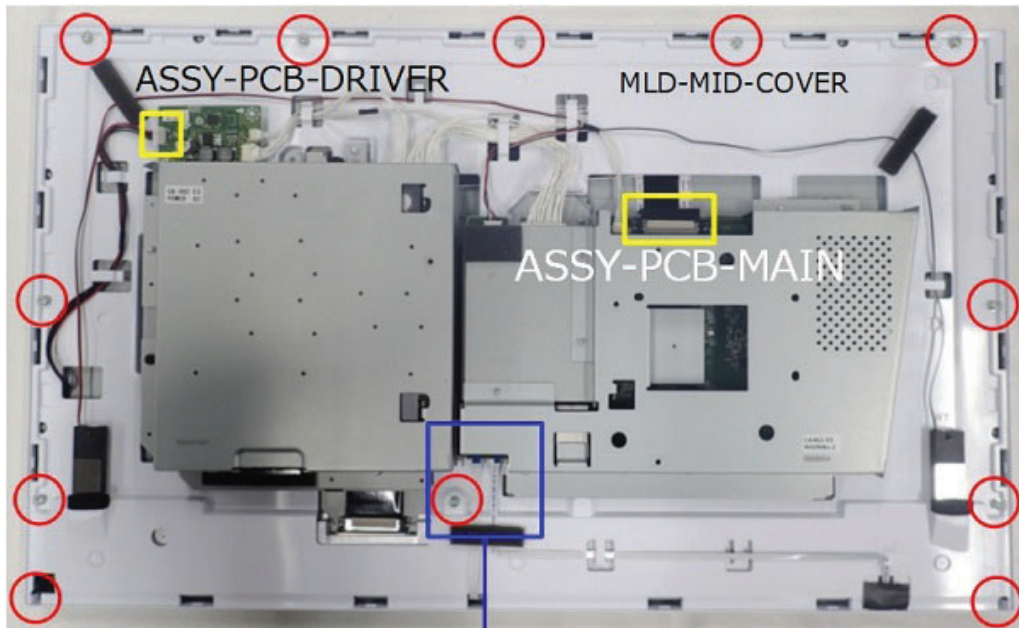
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ASSY-PCB-SW Disassembly

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

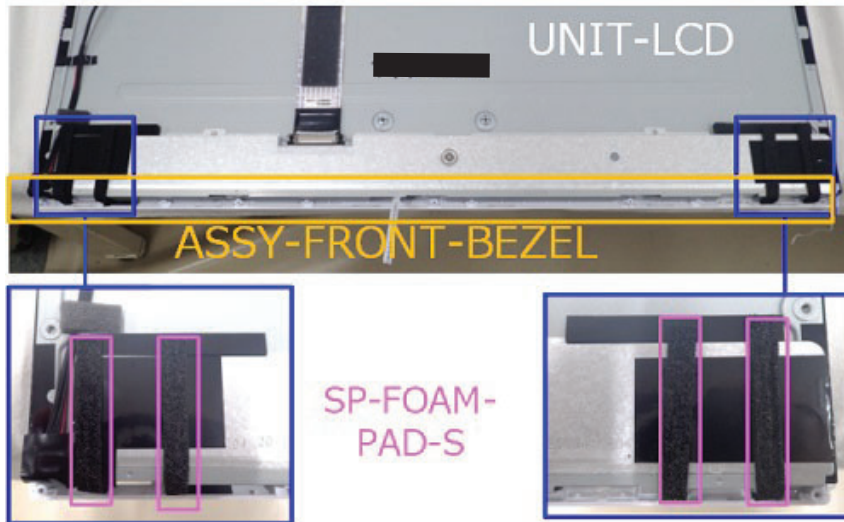


3. Disconnect 3 harnesses from connectors on ASSY-PCB-DRIVER and ASSY-PCB-MAIN.
4. Remove 12 screws on MLD-MID-COVER and take out MLD-MID-COVER with the boards on it.



5. Remove 4 SP-FOAM-PAD-Ss that fixes ASSY-FRONT-BEZEL.

6. Take out ASSY-FRONT-BEZEL from UNI-LCD.

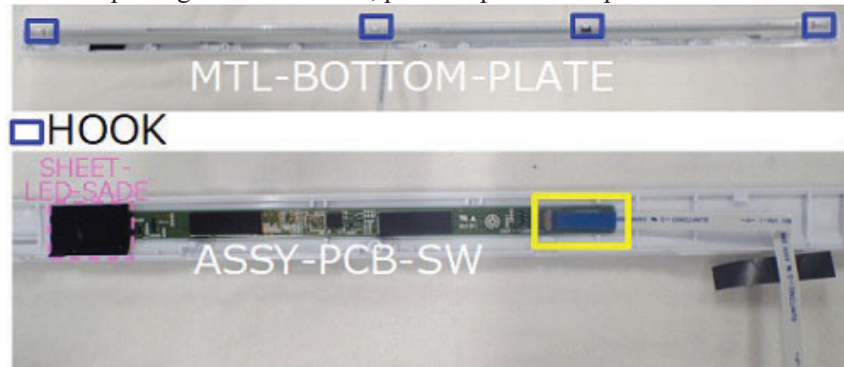


7. Unhook 4 tabs and take out MTL-BOTTOM-PLATE from ASSY-FRONT-BEZEL.

8. Disconnect a harness from a connector on ASSY-PCB-SW.

9. Remove SHEET-LED-SHADE from ASSY-PCB-SW and take out ASSY-PCB-SW that is fixed to ASSY-FRONT-BEZEL with SHEET-SW (double-sided tape).

*When replacing ASSY-PCB-SW, please replace the tapes as well.

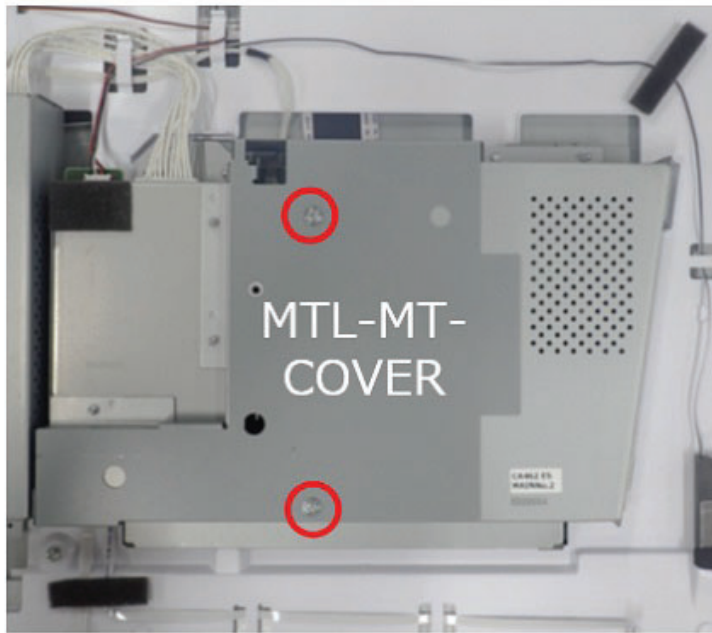


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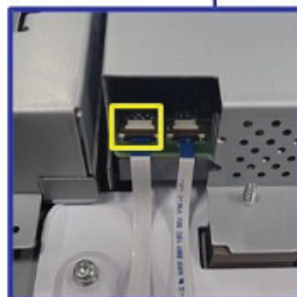
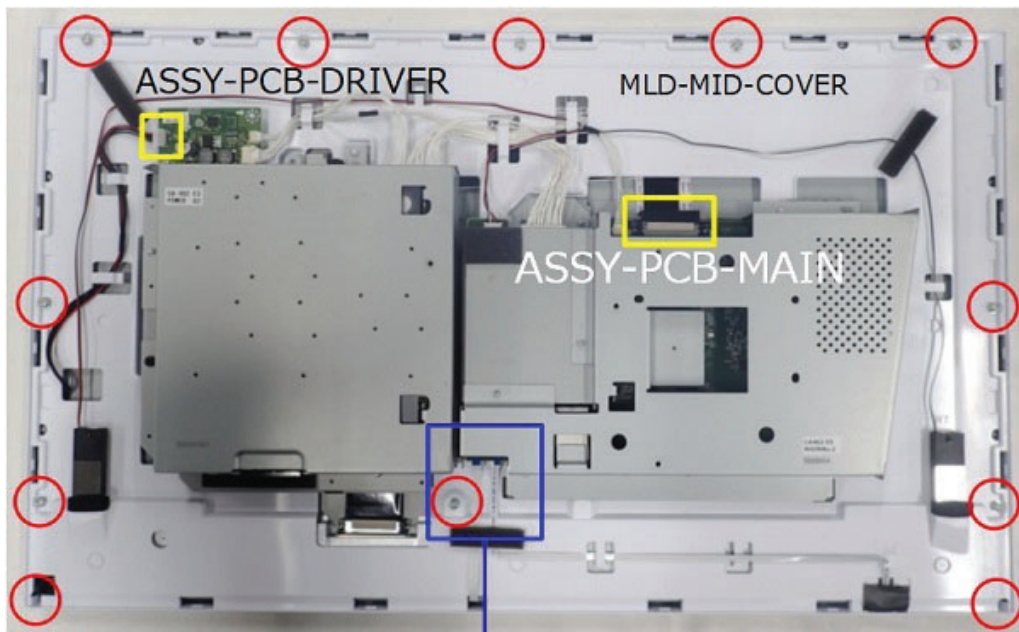
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UNIT-LCD Disassembly

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

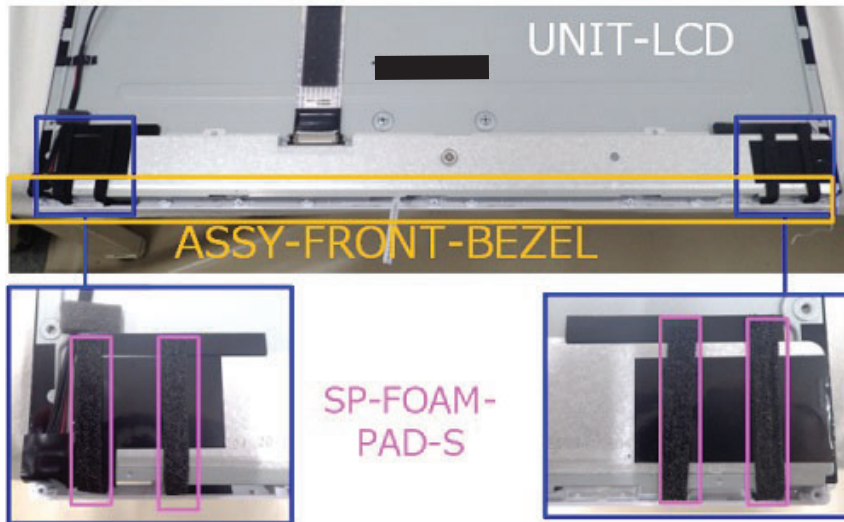


3. Disconnect 3 harnesses from connectors on ASSY-PCB-DRIVER and ASSY-PCB-MAIN.
4. Remove 12 screws on MLD-MID-COVER and take out MLD-MID-COVER with the boards on it.



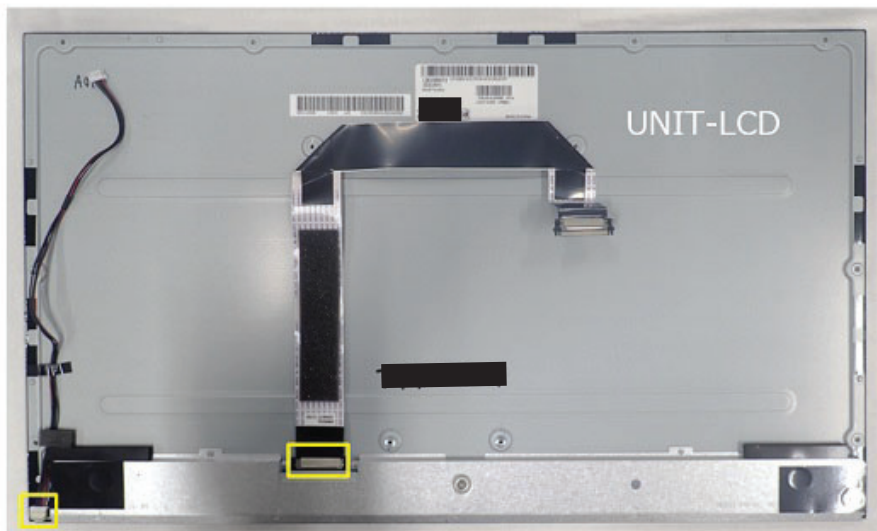
5. Remove 4 SP-FOAM-PAD-Ss that fixes ASSY-FRONT-BEZEL.

6. Take out ASSY-FRONT-BEZEL from UNI-LCD.



7. Disconnect 2 harnesses from connectors and remove TAPES and CUSHIONS from UNIT-LCD.

*Please refer to Assembly Drawing for details on the location of TAPES and CUSHIONS.

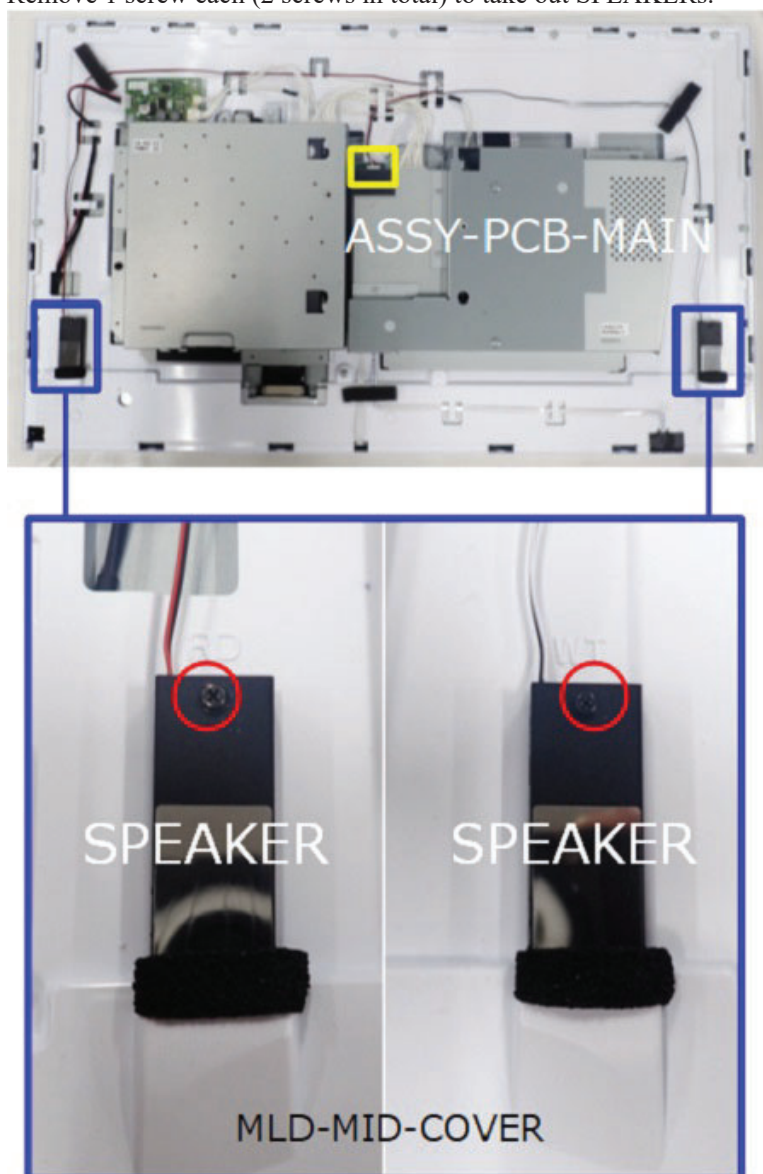


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SPEAKER Disassembly

1. Take the previous steps up to [ASSY-STAND-UNIT](#) and [MLD-REAR-COVER Disassembly](#).
2. Disconnect a harness from a connector on ASSY-PCB-MAIN.
3. Remove 1 screw each (2 screws in total) to take out SPEAKERS.



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