



Maintenance and Service Guide

M24fd model

M75605

M27fd model

M31383

SUMMARY

This guide provides information about spare parts, removal and replacement of parts, diagnostic tests, problem troubleshooting, and more.

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M31383-001

Product notice

Only trained service personnel familiar with this product should service it. Before performing any maintenance or service, be sure to read "Important Safety Information".

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1 Getting started

Read this chapter to learn about safety information and where to find additional HP resources.

Important safety information

Carefully read the cautions and notes within this document to minimize the risk of personal injury to service personnel. The cautions and notes are not exhaustive. Proper service methods are important to the safe, reliable operation of equipment. Improper service methods can damage equipment.

The service procedures recommended and described in this service manual provide effective methods of performing service operations. Service engineers should have prior repair knowledge and experience as well as appropriate training for the product before performing service procedures.

- Be sure your working environment is dry and clean and meets all government safety requirements.
- Be sure that other persons are safe while you are servicing the product.
- Do not perform any action that can cause a hazard to the customer or make the product unsafe.
- Use proper safety devices to ensure your personal safety.
- Always use approved tools and test equipment for servicing.
- Never assume the product's power is disconnected from the main power supply. Check that it is disconnected before opening the product's cabinet.
- Modules containing electrical components are sensitive to electrostatic discharge (ESD). Follow ESD safety procedures while handling these parts.
- Some products contain more than one battery. Do not disassemble or expose a battery to high temperatures, such as throwing into fire, or the battery may explode.
- Refer to government requirements for battery recycling or disposal.

This information provides general service information for the monitor. Adherence to the procedures and precautions is essential for proper service.

IMPORTANT: Only trained service personnel who are familiar with this HP product should perform service or maintenance for it. Before performing any service or maintenance, personnel must read the important safety information.

IMPORTANT: You must disconnect the power cord from the power sources before opening the monitor to prevent component damage.

Important service information and precautions

- Repair must be performed by professional service technicians in a repair center. End users should not perform these procedures.
- Please note during servicing that the primary side is the high voltage area.
- This monitor meets ROHS requirements. Be sure to use lead-free solder wire when soldering.
- If you must change a capacitor, be sure to match the polarity as printed on the PCB.
- If you must replace a capacitor, make sure the specification and part number match the BOM and location.
- If you must replace a capacitor, insert new parts carefully to avoid a short circuit caused by

the near pin.

- Do not get the board wet. Water and moisture can cause a short circuit that causes malfunctions.
- To avoid damage, be sure to use lead-free solder.
- When soldering, work quickly to avoid overheating the circuit board.
- Keep the soldering iron tip clean and well tinned when replacing parts.
- After repair, perform a close inspection of the circuit board to confirm it is in good condition.
- After repair, perform a function test to confirm the power supply is working properly.

ERP Lot5 requirement

1. A professional repairer must have the technical competence to repair electronic displays and comply with the applicable regulations for repairers of electrical equipment in the Member States where the repairer operates. Reference to an official registration system as professional repairer, where such a system exists in the Member States, shall be accepted as proof of compliance.

2. A professional repairer must have insurance that covers liabilities resulting from repairs, regardless of whether required by the Member State.

RoHS (2002/95/EC) requirements

Applied to all countries that require RoHS.

The RoHS (Restriction of Hazardous Substance in Electrical and Electronic Equipment Directive) is a legal requirement by the EU (European Union) for the global electronics industry sold in the EU and other countries. Any electrical and electronics products launched in the market after June 2006 should meet this RoHS requirement. Products launched in the market before June 2006 are not required to be compliant with RoHS parts. If the original parts are not RoHS compliant, the replacement parts can be non-ROHS compliant. If the original parts are RoHS compliant, the replacement parts **MUST** be RoHS compliant.

If product service or maintenance requires replacing parts, confirm the RoHS requirement before replacement.

General descriptions

This manual contains general information. There are two levels of service:

Level 1: Cosmetic/appearance/alignment service

Level 2: Circuit board or standard parts replacement

Firmware updates

Firmware updates for the monitor are available at support.hp.com. If no firmware is posted, the monitor does not need a firmware update.

Before returning the repaired product to the customer

Perform an AC leakage current check on exposed metallic parts to be sure the product is safe to operate without the potential of electrical shock. Do not use a line isolation transformer during this check.

Measurements that are not within specified limits present a possible shock hazard. You must check and repair the product before returning it to the customer.

2 Monitor features

This chapter provides an overview of the monitor's features.

Features

Depending on the model, your monitor might include the following features:

- 60.5 (23.8 in) diagonal viewable screen area with 1920 × 1080 FHD plus full-screen support for lower resolutions; includes custom scaling for maximum image size while preserving original aspect ratio
- 68.6 cm (27.0 in) diagonal viewable screen area with 1920 × 1080 FHD resolution, plus full-screen support for lower resolutions; includes custom scaling for maximum image size while preserving original aspect ratio
- Liquid crystal display (LCD) with active matrix and in-plane switching (IPS)
- Wide color gamut to provide coverage of sRGB color spaces
- Nonglare panel with an LED backlight
- Wide viewing angle to allow viewing from a sitting or standing position, or moving from side to side
- Tilt adjustment capability
- High-Definition Multimedia Interface (HDMI), USB and USB Type-C port, and VGA video inputs
- Four on-screen display (OSD) buttons, three that you can reconfigure to quickly allow selection of the most commonly used operations
- Plug and Play capability if supported by your operating system
- Security cable slot on the rear of the monitor for an optional security cable
- On-screen display (OSD) adjustments in several languages for easy setup and screen optimization
- HP Display Assistant software for adjusting monitor settings and enabling theft deterrence features
- Energy saver feature to meet requirements for reduced power consumption

NOTE: For safety and regulatory information, refer to the Product Notices provided in your documentation kit. To access the latest user guides or manuals for your product, go to <http://www.hp.com/support> and follow the instructions to find your product. Then select **Manuals**.

Front components

To identify the components on the front of the monitor, use this illustration and table.

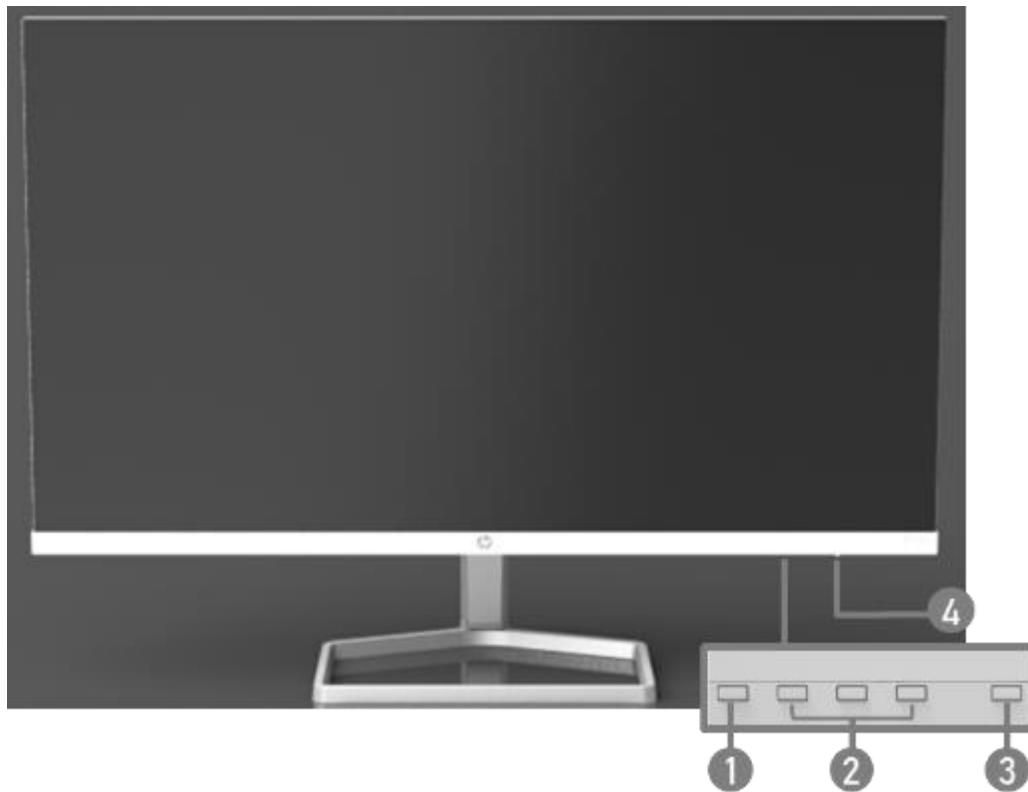


Table 1-1: Front components and their descriptions

Component	Function
1 Menu button	Press to open the OSD menu, select a menu item from the OSD, or close the OSD menu. When the OSD menu is open, the Menu light turns on.
2 OSD buttons (assignable)	When the OSD menu is open, press the buttons to navigate through the menu. The function light icons indicate the default button functions. For a description of these functions, see Using the function buttons on page 15. You can reassign the function buttons to quickly select the most commonly used operations. See Reassigning the function buttons on page 16.
3 Function buttons	Turns the monitor on or off.
4 Power button	White: The monitor is on. Amber: Monitor is in a reduced power state because of inactivity. See Using Auto-Sleep Mode on page 16 for more information.

Rear components

To identify the components on the rear of the monitor, use this illustration and table.

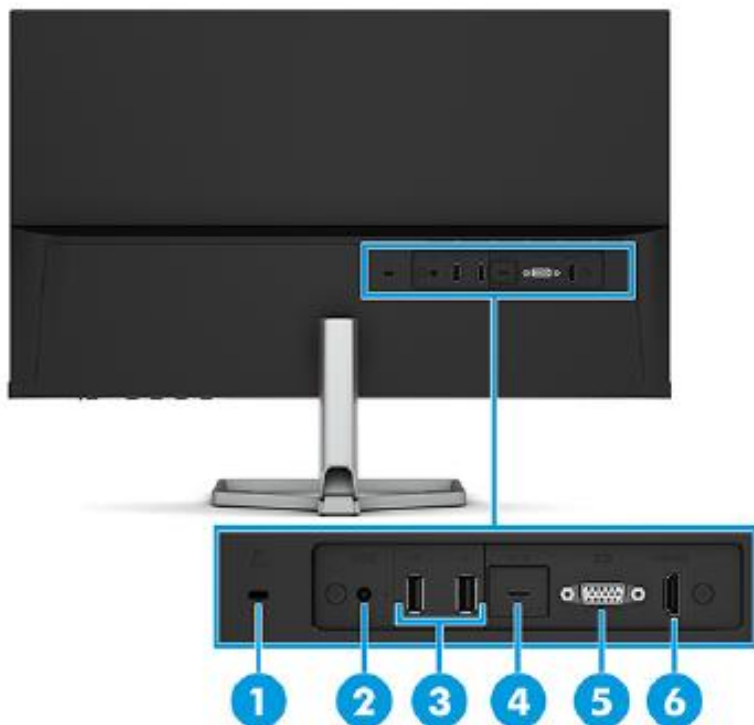


Table 1-2: Rear components and their descriptions

Component	Function
1 Security cable slot	Connects an optional security cable.
2 Power connector	Connects an AC adapter.
3 USB ports (2)	Connect USB devices.
4 USB Type-C port	Connects a USB Type-C cable to a source device such as a computer or game console. This USB Type-C port can function as a DisplayPort audio/video input or as a USB 3.0 connection. It can also be used to deliver up to 65 W of power to a device. Power outputs are 9 V/10 V/12 V/15 V/20 V to achieve a 65 W output. This port also enables the USB Type-A ports to perform their functions.
5 VGA port	Connects a VGA cable to a source device such as a computer or game console.
6 HDMI port	Connects the HDMI cable to a source device such as a computer or game console.

Locating the serial number and product number

The SPEC label (1) and BaRear Coverode label (2) are located on the rear of the monitor. The serial number and product number are located on a Safety label. You may need these numbers when contacting HP about the monitor model.



For worldwide models (except India):

Barcode label



Spec label



For India:

Bar code label



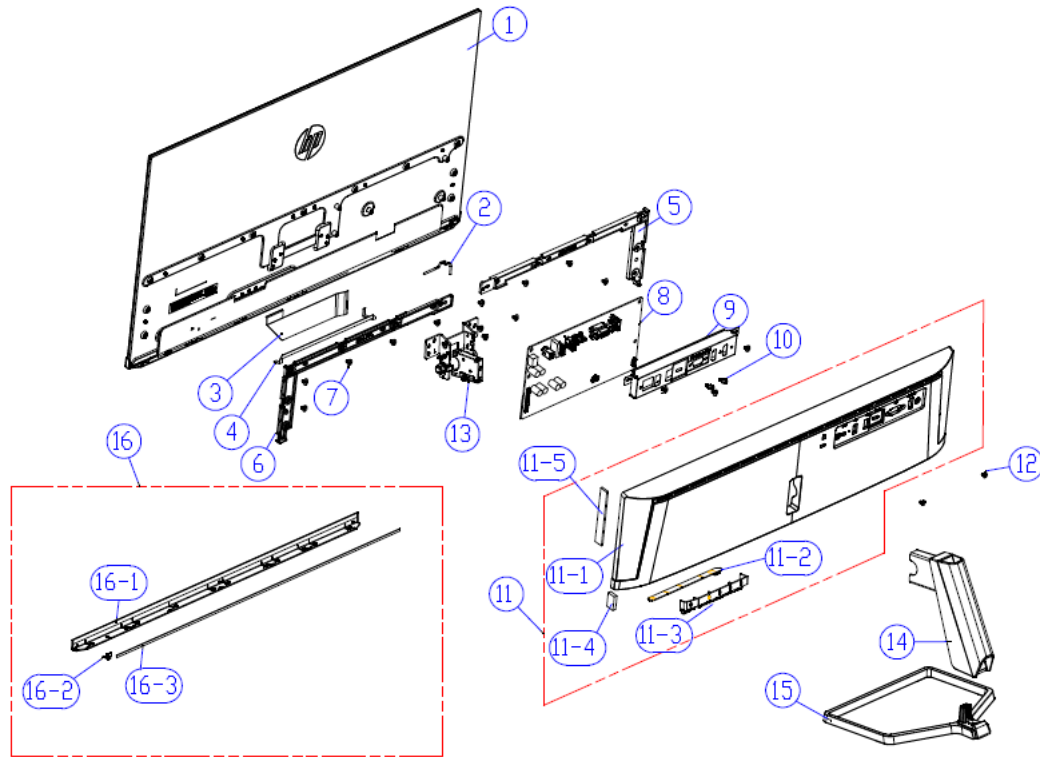
Spec label



3 Illustrated parts catalog

To identify the monitor major components, use this illustration and table.

- M24fd

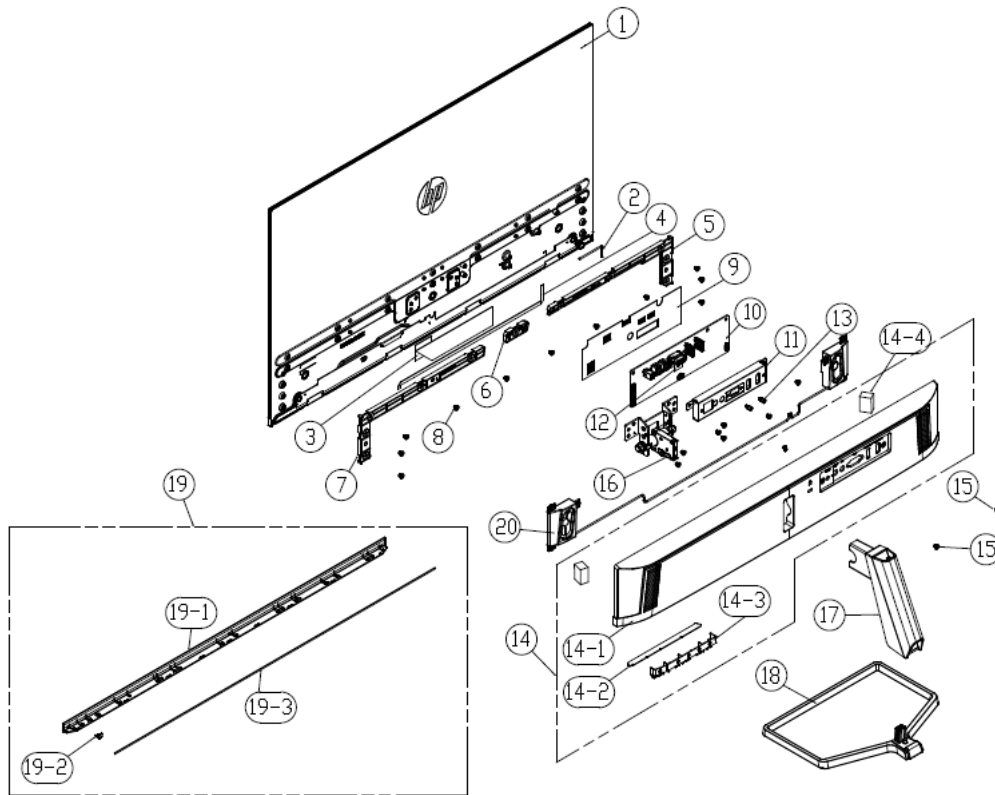


Item	Description	Qty
1	23.8 LCM for Encore III	1
2	WH A1007H00-6P-2L/A1251-H06 #28 75mm+ACETATE W/B HF	1
3	WH FFC 30P(1.0mm)180mm(1FOLD+PRO)60V G/F W/CONN(A15+BC)+AL HF	1
4	WH FFC 8P(0.5mm)270mm(3FOLD)60V G/F (A8+A6) HF	1
5	REAR SUPPORT-L(PCR-85% ABS+5% PET/JACK BLACK (6009-0337))(ENCORE 3-M24fd)	1
6	REAR SUPPORT-R(PCR-85% ABS+5% PET/JACK BLACK (6009-0337))(ENCORE 3-M24fd)	1
7	MAC. SCREW-MI M3.0*4.0L, BLK-Ni	20
8	MAIN BD outer preelaboration for HP M24fd Lehui (LM238WF2-HSAK2)	1
9	SHIELDING (SECC 0.5T)(1A2H-AUDIO)(ENCORE3)	1
10	MAC. SCREW-MH #4-40*5.0L,Ni	2
11	REAR COVER(PCR-85%+5% PET/JACK BLACK (6009-0337))(ENCORE 3-M24fd) ASS'Y	1
11-1	REAR COVER(PCR-85%+5% PET/JACK BLACK (6009-0337))(ENCORE 3-M24fd) ASS'Y	1
11-2	DISPLAY BD ASS'Y HP Encore III TOP	1

11-3	DISPLAYKEY(ABS 85% PCR +5% OBP/JACK BLACK (6009-0337))(ENCORE 3)	1
11-4	SPONGE PU(15*12*13t)(BLK)	1
11-5	SPONGE PU(80*3.0*8.0T)(BLK)	2
12	MAC. SCREW-MI M3.0*6.0L, BLK-ZNNI(HEAD DIAMETER 7.0)	2
13	HINGE(ENCORE3-M24f)(Sliver) GT	1
14	NECK(ENCORE3-M27f)(Sliver) ASS'Y GT	1
15	BASE(ENCORE3-M24f)(Sliver) GT	1
16	FRONT DECO(ABS 85% PCR +5% OBP/NATURAL SILVER)(ENCORE 3-M24FD)ASS'Y	1
16-1	FRONT DECO(VIRGIN ABS 85% PCR +5% OBP/NATURAL SILVER)(ENCORE 3-M24FD)	1
16-2	LENS(PC122/TRANSPARENT)(ENCORE 3)	1
16-3	FOAM TAPE (L534*W3*0.6t EXP060-D33-S)	1

To identify the monitor major components, use this illustration and table.

● M27fd



Item	Description	Qty
1	LM270WF7-HSAK2 Encore III M27fd LCM P/N(Black)	1
2	WH A1007H00-6P-2L/A1251-H06 #28 50mm W/B HF	1
3	WH FFC 30P(1.0mm)180mm(1FOLD+PRO)60V G/F W/CONN(A15+BC)+AL HF	1
4	WH FFC 8P(0.5mm) 350mm(3FOLD)60V G/F (A8+A6) HF	1
5	REAR SUPPORT-L(PCR-85% ABS+5% PET/JACK BLACK (6009-0337))(ENCORE 3-M27F)	1
6	REAR SUPPORT-R(PCR-85% ABS+5% PET/JACK BLACK (6009-0337))(ENCORE 3-M27F)	1
7	MAC. SCREW-MI M3.0*4.0L, BLK-Ni	13
8	MYLAR BLACK(220*43*0.325t) (ENCORE 3-M27FD)	1
9	MAIN BD ASS'Y HP Encore III M27fd (LM270WF7-HSAK2) TOP	1
10	SHIELDING (SECC 0.5T)(1A2H-AUDIO)(ENCORE3)	1
11	MYLAR BLACK(16.5*15*0.325t) (ENCORE 3-SHIELDING MIDDLE SCREW)	1
12	MAC. SCREW-MH #4-40*5.0L,Ni	2
13	REAR COVER(VIRGIN ABS+5% PET/JACK BLACK (6009-0337))(ENCORE 3-M27FD)ASS'Y	1
13-1	REAR COVER(VIRGIN ABS+5% PET/JACK BLACK (6009-0337))(ENCORE 3-M27FD)	1
13-2	DISPLAY BD ASS'Y HP Encore III TOP	1
13-3	DISPLAYKEY(VIRGIN ABS+5% PET/JACK BLACK (6009-0337))(ENCORE 3)	1
13-4	SPONGE PU(24.0*12.0*16.0t)(ENCORE2_23F)(BLK)	1

14	MAC. SCREW-MI M3.0*6.0L, BLK-ZNNI(HEAD DIAMETER 7.0)	2
15	HINGE(ENCORE3-M27f)(Sliver) CX	1
16	NECK(ENCORE3-M27f)(Sliver) ASS'Y CX	1
17	BASE(ENCORE3-M27f)(Sliver) CX	1
18	FRONT DECO(VIRGIN ABS+5% PET/NATURAL SILVER)(ENCORE 3-M27FD)ASS'Y	1
18-1	FRONT DECO(VIRGIN ABS+5% PET/NATURAL SILVER)(ENCORE 3-M27FD)	1
18-2	LENS(PC122/TRANSPARENT)(ENCORE 3)	1
18-3	FOAM TAPE (L606*W3*0.6t EXP060-D33-S)	1

How to order parts

The HP authorized repair center can puRear Coverhase the power board from HP.

Connectors by manufacturer

Digi-Key Component: [Digi-Key Component United Kingdom](#)

Type	LHD P/N	Main Source SPEC	DigikeyDistributer P/N	Different than Main Source
USB CONN. 3.0 A	R030062100080	USB CONN. 3.0 A TYPE 180' H=14.45mm BLACK (U3A27C-09BM5YN24) HF	USB1086-GF-B	Color Different. Digikey is blue. LHD IS BLK
USB CONN. 3.0 A	R030062100130	USB CONN. 3.0 A TYPE 180' H=14.45mm BLACK (W-US48409-0A10B-Z)HF	USB1086-GF-B	Color different. Digikey is blue. LHD IS BLK
USB CONN. 3.1 C	R030062500080	USB CONN. 3.1 C TYPE 180' H=12mm (050-4G2090-040H) HF	12401951E412A	N/A
CONN. HDMI 19P	R030410000210	CONN. HDMI 19P 180' H=13mm HDM4PB-19BM1RN17 SMD HF	900-0476591100TR-ND 900-0476591100CT-ND 900-0476591100DKR-ND	Height different (digikey.5mm; LHD 13mm)
D-SUB FEMALE	R030012105155	D-SUB FEMALE 180' 15P H=10.5mm BLACK DSB6TC-15BM1YN30HF HF	2092-K86X-ED-15S-BR-ND	Height different (digikey.9mm; LHD 10.5mm)

NOTE: The connector may need to be modified to meet functionality, regulatory and safety requirements if it is not an exact match.

You can purchase cables from the HP part store at <https://partsurfer.hp.com/Search.aspx>.

Internal and External Power Supplies are available for purchase from the following EU distributor: EET <https://www.eetgroup.com/en-eu/>

NOTE: HP continually improves and changes product parts. For complete and current information about supported parts for your product, go to <https://partsurfer.hp.com>, select your country or region, and then follow the on-screen instructions.

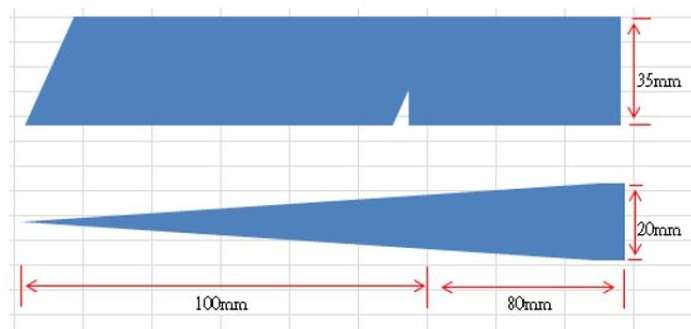
4 Removal and replacement procedures

Adherence to these procedures and precautions is essential for proper service.

Preparation for disassembly

Use this information to properly prepare to disassemble and reassemble the monitor.

- 1) Read the “Important safety information” and “Important service information and precautions” sections in the “Getting started” chapter of this guide.
- 2) Clean the room for disassembly.
- 3) Identify the disassembly area.
- 4) Check the position that the monitors are to be placed along with the number of monitors. Prepare the area for material flow according to the disassembly layout.
- 5) Be sure to have the following equipment and materials:
 - Press fixture
 - Working table
 - Screwdriver
 - Knife
 - Gloves
 - Cleaning cloth
 - ESD protection
 - Scraper bar in the following dimensions:



Rear Cover

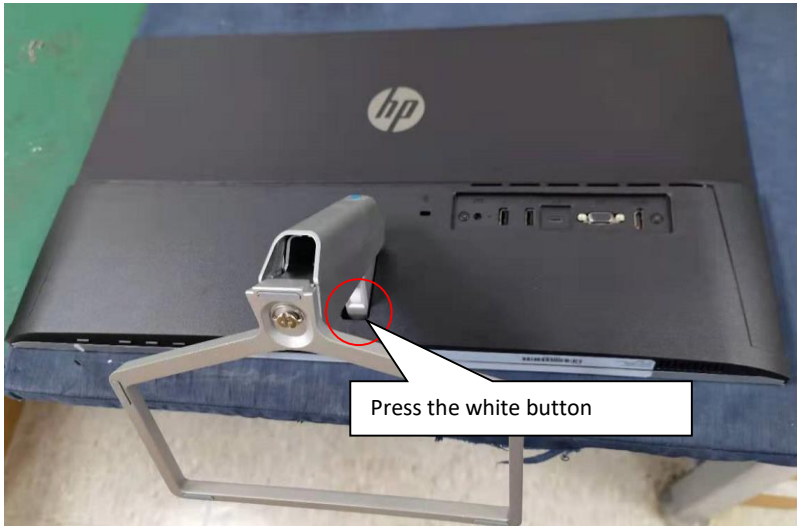
Before removing the Rear Cover, follow these steps:

- ▲ Prepare the monitor for disassembly. See Preparation for disassembly on page 123.

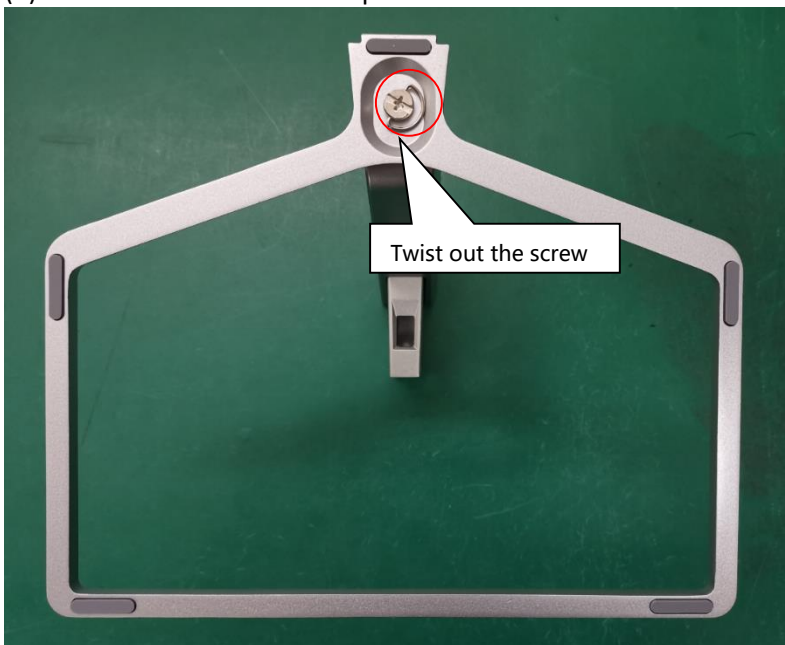
Remove the Rear Cover:

Step 1 Quick release Base stand (M24fd)

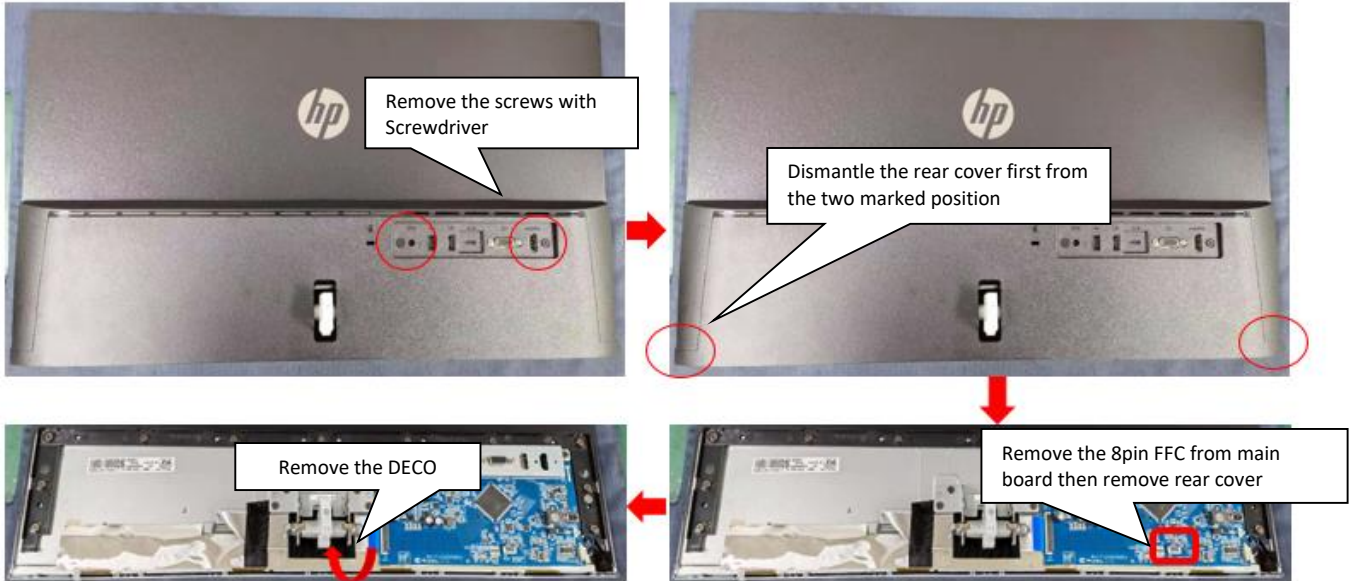
(1) Lay the display on soft desk and push the button of stand to unlock the stand, then pull out the stand from the monitor head.



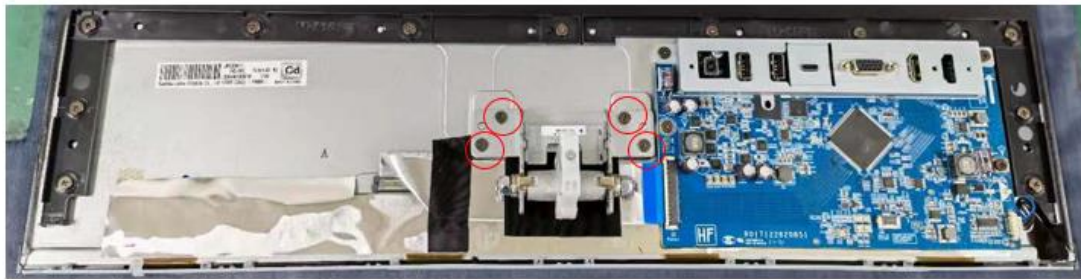
(2) Twist out the screw and separate base and stand.



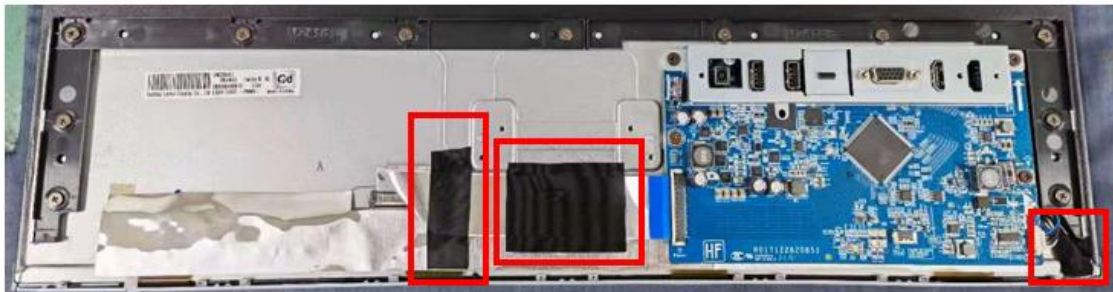
Step 2: Strip two screws from the Rear Cover, then move Rear Cover follow the below way



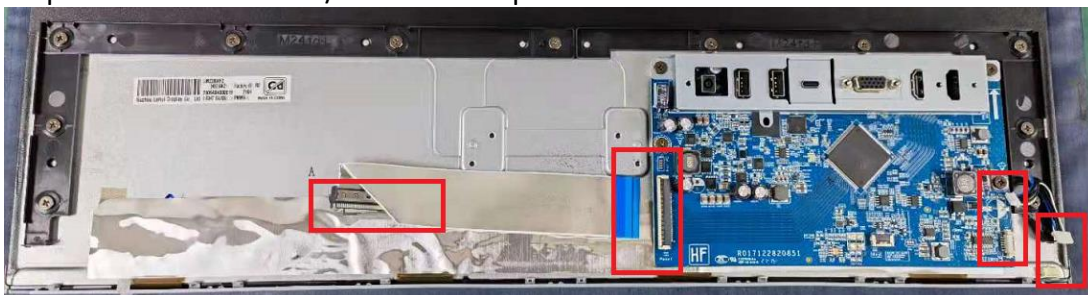
Step 3: Strip four screws from the hinge.



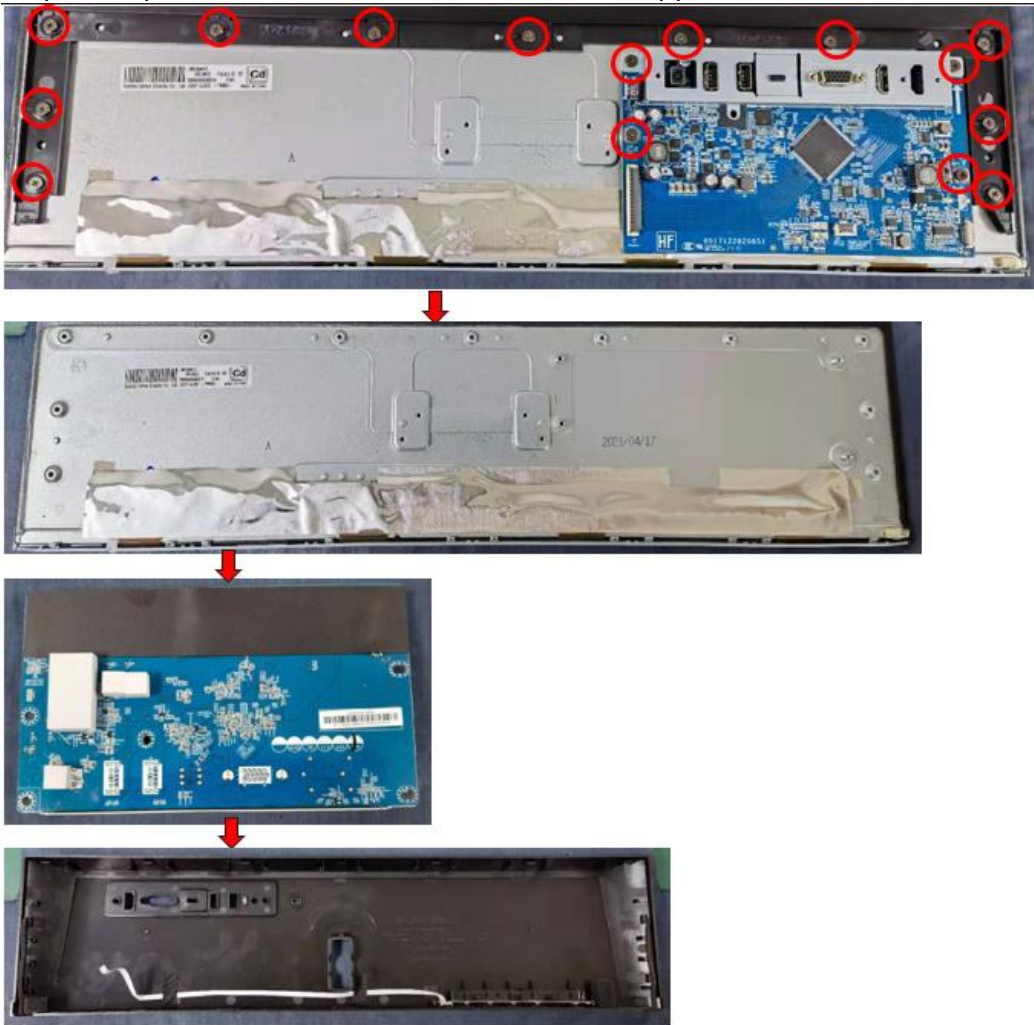
Step 4: Remove the acetate tapes from the LVDS/ LED cable.



Step 5: Pull out the LVDS/ LED cable to panel.

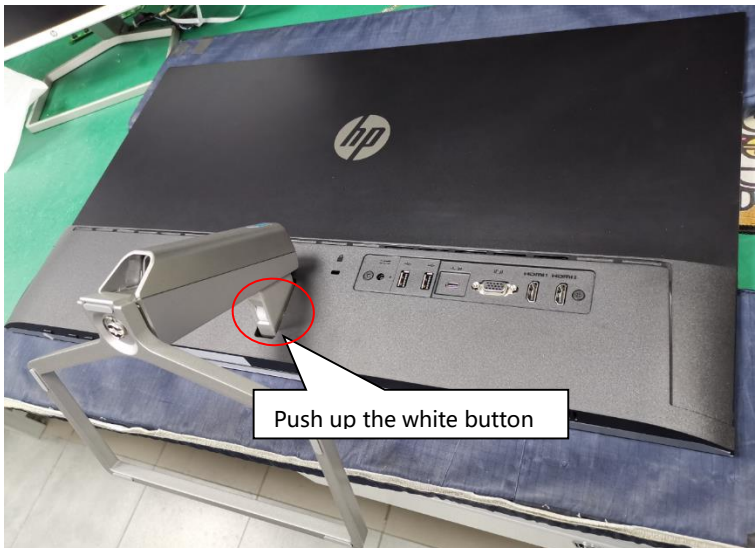


Step 6: Strip twelve screws from the Rear Cover supporter and M/B.



Step 1 Quick release Base stand (M27fd)

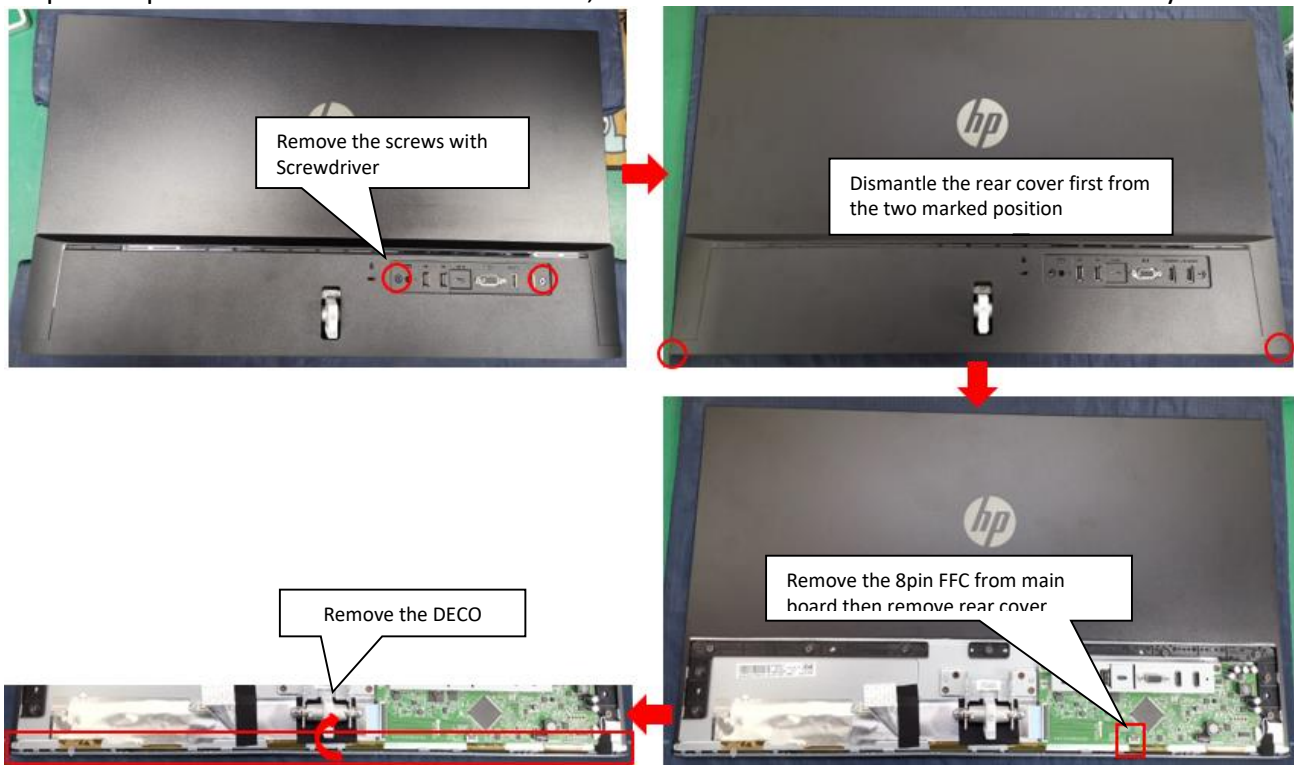
(1) Lay the display on soft desk and push the button of stand to unlock the stand, then pull out the stand from the monitor head.



(2) Twist out the screw and separate base and stand.



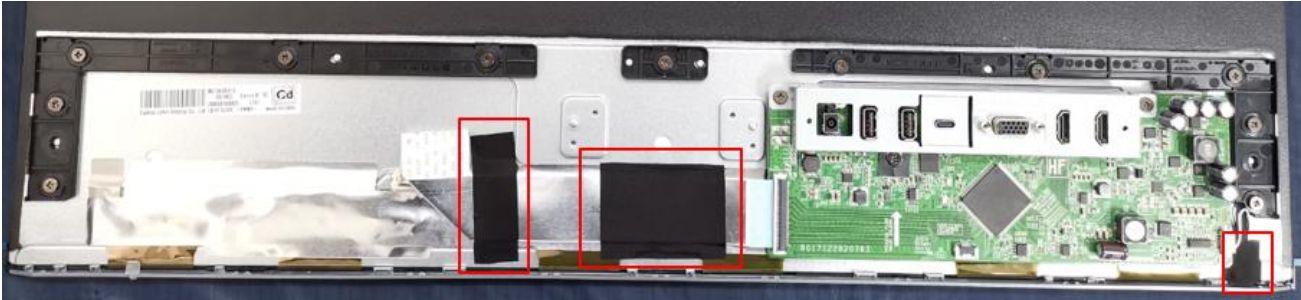
Step 2: Strip two screws from the Rear Cover, then move Rear Cover follow the below way



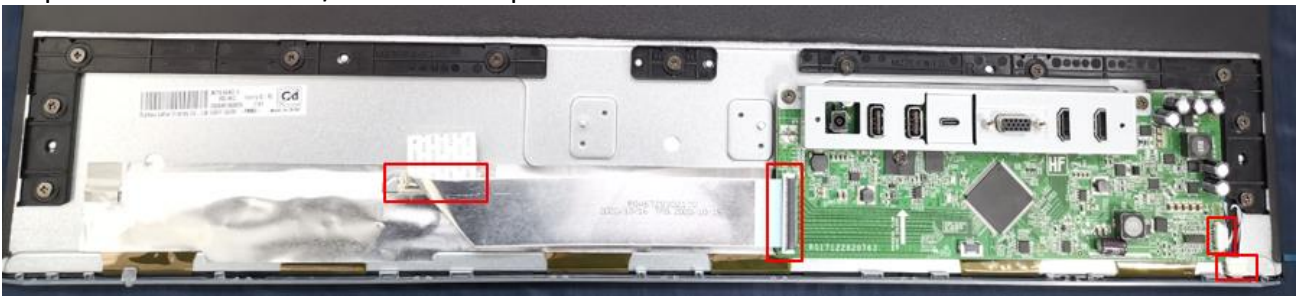
Step 3: Strip four screws from the hinge.



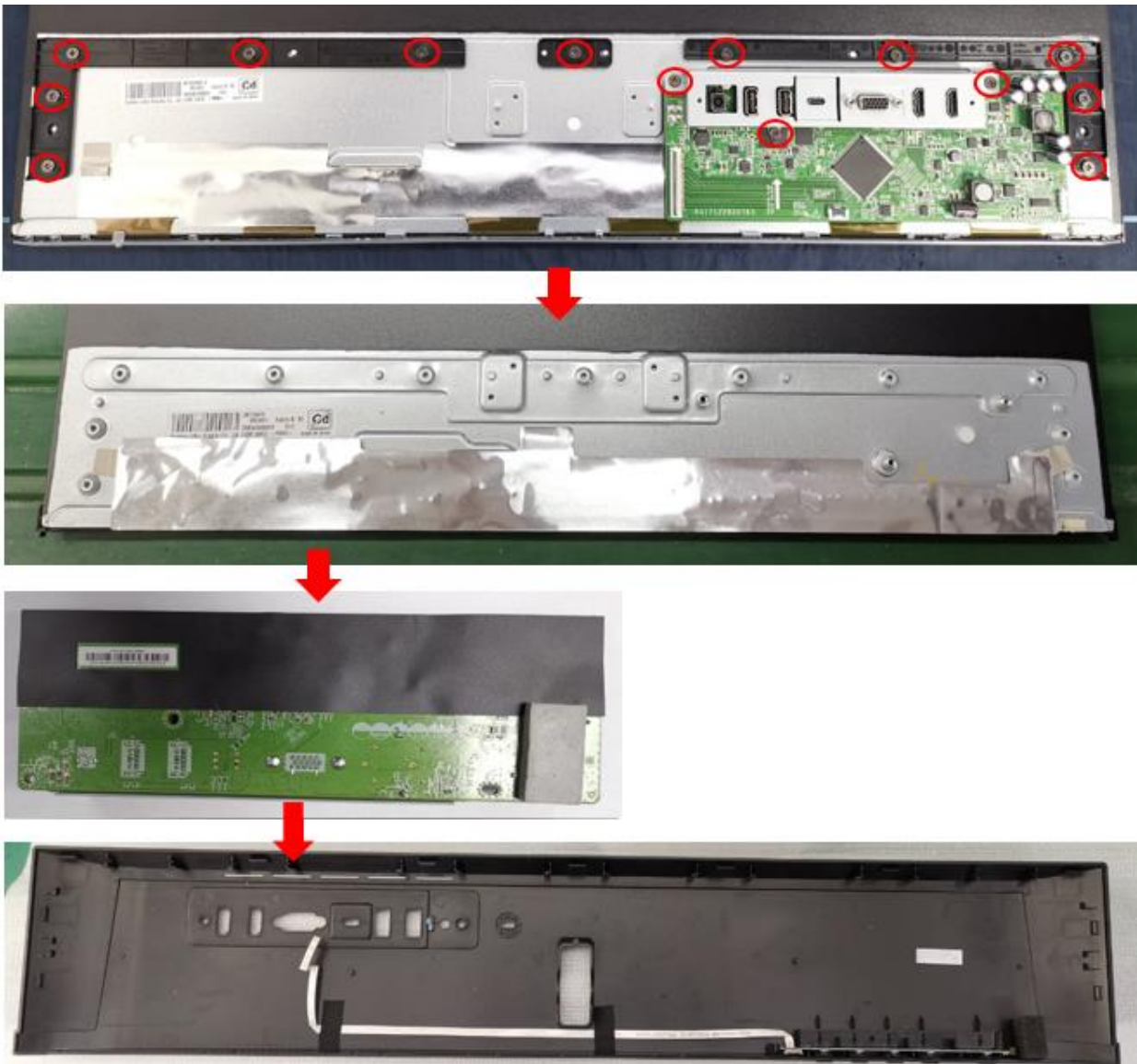
Step 4: Remove the acetate tapes from the LVDS/ LED cable.



Step 5: Pull out the LVDS/ LED cable to panel.



Step 6: Strip twelve screws from the Rear Cover supporter and M/B.



Connector repair

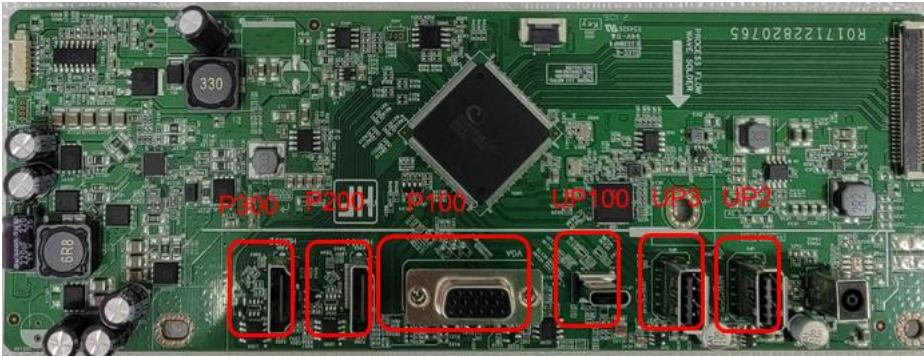
This procedure includes HDMI, DisplayPort and audio connectors.

The connectors are on the main board (board part number 5E.49101.011).

The connectors identifiers are as follows:

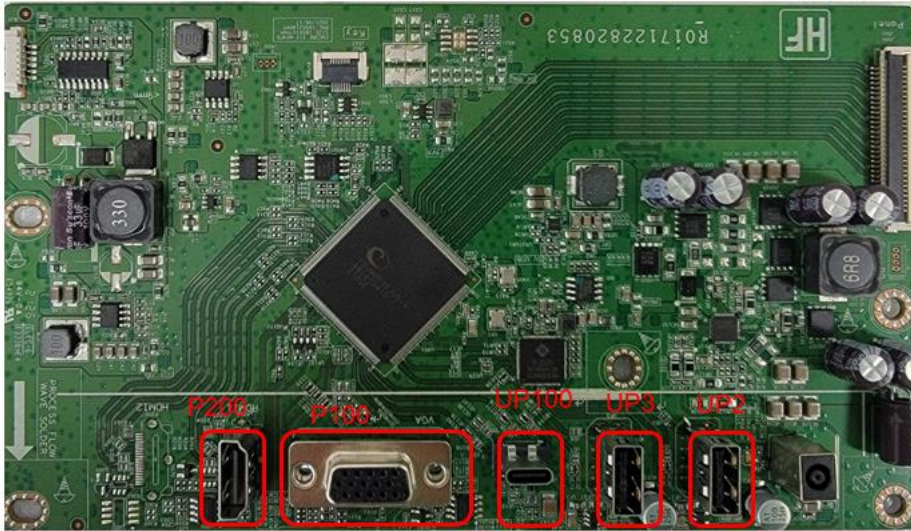
M27Fd(R352708120302)

Connector	Location
HDMI	P200/P300
VGA	P100
Type C	UP100
USB Type A	UP2/UP3



M24Fd (R352443720150)

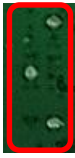
Connector	Location
HDMI	P200
VGA	P100
Type C	UP100
USB Type A	UP2/UP3



HDMI connector P200/P300

Repair the HDMI connector:

- 1) Use a soldering iron and a desoldering pump to remove as much solder as possible from the pin.

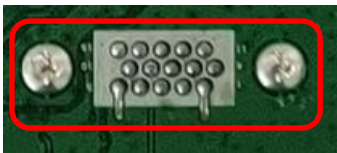


- 2) Use a hot air gun to melt the solder on the pins.
- 3) Lift the P200 or P300 connector from the PCB.
- 4) Place the new component on the PCB. Be sure that it matches the PCB footprint.
- 5) Solder the new component.

VGA connector P100

Repair the VGA connector:

- 6) Use a soldering iron and a de-soldering pump to remove as much solder as possible from these pin.



- 7) Lift the P100 connector from the PCB.
- 8) Place the new component on the PCB. Be sure that it matches the PCB footprint.
- 9) Solder the new component.

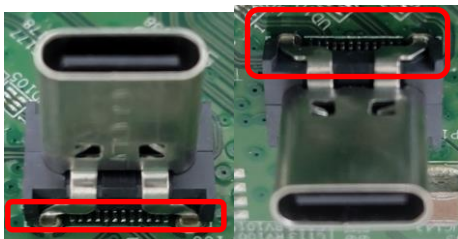
Type C connector UP100

Repair the Type C connector:

- 10) Use a soldering iron and a de-soldering pump to remove as much solder as possible from the pin.



- 11) Use a hot air gun to melt the solder on the pins.



- 12) Lift the UP100 connector from the PCB.

- 13) Place the new component on the PCB. Be sure that it matches the PCB footprint.
- 14) Solder the new component.

USB Type A connector UP2/UP3

Repair the USB Type A connector:

- 15) Use a soldering iron and a de-soldering pump to remove as much solder as possible from the pin.



- 16) Lift the UP2/UP3 connector from the PCB.
- 17) Place the new component on the PCB. Be sure that it matches the PCB footprint.
Solder the new component.

Before repairing connectors, follow these steps:

- ▲ Prepare the monitor for disassembly. See [Preparation for disassembly](#) on page 12.

Function test

After repair, be sure to confirm that all functions are working.

Table 4-1: Function test

Test item	Operating description	Tool used
HDMI test	Confirm whether image displays and sound plays	Computer or DVD player
VGA test	Confirm whether image displays and sound plays	Computer or DVD player
Type C test	Confirm whether image displays and sound plays	Computer or DVD player
Hub test	Confirm whether data read correctly	Computer or NB

Support and troubleshooting

The following table lists possible problems, the possible cause of each problem, and the recommended solutions.

Table 4-2: Solving common problems

Problem	Possible cause	Solution
Screen is blank or video is flashing.	Power cord is disconnected.	Connect the power cord.

	Monitor is off.	Power the power button. NOTE: If pressing the Power button has no effect, press and hold the power button for 10 seconds to disable the Power button lockout feature.
	Video cable is improperly connected.	Connect the video cable properly.
	System is in Sleep mode.	Press any key on the keyboard or move the mouse to exit Sleep mode.
	Video card is incompatible.	Open the OSD menu and select the Input Control menu. Set Auto-Switch Input to Off and manually select the input
Image appears blurred, indistinct, or too dark.	Brightness is too low.	Open the OSD menu and select Brightness to adjust the brightness scale as needed.
Check Video Cable is displayed on screen.	Monitor video cable is disconnected.	Connect the appropriate video signal cable between the computer and monitor. Be sure that the computer power is off while you connect the video cable.
Input Signal Out of Range is displayed on screen.	Video resolution and/or refresh rate are set higher than what the monitor supports.	Change the settings to a supported setting.
The monitor is off, but it did not seem to enter into Sleep mode.	The monitor's power saving control is disabled.	Open the OSD menu and select Power Control > Auto-Sleep Mode and set auto-sleep to On .
On-Screen Menus are Locked is displayed.	The monitor's OSD lock function is enabled.	Press and hold the Menu button on the front bezel to 10 seconds to disable the OSD lockout function.
Power Button is Locked is Displayed	The monitor's power button is locked.	Press and hold the power button for 10 seconds to disable the power button lock function.

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