Maintenance and Service Guide

E27u G5 model

SUMMARY

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

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 source 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 complaint, the replacement parts can be non-ROHS complaint. If the original parts are RoHS compliant, the replacement parts MUST be RoHS complaint.

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:

Display features

The following models, which include full-screen support for lower resolutions; includes custom scaling for maximum image size while preserving original aspect ratio:

- 68.6 cm (27 in) plus full-screen support for lower resolutions; includes custom scaling for maximum image size while preserving original aspect ratio

- True 8 bit (QHD and DQHD), 8 bits + FRC (UHD), 6 bits + FRC (FHD)

- sRGB 99%

- Antiglare panel with an LED backlight

- Ambient Light Sensor (select products only)

- Text to Speech (TTS) functionality (select products/region only)

- Single power button on the monitor turns the monitor and HP notebook (if connected to USB Type-C®) on and off

- Ergonomic monitor setup guide (via the HP Display Center software) during first time use

- Tilt, swivel, and height-adjustable capabilities (curved model only)

- Tilt, swivel, height-adjustable, and pivot capabilities (select products only)

- Daisy-chaining capability (select products only)

- On-screen display (OSD) adjustments in several languages for easy setup and screen optimization

- Joypad OSD navigation

- Energy saver feature to meet requirements for reduced power consumption

- HP Eye Ease (TUV Low Blue Light Hardware Solution-certified, with a 60 Hz or 75Hz or 165 Hz max refresh rate)

- Compatible with displays software including:

    - HP Display Center

    - HP Display Manager

    - Device Bridge 2.0 (curved model only)

- Virtual Dual Display (curved model only)

- Internal speakers (UHD and curved models only)

- Secure firmware updates with HP Display Center

- Security cable slot on the rear of the monitor for an optional security cable

- Cable management feature for placement of cables and cords

Connectors

- DisplayPort™ video input
- DisplayPort video OUT (select products only)
- High-Definition Multimedia Interface® (HDMI®) video input
- USB Type-A port
- USB Type-C® port
- RJ-45 with IT Manageability (MAPT, PXE boot, Wake on LAN)
- Plug-and-Play capability, if supported by your operating system

Monitor stand

- Removable stand for flexible monitor head mounting solutions
- VESA® mounting capability (100 × 100 mm) for attaching the monitor to a swing arm mount

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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**.

Front components

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

Table 2-1 Front components and their descriptions

Component		Description
(1)	Power button	Turns the monitor on or off.
		NOTE: When an HP notebook is connected to the USB Type-C port, pressing the power button on the display turns on/off your notebook, or puts it to sleep based on your power setting.
(2)	Power LED	Indicates that the monitor is powered on.

Rear and side components

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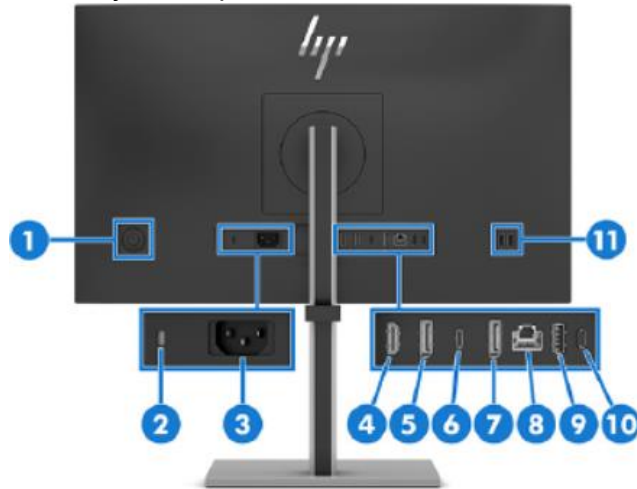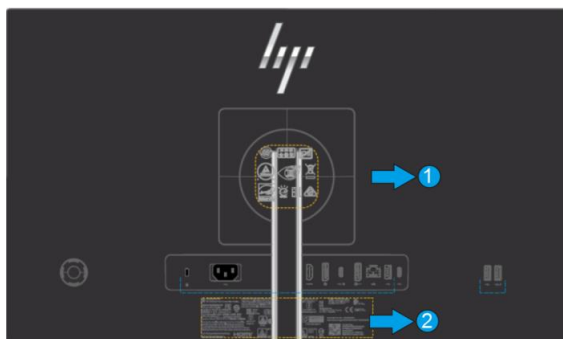

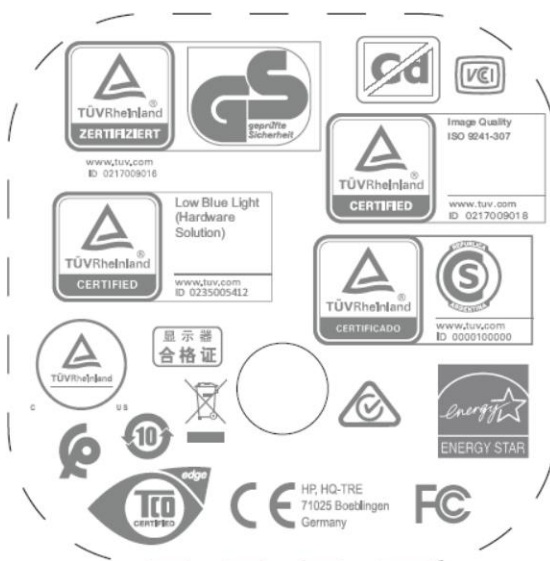**Table 2-2** Rear and side components and their descriptions

	Component	Description
(1)	Joypad	Press to open the OSD settings..
(2)	Security cable slot	Connects an optional security cable.
(3)	Power connector	Connects a power cord.
(4)	HDMI port	Connects the HDMI cable to a source device such as a computer.
(5)	DisplayPort connector	Connects a DisplayPort cable to a source device such as a computer.
(6)	USB Type-C port (upstream)	Connects a USB Type-C cable to a source device, such as a computer. This USB Type-C port can function as a DisplayPort audio/video input or as a USB 3.0 connection. The USB Type-C port offers the fastest transfer rate, and the alternate mode with DP1.2 supports the maximum resolution of 1920 x 1080 at 75Hz, and 2560 x 1440 at 75Hz. It can also be used to deliver up to 65 W of power to a device. Power delivery outputs are 20V/3.25A, 15V/4.33A, 12V/5A, 9V/3A, 5V/3A to achieve a 65 W output.
		Connecting a USB Type-C cable from a source device to this port on the monitor enables USB ports on the monitor.
(7)	DisplayPort OUT connector	Connects a DisplayPort cable to a secondary monitor for multi-streaming.
(8)	RJ-45 (network) jack	Network (RJ-45) data rate via USB Type-C max speed is 1000 Mbps
		- Green (right): The network is connected.
		- Amber (left): Activity is occurring on the network.
		NOTE: Supports Wake on Lan (WOL) In-band, Mac Address Pass through (MAPT) in-band (HP models only), and PXE boot. The functionality may vary with PC settings.
		NOTE: This network port is fully energy efficient according to IEEE standards (IEEE 802.3az-2010) as long as all connected devices support this feature.
(9)	USB Type-A port	Connects a USB cable to a peripheral device, such as a keyboard, mouse, or USB hard drive.
(10)	USB Type-C port (downstream)	Connects a USB Type-C cable to a peripheral USB device, provides data transfer, even when the monitor is in Sleep mode or DC off with OSD Performance mode on. This port charges most devices (15 W), such as a smart phone or a tablet.
		NOTE: Cables or adapters may be required (purchased separately).

Locating the serial number and product number

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

Spec label (WW & India):

Barcode label (WW & India)

3 Illustrated parts catalog

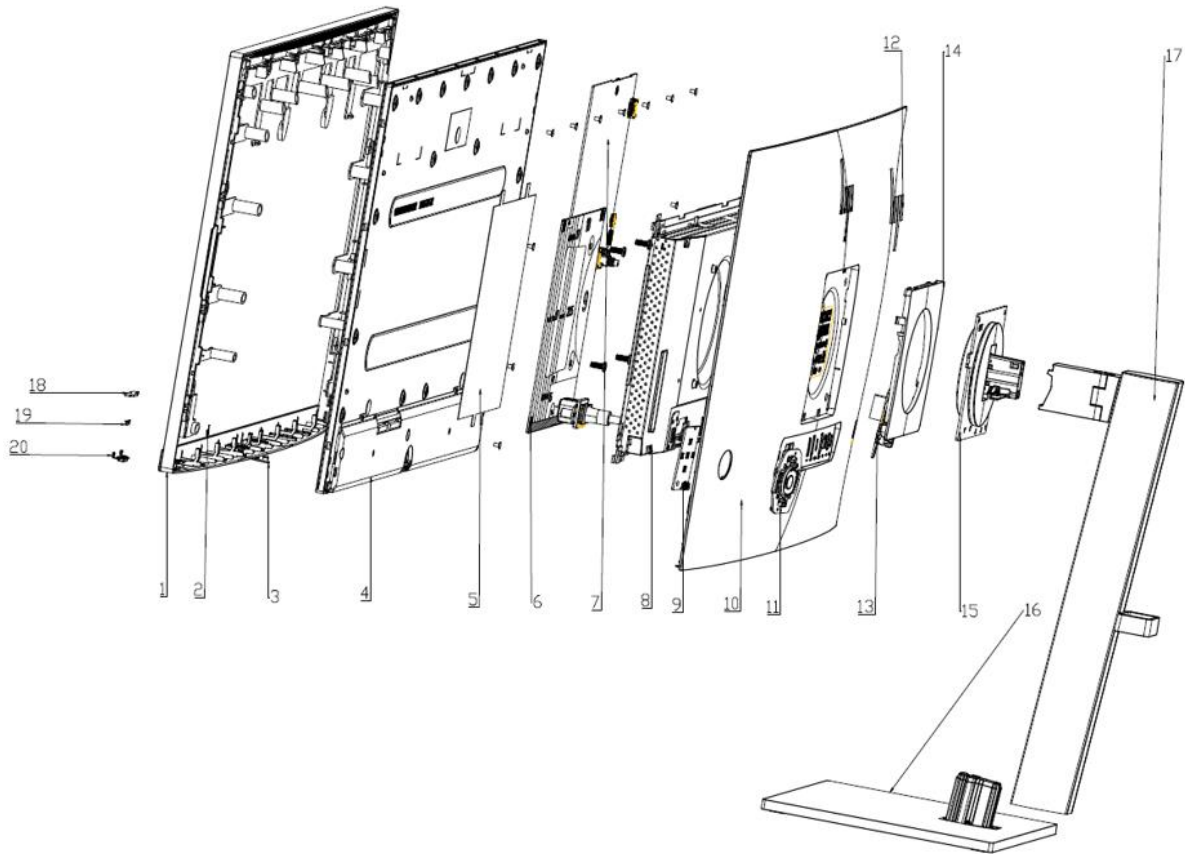To identify the monitor major components, use this illustration and table.

Table 3-1: Monitor major components and their descriptions

Item	Description	Part number	Qty
1	#ASSY middle cover E27u		1
2	# Front logo E27u		1
3	#Speaker cover E27u		1
4	#ASSY Panel E27u		1
5	#Safety mylar E27u		1
6	# ASSY Power BD E27u		1
7	#ASSY IF BD E27u		1
8	# Assy Main Chassis E27u		1
9	#Assy OSD BD E27u		1
10	#ASSY rear cover E27u		2
11	#ASSY OSD key E27u		1
12	#Rear Logo E27u		1
13	#ASSY middle cover E27u		1

14	#Vesa cover E27u	1
15	#ASSY Hinge E27u	1
16	#ASSY Base E27u	1
17	#ASSY Lift E27u	1
18	#ASSY function key BD E27u	1
19	#Lens E27u	1
20	#Function key E27u	1

How to order parts

The HP authorized repair center can purchase the power board from HP.

Power board

Description	HP spare part number	Manufacturer part number
PWR BD RF238HC-BYDE(C) E24U G5 DIP	N43526-001	755.09S02.0001

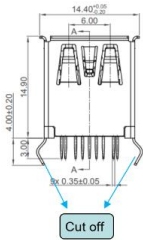Capacitors and connectors are available for purchase from the following EU distributors:

- CAPXON: www.capxongroup.com

Capacitors by distributor

Component description	Location	Component distributor	Distributor part number
CAP EL 470U 35V M P5 10*16 ZH	AC714, AC715, AC717	CAPXON	ZH471M035G160ETABHR

Connectors by manufacturer

Component description	Location identifier	Component distributor	Distributer part number	Remark
HDMI	HDMI1	Switchcraft Inc.	https://www.digikey.com PN: HD03-19-P-FR	
DP	DP1 DP2	Molex	https://www.digikey.com PN: 2041441-1	
USB-C	USBC1 USBC2	CUI Devices	https://www.digikey.com PN: UJ40-C-V-G-SMT-TR	
RJ45	LAN1	Würth Elektronik	https://www.digikey.com PN: 732-3170-ND	

USB–A	USB1	Amphenol ICC Commercial Products)	https://www.digikey.com PN: WM10413TR-ND	

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.

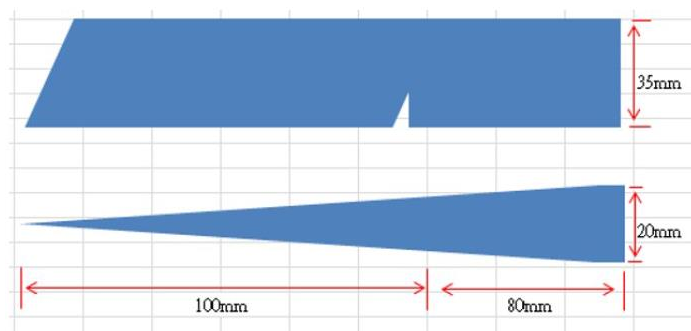Internal and External Power Supplies are available for purchase from the following EU distributor: EET https://www.eetgroup.com/en-eu/

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.

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:

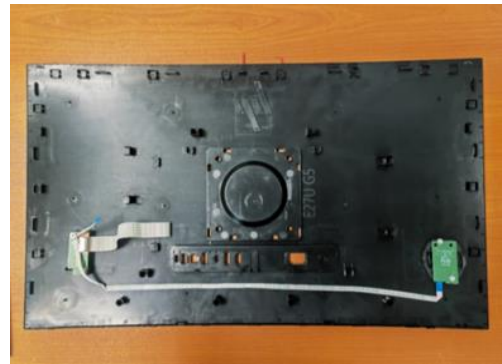▲   Prepare the monitor for disassembly. See Preparation for disassembly on page 11.

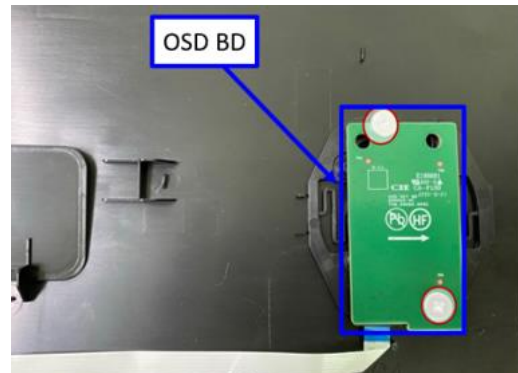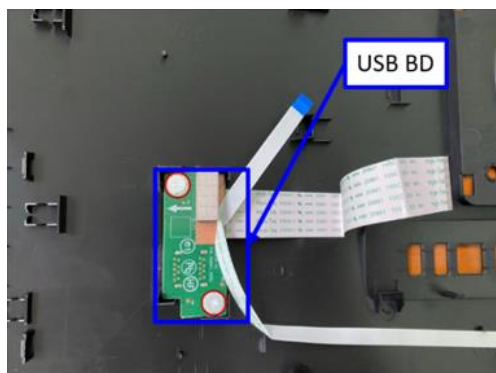1) Pull the release button to remove Stand Base From Display Head

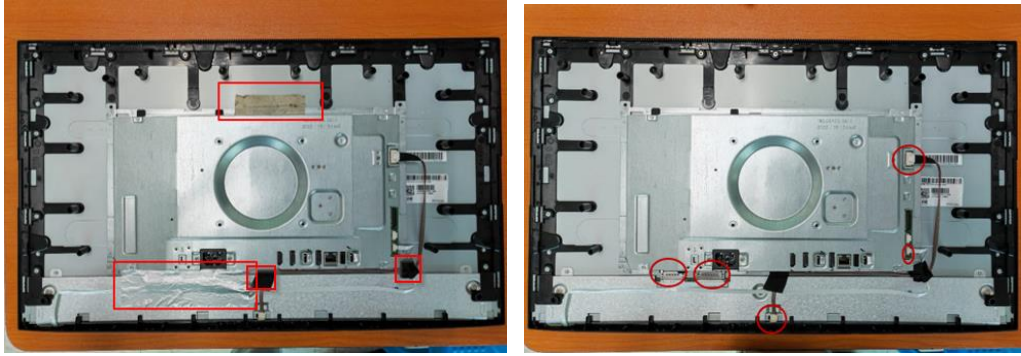2) Remove VESA cover. Use tool to remove 4pcs screws for releasing Hinge Assy from Display Head。

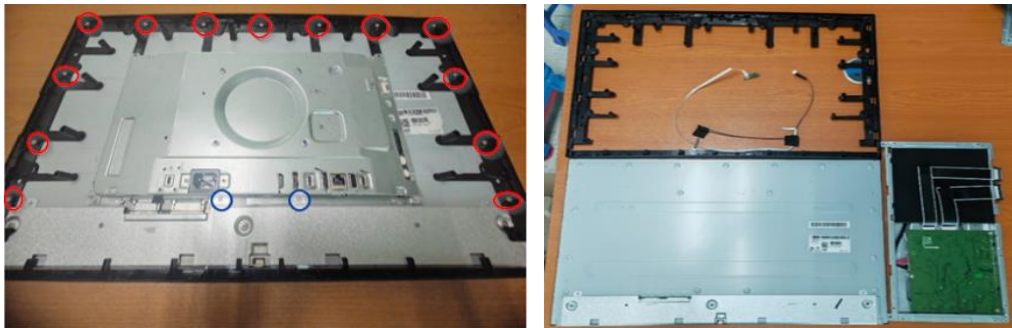3) Disconnect the USB cable and OSD key cable , then remove rear cover from the display head.

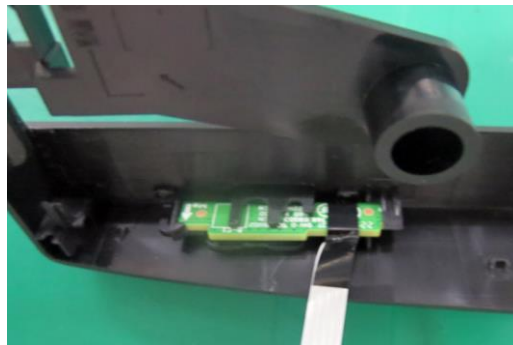4) Release the two screws for removing the USB BD. Remove OSD BD from the hook of the rear cover.

USB BD

OSD BD

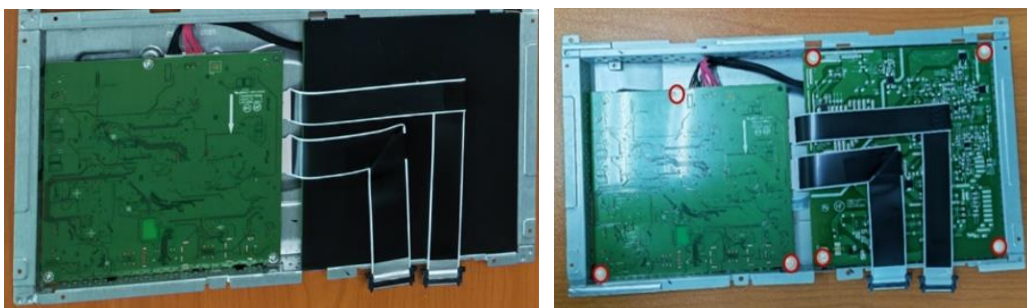5) Remove aLL AI foil and tapes. Disconnect LVDS cable, power key cable and panel lamp cable.

6) Remove all the screws. Release middle frame and main chassis module away from panel.

7) Tear off mylar tape and release power key board from the hook of the middle frame.

8) Remove the safety Mylar, then release the seven screws from the interface BD and power BD

9) Remove 2pcs screws for unlocking the AC outlet. Remove the power BD and Interface BD from the chassis.
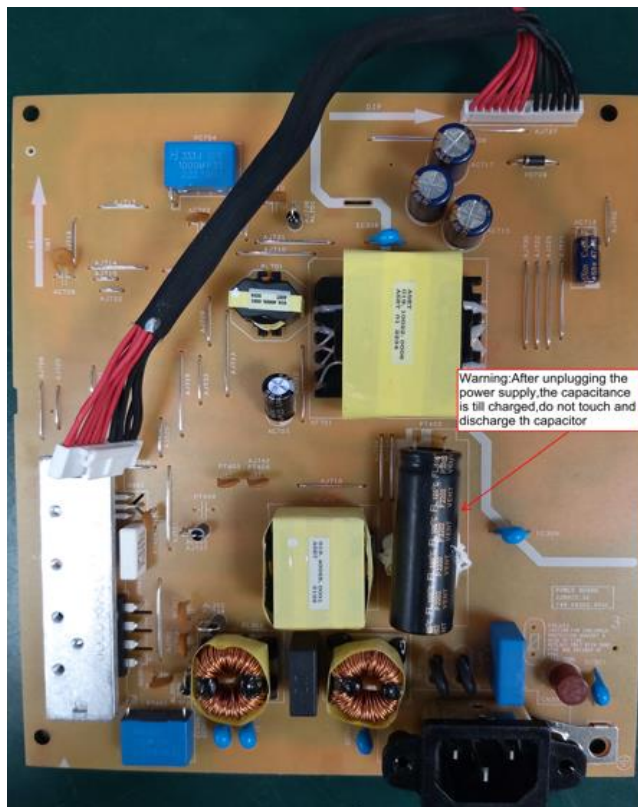

Power board

The power board part number is 755.09S02.0001.

Before removing the power board, follow these steps:

▲ Prepare the monitor for disassembly. See Preparation for disassembly on page 11.

Remove the power board:

1) The HP E24u G4 power board connector position is as follows:

2) Locate the part number location on the board.

3) Pin solder with soldering iron and absorber.
   NA

4) Lift the connector up and away from the PCB.
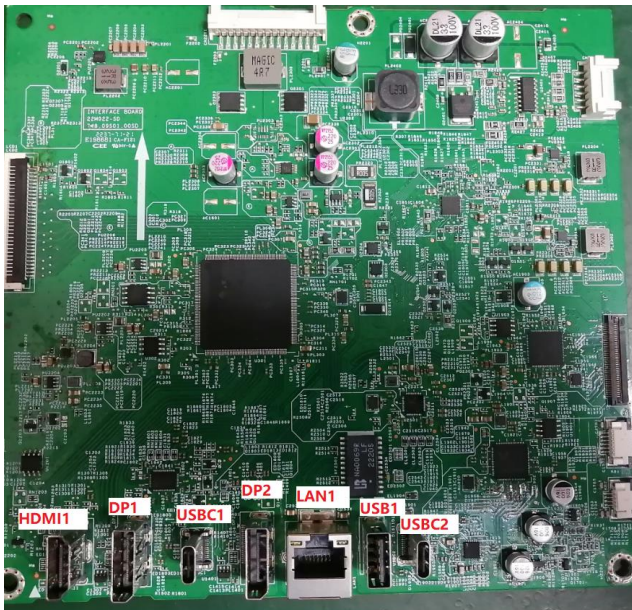   No

Connector repair

This procedure includes HDMI, Display Port in, DisplayPort out, USB-C, USB-A and RJ45 connectors.

The connectors are on the main board (board part number 7ZB.09S01.0020).

The connector identifiers are as follows:

Connector	Location
HDMI	HDMI1
DP IN	DP1
DP OUT	DP2
USB-C(upstream)	USBC1
USB-C(downstream)	USBC2
USB-A	USB1
RJ45	LAN1

Before repairing connectors, follow these steps:

▲ Prepare the monitor for disassembly. See Preparation for disassembly on page 11.

HDMI connector HDMI1

Repair the HDMI connector:

1) Use a hot air gun to melt the solder on the pins from bottom side.

2) Lift the HDMI connector from the PCB.

3) Place the new component on the PCB. Be sure that it matches the PCB footprint.

4) Solder the new component.

DP connector DP1

Repair the DP connector:

1) Use a hot air gun to melt the solder on the pins from bottom side.

2) Lift the DP connector from the PCB.

3) Place the new component on the PCB. Be sure that it matches the PCB footprint.

4) Solder the new component.

DP connector DP2

Repair the Mini DP connector:

1) Use a hot air gun to melt the solder on the pins from bottom side.

2) Lift the Mini DP connector from the PCB.

3) Place the new component on the PCB. Be sure that it matches the PCB footprint.

4) Solder the new component.

USB-C upstream connector USBC1

Repair the USB-C connector:

1) Use a hot air gun to melt the solder on the pins from bottom side.

2) Lift the USB-C connector from the PCB.

3) Place the new component on the PCB. Be sure that it matches the PCB footprint.

4) Solder the new component

USB-C downstream connector USBC2

Repair the USB-C connector:

1) Use a hot air gun to melt the solder on the pins from bottom side.

2) Lift the USB-C connector from the PCB.

3) Place the new component on the PCB. Be sure that it matches the PCB footprint.

4) Solder the new component.

USB-A connector USB1/USB2/USB3

Repair the USB-A connector:

1) Use a hot air gun to melt the solder on the pins from bottom side.

2) Lift the USB-A connector from the PCB.

3) Place the new component on the PCB. Be sure that it matches the PCB footprint.

4) Solder the new component.

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 correctly on the monitor.	Computer or DVD player
DP In test	Confirm whether image displays and sound plays correctly on the monitor.	Computer or DVD player
DP out test	Confirm whether image displays and sound plays correctly on the monitor.	Computer or DVD player
USB-C Alt-Mode	Confirm whether image displays and sound plays correctly on the monitor.	Computer or Notebook
USB-C PD Function	Confirm PDO/Charging working normally.	Notebook
USB Hub Test	Confirm USB function of 4-USB Type-A working normally.	Computer or Notebook

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

Problem	Possible cause	Solution
Screen is blank or video is flashing.	Power cord is disconnected.	Connect the power cord.
	Monitor is turned 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 Auto-Sleep Mode.	Press any key on the keyboard or move the mouse to inactivate the screen blanking utility.
	Video card is incompatible.	Open the OSD menu and select the **Input** menu. Set **Auto-Switch Input** to **Off** and manually select the input. or Replace the video card or connect the video cable to one of the computer's on-board video sources.
Image appears blurred,	Brightness is too low.	Open the OSD menu and select **Brightness** to adjust

indistinct, or too dark.		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 does not enter into a low-power sleep state.	The monitor's power saving control is disabled.	Open the OSD menu and select **Power**, select **Auto-Sleep Mode** and set auto-sleep to **On**.
"OSD Lockout" is displayed.	The monitor's OSD lock function is enabled.	Press and hold the **Left** button to disable the OSD lockout function.
"Power Button Lockout" 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.
Monitor has trouble waking from Sleep mode		DisplayPort inputs: Set the DisplayPort hot-plug detection to Always Active. Power mode monitors: Set the hot-plug detection to Always Active to switch the monitor to Performance mode.
Slow performance from USB Lower refresh rate or color bits		he monitor has a two-lane default for USB-C. On selected products, you can press the Joypad button to open the OSD menu, navigate to the USB Type-C configuration, and then select USB-C Video + USB 3.0 for data transfer prioritization.

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