



# Maintenance and Service Guide

## M27fq model

### M31385

#### **SUMMARY**

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

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First Edition: March 2022

Document Part Number:M31385-M27fq-MSG-V1

Assembly part number: M31385-001

#### **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.

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**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.

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

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## 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](http://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.

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## 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:

- 68.47 cm (27-in) diagonal viewable area with 2560 x 1440 resolution, plus full-screen support for lower resolutions, includes custom scaling for maximum image size while preserving the original aspect ratio
- Liquid crystal display (LCD) with active matrix and in-plane switching
- Wide color gamut to provide coverage of sRGB color spaces
- Nonglare screen with an LED backlight
- Wide viewing angle to allow viewing from a sitting or standing position, or moving from side to side
- Tilt adjustment capabilities
- High-Definition Multimedia Interface (HDMI), and DP inputs
- Four OSD buttons, three that can be reconfigured 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

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**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**.

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# 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

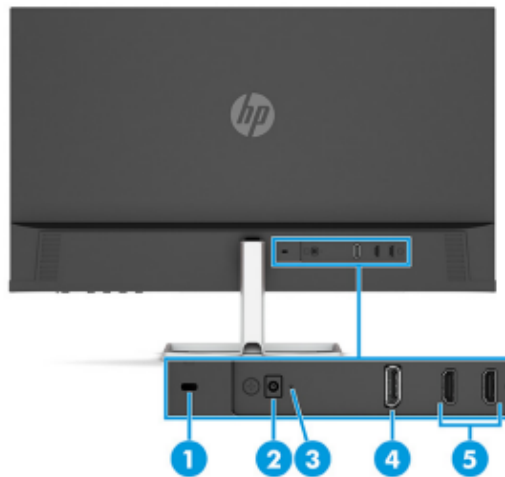
Component	Function
1 Power button	Turns the monitor on or off.
2 Menu button	Press to open the OSD menu. When the OSD menu is open, the Menu light turns on.
3 OSD buttons (assignable)	When the OSD menu is open, press the buttons to navigate through the menu. The function light icons indicate the default button functions. You can reassign the function buttons to quickly select the most commonly used operations.

**NOTE:** You can reconfigure the Function buttons in the OSD menu to quickly select the most commonly used operations. Press the Menu button to open the OSD, and then select Menu Control. Select Assign buttons, and then select one of the available options for the button you want to assign.



## Rear components

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



**Table 1-5** Rear components and their descriptions

Component	Description
(1)	Security cable slot Connects an optional security cable.
(2)	Power connector Connects an AC adapter.
(3)	Power light On: The monitor is on. Off: Depending on your monitor model, the monitor is off or in Sleep mode.
(4)	DisplayPort connector Connects the DisplayPort cable to a source device such as a computer or game console.
(5)	HDMI ports (2) Connects the HDMI cable to a source device such as a computer or game console.

## Locating the serial number and product number

Depending on the product, the serial number and product number are located on a label on the rear of the monitor or on a label under the front bezel of the monitor head. You might need these numbers when contacting HP for support.






Barcode label

Manufactured: Oct 2020 Product No.: 2H4B5AA4ABA Spare No.: M34200-001 Assembly Part No.: M31386-001 Rev.: R1M080	Serial No.:  3CMYWWZZZZ	  HP M27fq QHD Monitor 型號 / 型号: HP M27fq QHD Monitor	  R193611004602-A
品名: 液晶顯示器 液晶显示器 Regulatory Model No. / 規定型號 / 規定型号 / 기기의 명칭(모델명): HSD-0093-K		Input Rating / 輸入規格 / 輸入規格: DC19.5V = 2.05A(2.05A) En modo de espera: 0.3Wh / Consumo de energia: 19Wh Made in China(City of Suzhou) / 中國製造 / 中国製造 / 韩国에서 제조	 HP Inc. R193611004602-B

Spec label

 <b>警告</b> Warning Warnings Advertencias 警告: 使用過度恐傷害視力 警告: 使用過度恐傷害視力	To prevent electric shock, do not remove cover! To prevent electric shock, do not remove cover! To prevent electric shock, do not remove cover! For applicable power supplies see user manual. CAN ICES-003(B)/NMB-003(B)	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. HP Inc. R193611005010-A	   R193611005010-B
      R193611005010-B			

Bar code label

Manufactured: Oct 2020 Product No.: 2H4B5AA4ABA Spare No.: M34200-001 Assembly Part No.: M31386-001 Rev.: R1M080	Serial No.:  3CMYWWZZZZ	IS 13262 (Part 1) IEC 60950-1  R=4 1028330 www.bis.gov.in R193611004791-A	 R193611004791-B
品名: 液晶顯示器 液晶显示器 Regulatory Model No. / 規定型號 / 規定型号 / 기기의 명칭(모델명): HSD-0093-K		Input Rating / 輸入規格 / 輸入規格: DC19.5V = 2.05A(2.05A) Made in China(City of Suzhou) / 中國製造 / 中国製造 / 韩国에서 제조	HP Inc. R193611004791-B

 <b>警告</b> Warning Warnings Advertencias 警告: 使用過度恐傷害視力 警告: 使用過度恐傷害視力	To prevent electric shock, do not remove cover! To prevent electric shock, do not remove cover! To prevent electric shock, do not remove cover! For applicable power supplies see user manual. CAN ICES-003(B)/NMB-003(B)	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. HP Inc. R193611005010-B	   R193611005010-B
      R193611005010-B			



Item	Description	Qty
1	LM270WQ4-HSAK1 Encore III M27fq LCM P/N ( black )	1
2	WH A1007H00-6P-2L/A1251-H06#28 75MM+ACETATE W/B HF	1
3	WH FFC 41P(0.5mm) 320mm(2FOLD+PRO)60V G/F W/CONN(A5+BC)+AL(AA) HF WH FFC 51P(0.5mm) 220mm(1FOLD+PRO)60V G/F W/CONN(A5+BC)+AL(AA) 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	1
6	REAR SUPPORT-M(PCR-85% ABS+5% PET/JACK BLACK	1
7	REAR SUPPORT-R(PCR-85% ABS+5% PET/JACK BLACK	1
8	MAC. SCREW-MI M3.0*4.0L, BLK-Ni	15
9	MYLAR BLACK(185*45*0.325t)	1
10	MAIN BD ASS'Y HP Encore III M27fq (LM270WQ4-HSAK1)	1
11	SHIELDING (SECC 0.5T)(1DP2H)(ENCORE3)	1
12	MYLAR BLACK(16.5*15*0.325t) (ENCORE 3-SHIELDING MIDDLE SCREW)	1
14	REAR COVER(ABS 85% PCR +5% OBP/JACK BLACK (6009-0337))(ENCORE 3-M27FQ) ASS' Y	1
14-1	REAR COVER(ABS 85% PCR +5% OBP/JACK BLACK (6009-0337))(ENCORE 3-M27FQ)	1
14-2	DISPLAY BD ASS'Y HP Encore III	1
14-3	DISPLAYKEY(ABS 85% PCR +5% OBP/JACK BLACK (6009-0337))(ENCORE 3)	1
14-4	SPONGE PU(24.0*12.0*16.0t)(ENCORE2_23F)(BLK)	1
14-5	SPONGE PU(80*3.0*8.0T)(BLK)	1
14-6	POWER LENS(PC/TRANSPARENT)(2213xi)	1
15	MAC. SCREW-MI M3.0*6.0L, BLK-ZNNI(HEAD DIAMETER 7.0)	2
16	HINGE(ENCORE3-M27f)(Sliver) CX	1
17	NECK(ENCORE3-M27f)(Sliver) ASS'Y CX	1

18	BASE(ENCORE3-M27f)(Sliver) CX	1
19	FRONT DECO(ABS 85% PCR +5% OBP/NATURAL SILVER)(ENCORE 3-M27FQ)ASS'Y	1
19-1	FRONT DECO(ABS 85% PCR +5% OBP/NATURAL SILVER)(ENCORE 3-M27FQ)	1
19-2	LENS(PC122/TRANSPARENT)(ENCORE 3)	1
19-3	FOAM TAPE (L606*W3*0.6t EXP060-D33-S)	1

## How to order parts

### Connectors by manufacturer

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

TYPE	LHD P/N	Main Source SPEC.	Distributor P/N	Different than Main Source
HDMI	R030410000210	19P 180' H=13mm SMD	900-0476591100TR-ND 900-0476591100CT-ND 900-0476591100DKR-ND	H=8.5mm
DP	R030470000290	20P 180' H=13mm SMD	A118339-ND	H=15.96mm

HDMI:

[0476591100 Molex | Connectors, Interconnects | DigiKey](#)

DP:

[2041441-1 TE Connectivity AMP Connectors | Connectors, Interconnects | DigiKey](#)

**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>.

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

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

## 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.

Read the “Important safety information” and “Important service information and precautions” sections in the “Getting started” chapter of this guide.

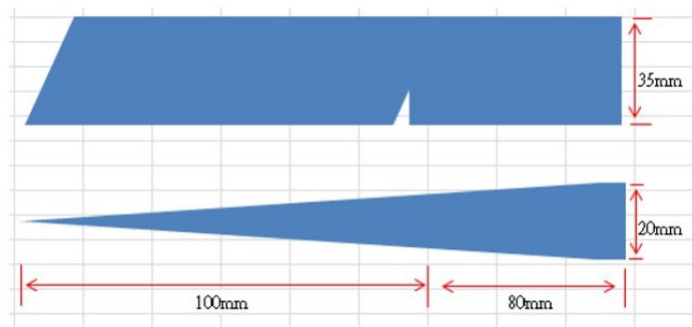
Clean the room for disassembly.

Identify the disassembly area.

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.

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:



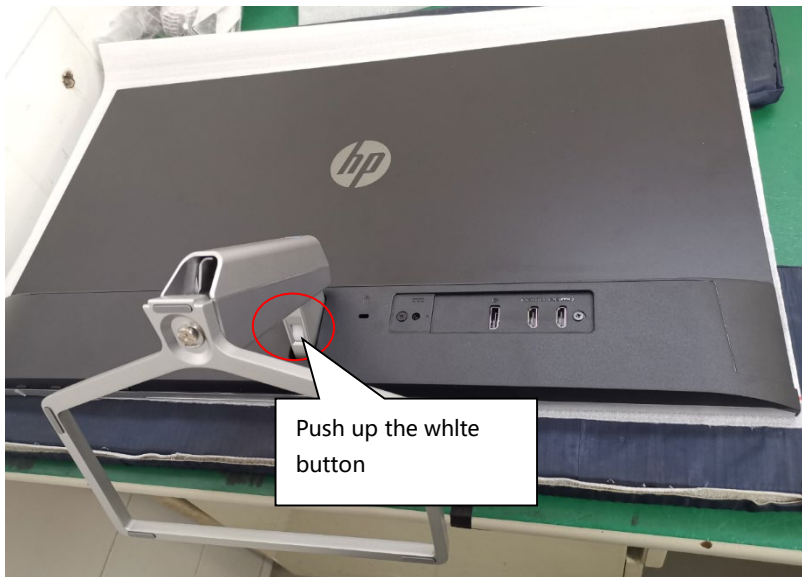
## Rear Cover

Before removing the RC, follow these steps:

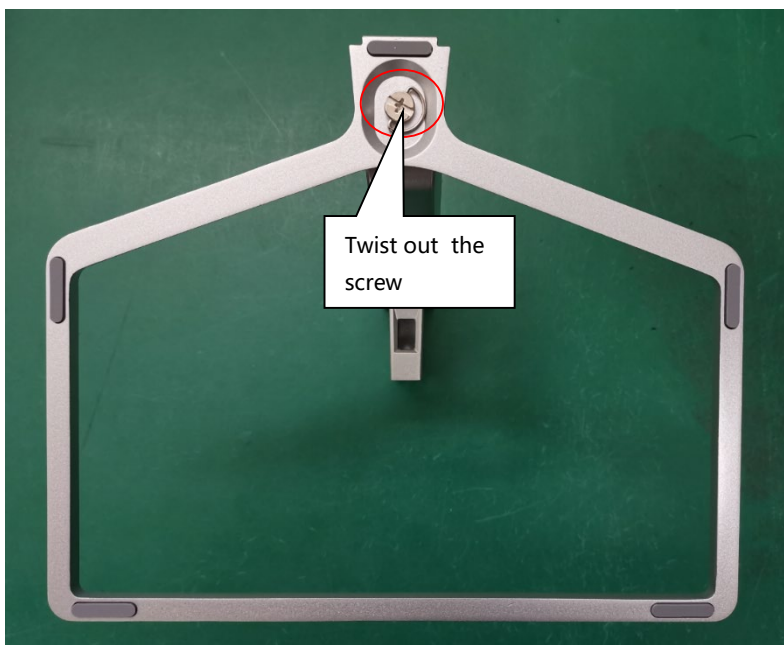
- ▲ Prepare the monitor for disassembly. See Preparation for disassembly on page 14.

### Step 1 Quick release Base stand

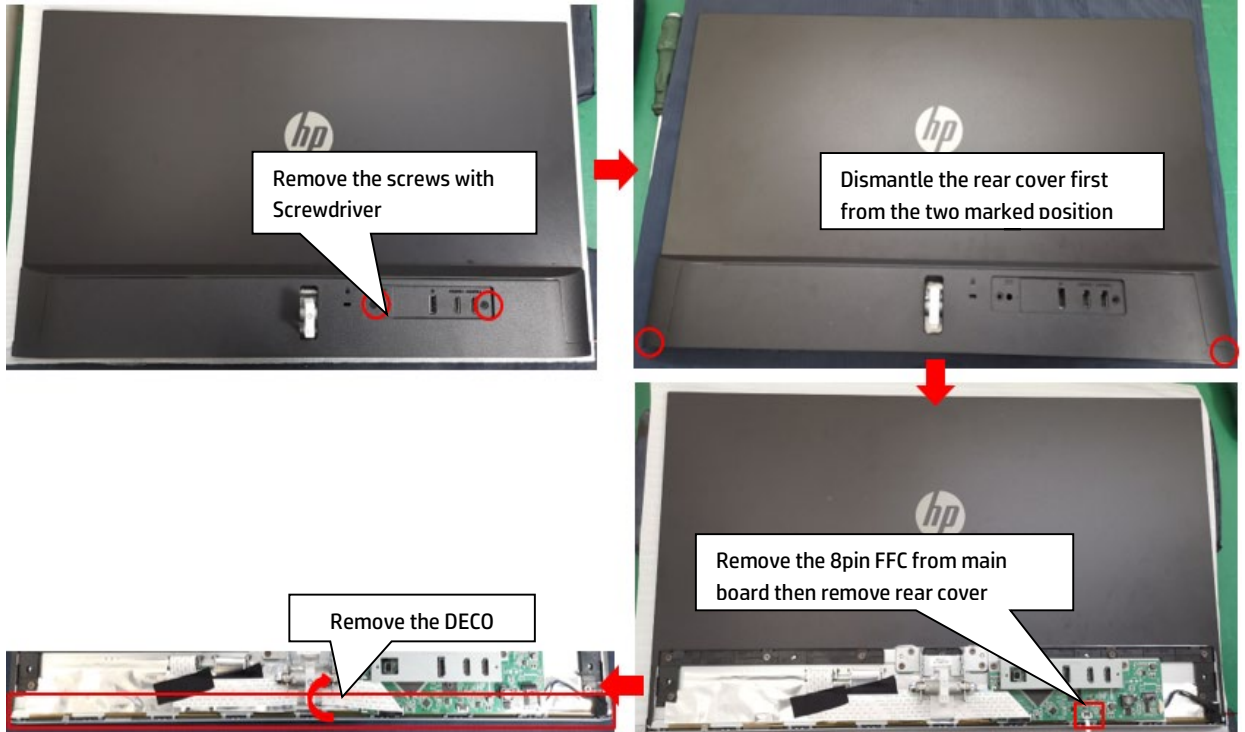
1. Lay the display on soft desk and push the button of stand to unlock the stand, then pull out the stand from the monitor head.



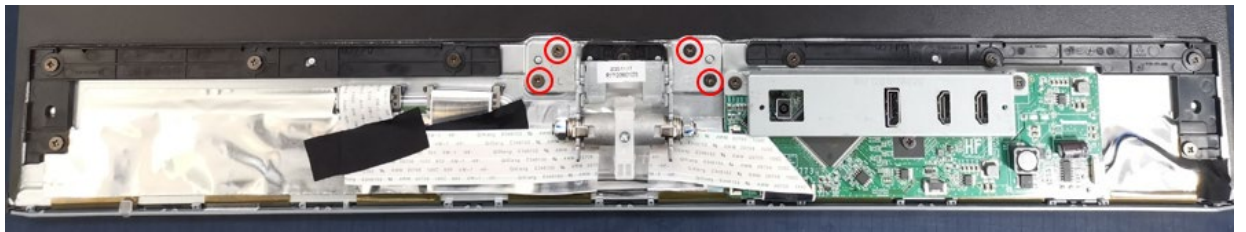
2. Twist out the screw and separate base and stand.



3. Strip two screws from the rear cover, then move rear cover follow the below way



4. Strip four screws from the hinge



5. Remove the acetate tapes from the LVDS/ LED cable.

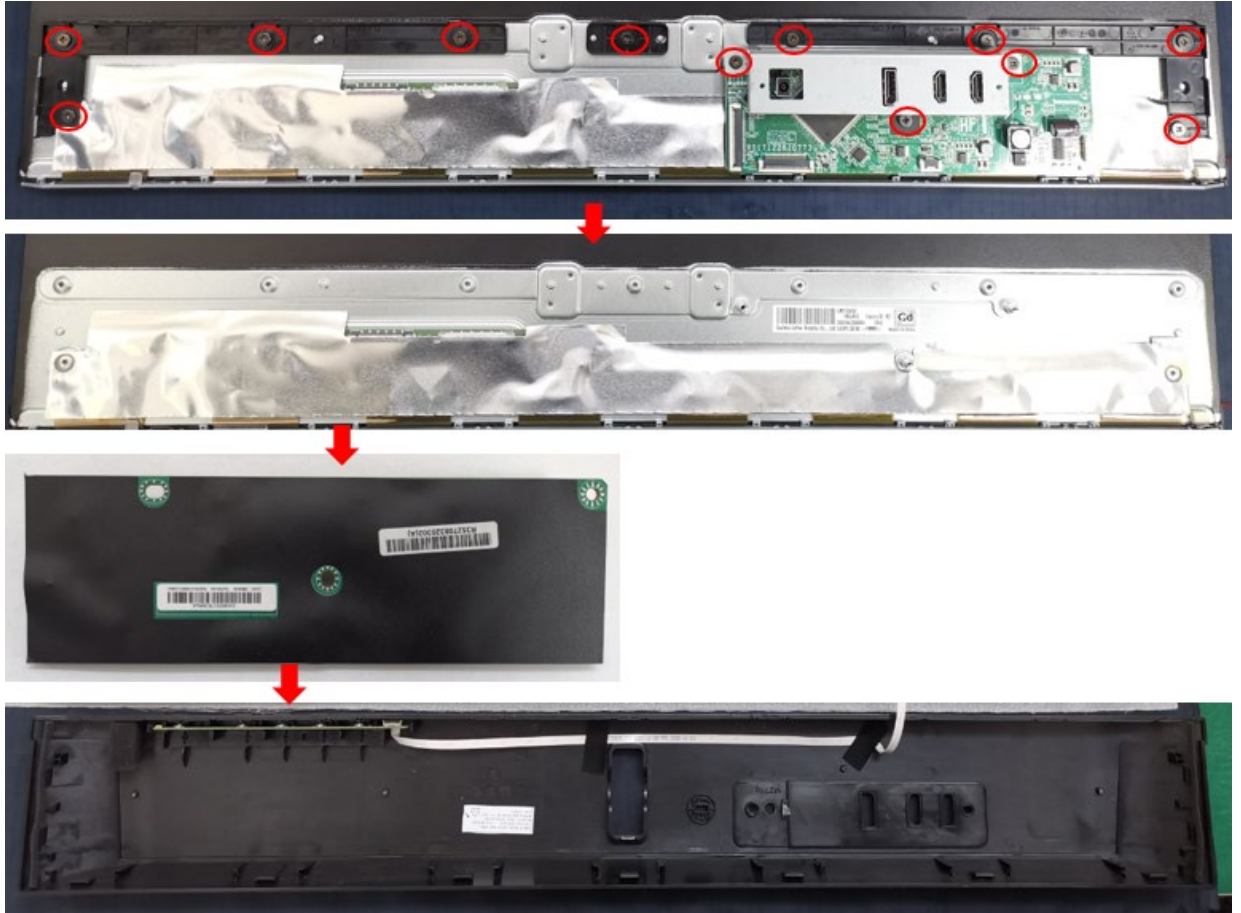


6. Pull out the LVDS/ LED cable to panel.





7. Strip twelve screws from the rear cover supporter and M/B.



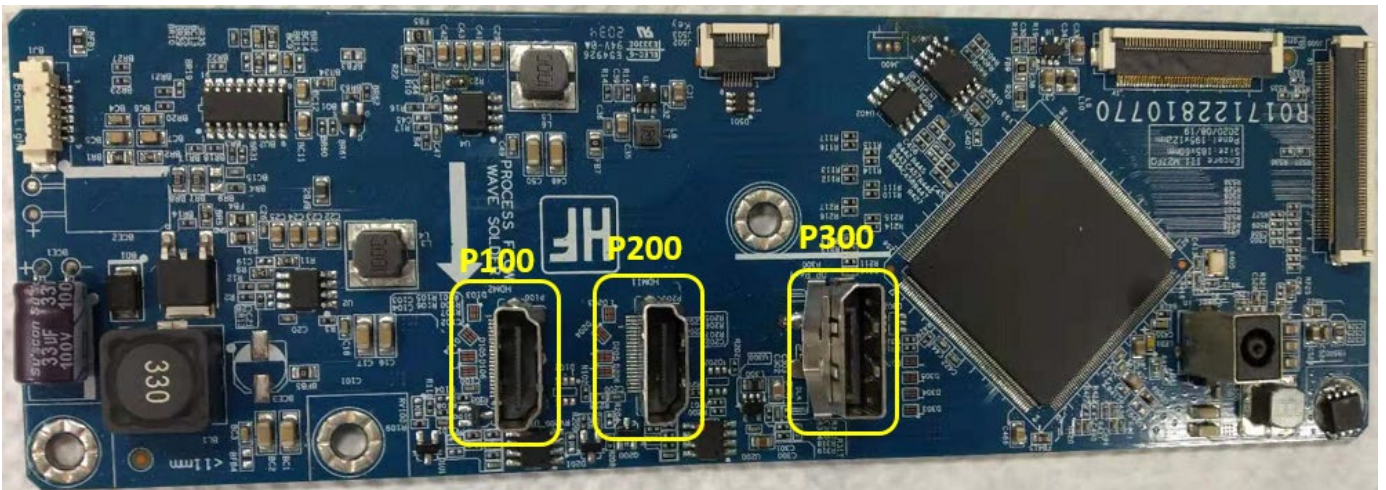
## Connector repair

This procedure includes HDMI, DisplayPort and audio connectors.

The connectors are on the main board (board part number R017122810774).

The connectors identifiers are as follows:

Connector	Location
DP	P300
HDMI	P100, P200



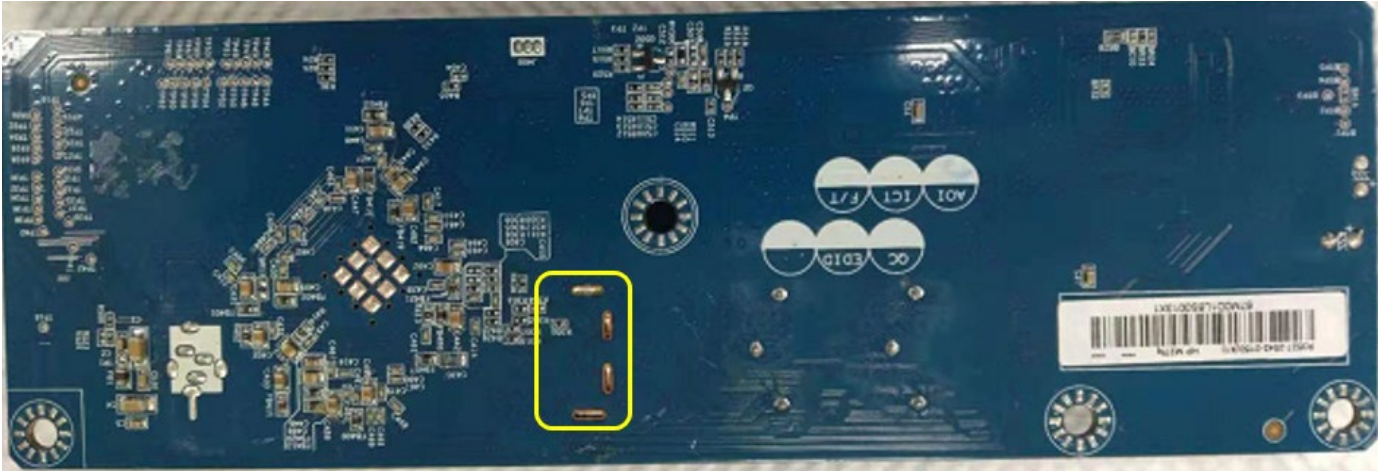
Before repairing connectors, follow these steps:

- ▲ Prepare the monitor for disassembly. See [Preparation for disassembly](#) on page 10.

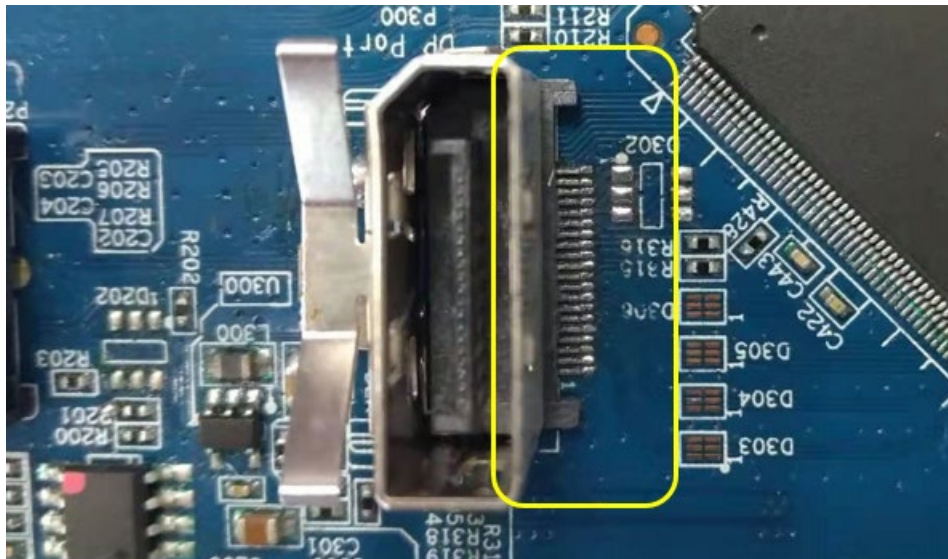
## DP P300

Repair the DisplayPort connector:

- 1) Use a hot air gun to melt the solder on the pins. Pin solder with soldering iron and absorber. You can gently push down with the soldering iron once everything is molten to move the P300 out of the through holes.



- 2) Use a soldering iron or hot air gun to melt the solder on the pins.

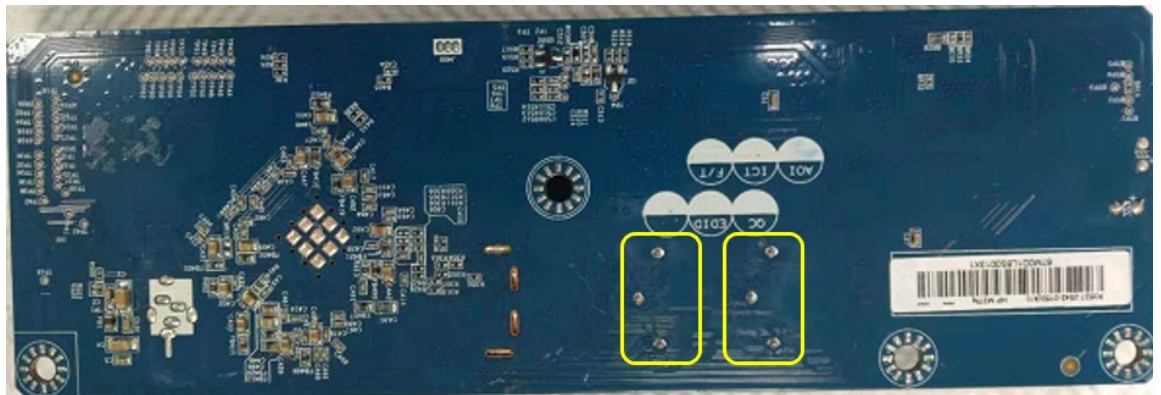


- 3) Lift the P300 connector from the PCB.
- 4) Place the new component on the PCB. Be sure that it matches the PCB footprint.
- 5) Solder the new component.

## HDMI connector P100 P200

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 soldering iron or hot air gun to melt the solder on the pins.



# Support and troubleshooting

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

**Table 4-2:** Solving common problems

<b>Problem</b>	<b>Possible cause</b>	<b>Solution</b>
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 <b>Brightness</b> to adjust the brightness scale as needed.
<b>Check Video Cable</b> 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.
<b>Input Signal Out of Range</b> 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 <b>Power Control &gt; Auto-Sleep Mode</b> and set auto-sleep to <b>On</b> .
<b>On-Screen Menus are Locked</b> is displayed.	The monitor's OSD lock function is enabled.	Press and hold the <b>Menu</b> button on the front bezel to 10 seconds to disable the OSD lockout function.
<b>Power Button is Locked</b> 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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