![HP logo]

Maintenance and Service Guide
Z32 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".

Table of Contents

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

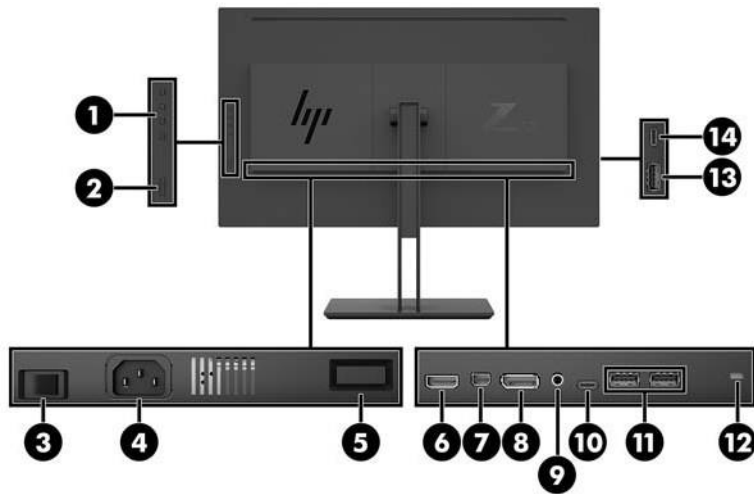This chapter provides an overview of the monitor's features.

Features

- The monitor features include the following: 80 cm (31.5-inch) diagonal viewable area with 3840 x 2160 UHD resolution, plus full-screen support forlower resolutions

- 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 capability

- Pivot capability to rotate the display from landscape to portrait

- Swivel and height adjustment capabilities

- Removable stand for flexible monitor panel mounting solutions

- HP Quick Release 2 device to quickly install the monitor head to the stand with a simple click, and thenremove it with the convenient sliding tab release

- DisplayPort video input

- Mini DisplayPort video input

- One HDMI (High-Definition Multimedia Interface) video input

- Dual-PIP functionality to enable the DisplayPort and HDMI inputs to be viewed in each half of the screen

- Audio-out (headphone) jack

- USB 3.0 hub with one upstream port (connects to the computer) and four downstream ports (connect toUSB devices)

- USB cable provided to connect the monitor's USB hub to the USB connector on the computer

- Four Function buttons on the rear panel, three that can be reconfigured to quickly allow selection of themost commonly used operations

- Supports an optional HP speaker bar

- Plug and Play capability if supported by your operating system

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

- Cable management feature for placement of cables and cords

- 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

- HDCP (High-Bandwidth Digital Content Protection) copy protection on all digital inputs

- 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**.

Rear components

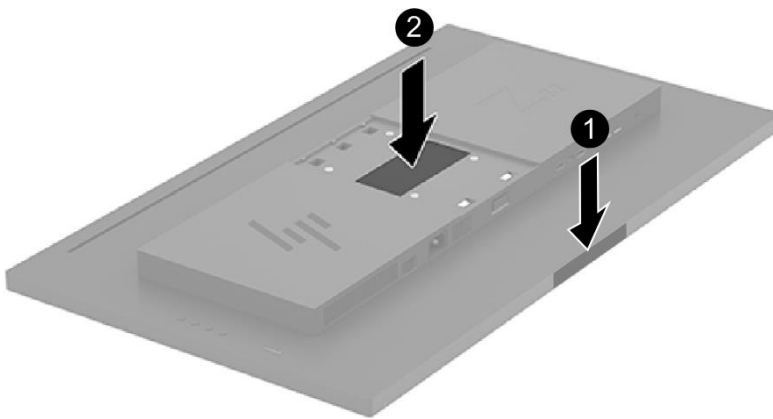| Component		Function
1	Function buttons	Use these buttons to navigate through the OSD menu based on the indicators above the buttons that are activated while the OSD menu is open. **NOTE:** You can assign the Function buttons in the OSD menu to quickly select the most commonly used operations.
2	Power button	Press the button to turn the monitor on or off.
3	Master power switch	Turns on or off all power to the monitor. **NOTE:** Putting the switch in the Off position will yield the lowest power state for the monitor when not in use.
4	Power connector	Connects a power cord.
5	VESA release button	Releases the stand from the monitor.
6	HDMI port	Connects the HDMI cable from the source device to the monitor.
7	Mini DisplayPort port	Connects the Mini DisplayPort cable from the source device to the monitor.
8	DisplayPort port	Connects the DisplayPort cable from the source device to the monitor.
9	Audio-out (headphone) jack	Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. **WARNING!** To reduce the risk of personal injury, reduce the volume before using headphones, earbuds, or a headset. For additional safety information, see the Product Notices provided with your product.
10	USB Type-C port with battery charging (upstream)	Connects a USB Type-C cable to a source device.
11	USB Type-A ports (2) with battery charging (downstream)	Connect the USB hub cable from the source device to the monitor.
12	Security cable slot	Connects a security cable to a stationary object. **NOTE:** The security cable is designed to act as a deterrent, but it may not prevent the monitor from being mishandled or stolen.

Componet		Function
13	USB Type-A port with battery charging (downstream)	Connects an optional USB device to the monitor.
14	USB Type-C port with battery charging (downstream)	Connects a USB Type-C cable to a source device.

The USB Type-C port can function as a DisplayPort audio/video input, as a USB 3.0 upstream connection, or it can be used to deliver up to 65 watts of power to a device. Power outputs are 5 V/9 V/10 V/12 V/15 V/20 V to achieve 65 W output.

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 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.
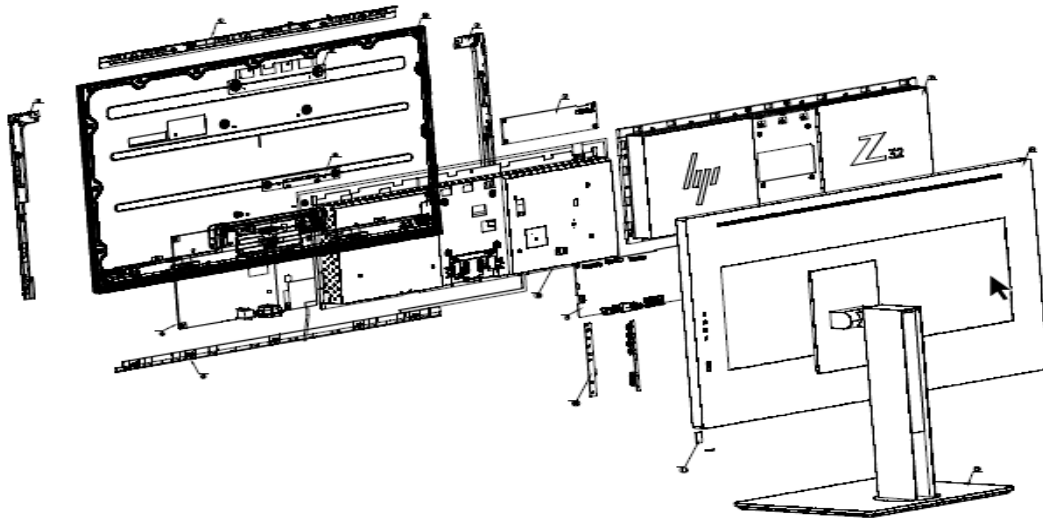
Table 3-1: Monitor major components and their descriptions

Item	Description	Qty
1	#MC–Top Z32	1
2	#MC–Right Z32	1
3	#MC–Left Z32	1
4	#MC–Bottom Z32	1
5	#ASSY Chassis panel lock bottom Z32	1
6	#ASSY Chassis panel lock top Z32	1
7	#Driver BD Z32	1
8	#Power BD Z32	1
9	#IF BD Z32	1
10	#Function key BD Z32	1
11	#Lens BD Z32	1
12	#ASSY Main Chassis Z32	1
13	#ASSY Back Pack Z32	1
14	#ASSY Rear Cover Z32	1
15	#ASSY Stand_Base Z32	1
16	#ASSY Panel Z32	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
POWER BD MA315HC-BGBL(C) Z32-ES8 EC	M74413-001	755.A2403.0002

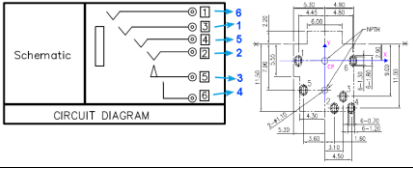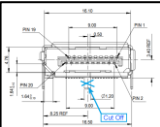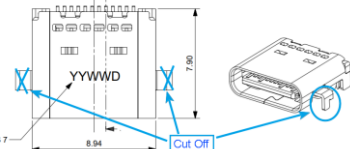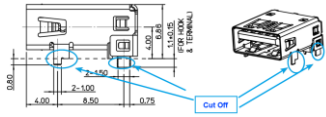Capacitors and connectors are available for purchase from the following EU distributors:
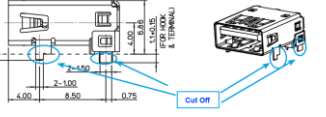
- Digi-Key(RUBYCON ALU CAP): www.digikey.com

Capacitors by distributor

Component description	Location	Component distributor	Distributor part number
CAP EL 470U 25V M RT5 10*12.5	AC651,AC652,AC653	RUBYCON	25ZLH470MEFCT810X12.5 https://www.digikey.de/product-detail/en/rubycon/25ZLH470MEFCT810X12-5/1189-4173-1-ND/9553869

Connectors by manufacturer

Component description	Location identifier	Component distributor	Distributer part number	Remark
Phone Jack	PJ1	Adam Tech	https://www.digikey.com PN: 2057-ASJ-192-Y-T/R-ND	Modify the rear cover I/O metal and plastic. Modify the wire as below
HDMI	HDMI1	Switchcraft Inc.	https://www.digikey.com PN: 137-RAHHD19TR-ND	
Mini DP	DP2	Pulse Electronics Network	https://www.digikey.com PN: E9320-001-01	Modify the rear cover I/O metal and plastic. Modify the Pin to SMT type
DP	DP1	Molex	https://www.digikey.com PN: WM14328DKR-ND	1.Only DP1.1 2.Cut off the through hole
USB-C	USB4 USB5	Molex	https://www.digikey.com PN: 900-2171840001DKR-ND	Cut off the Pin as below

USB-A	USB1 USB2	Molex	https://www.digikey.com PN: WM10413TR-ND	Cut off the Pin as below
USB-A	USB3	Molex	https://www.digikey.com PN: WM10413TR-ND	Modify the rear cover I/O metal and plastic. Cut off the Pin as below

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.

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:
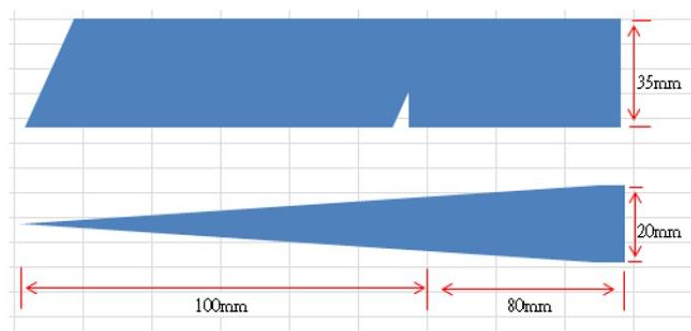
RC

Before removing the RC, follow these steps:

▲   Prepare the monitor for disassembly. See Preparation for disassembly on page 10.

1)   Remove the RC: Use a proper tool to insert the bottom side of the rear cover,then wedge your fingers between the front bezel and the panel for unlocking the rear cover outlet
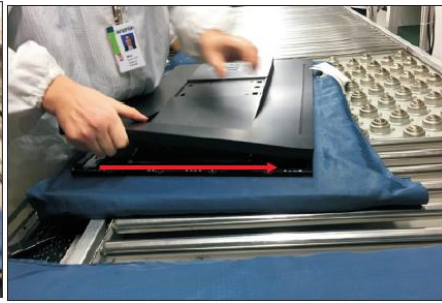
2) Turn over the rear cover outline for disconnecting the function key cable from the connector of the interface board ,and then put the rear cover outline for later disassembling

3) Use a Philiph-head screwdriver to remove 3 pcs screw for unlocking the function key board away from the rear cover outline,then release the function key board and LED board from the hooks of the rear cover
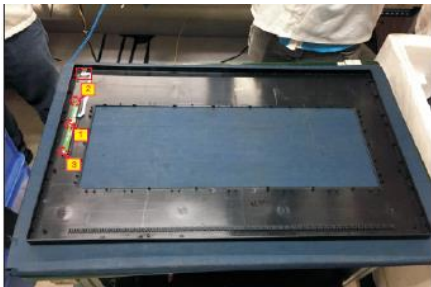
4) Use a Philips-head screwdriver to remove 4pcs screws for releasing the rear cover with bracket. Tear off the adhesive and 1pcs aluminum foil for releasing the panel lamp cables and LVDS cables, and then disconnect 2pcs panel lamp cables from the connectors of the panel module.
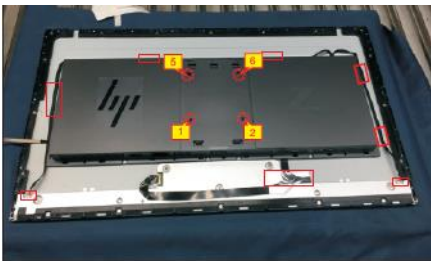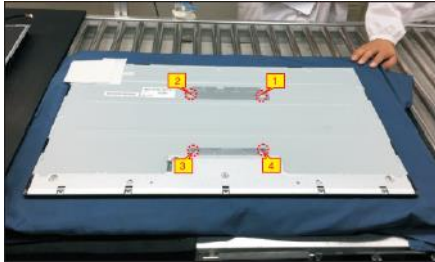

5) Use a Philips-head screwdriver to remove 6pcs screw for releasing the rear cover with bracket, disconnect the LVDS cable from the connector of the panel module, then remove the rear cover.
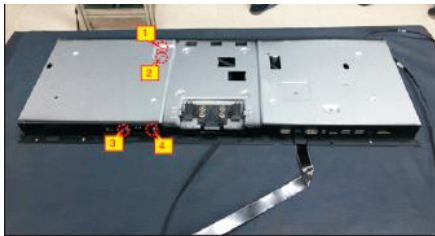
6) Use a Philips-head screwdriver to remove18pcs screws for unlocking the middle bezels.

7) Use a Philips-head screwdriver to remove 4pcs screws for unlocking the small iron and bracket.

8) Put it on a protector cushion, then use a Philipshead screwdriver to remove 2pcs screws for unlocking the heat sink, to remove 2pcs screws for unlocking the AC power outlet.

9) Turn over the bracket chassis, release the mylar tape from the hooks of the bracket chassis. Use a Philips-head screwdriver to remove 9pcs screws for unlocking the driver board, interface board and power board. Release all the cables from the hooks of the bracket chassis module.
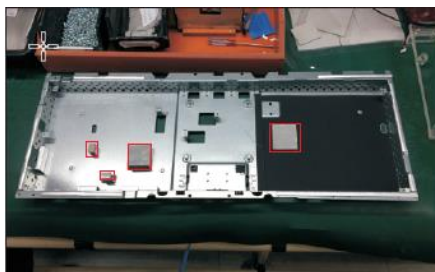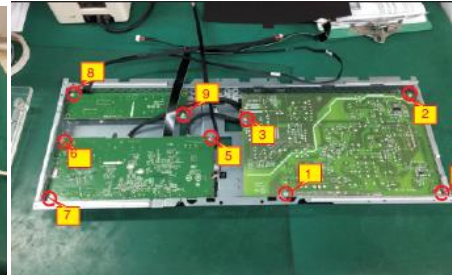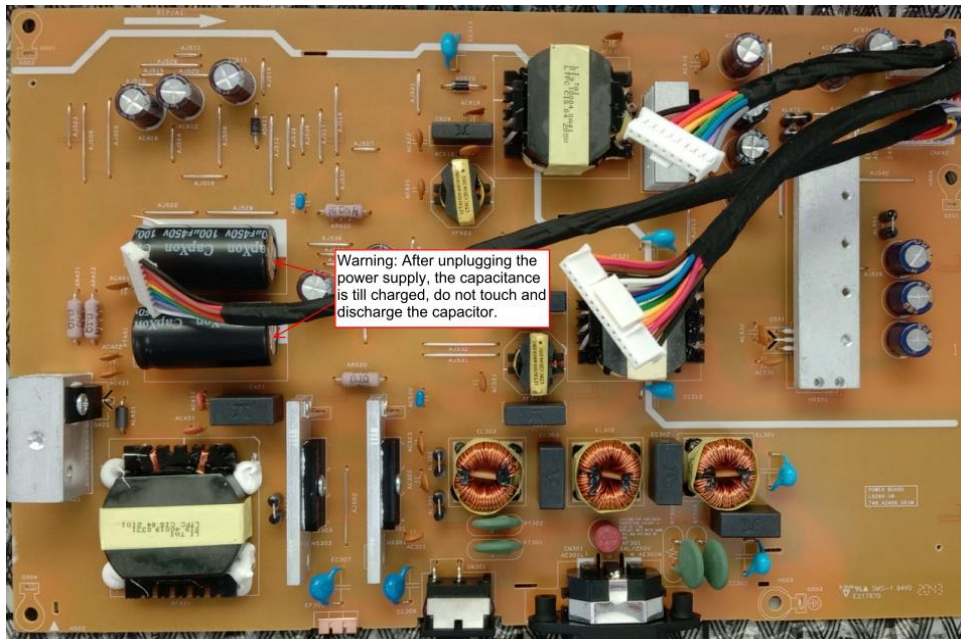
Power board

The power board part number is 755.A2403.0002.

Before removing the power board, follow these steps:

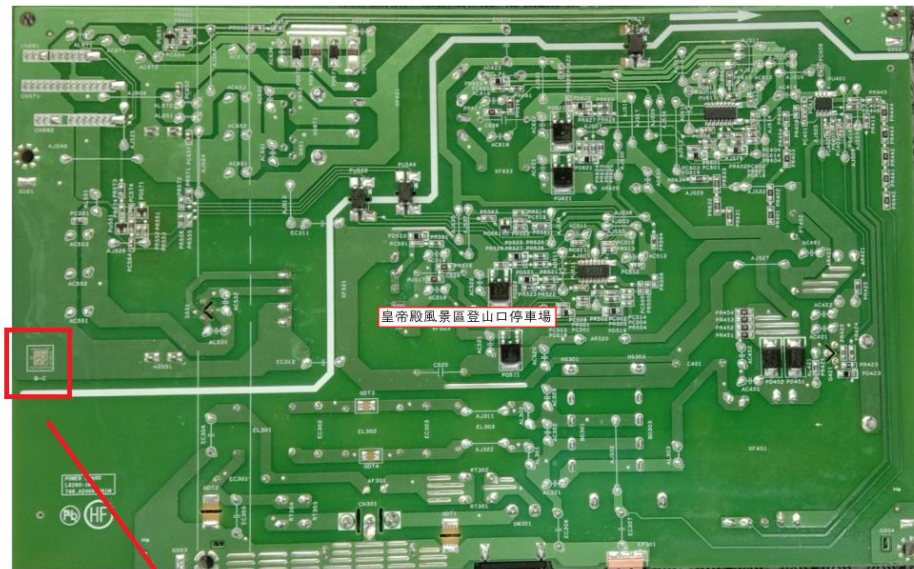▲ Prepare the monitor for disassembly. See Preparation for disassembly on page 10.

Remove the power board:

1) The HP Z32 power board no connector:

2) Locate the part number location on the board.

B-C

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, Mini Display Port, USB-C, USB-A and Phone Jack connectors.

The connectors are on the main board (board part number 7ZB.A2401.0006).

The connector identifiers are as follows:

Connector	Location
Phone Jack	LOUT1
HDMI	HDMI1
Mini DP	DP1
DP	DP2

| USB-C	USB4,USB5
USB-A	USB1,USB2
USB-A	USB3
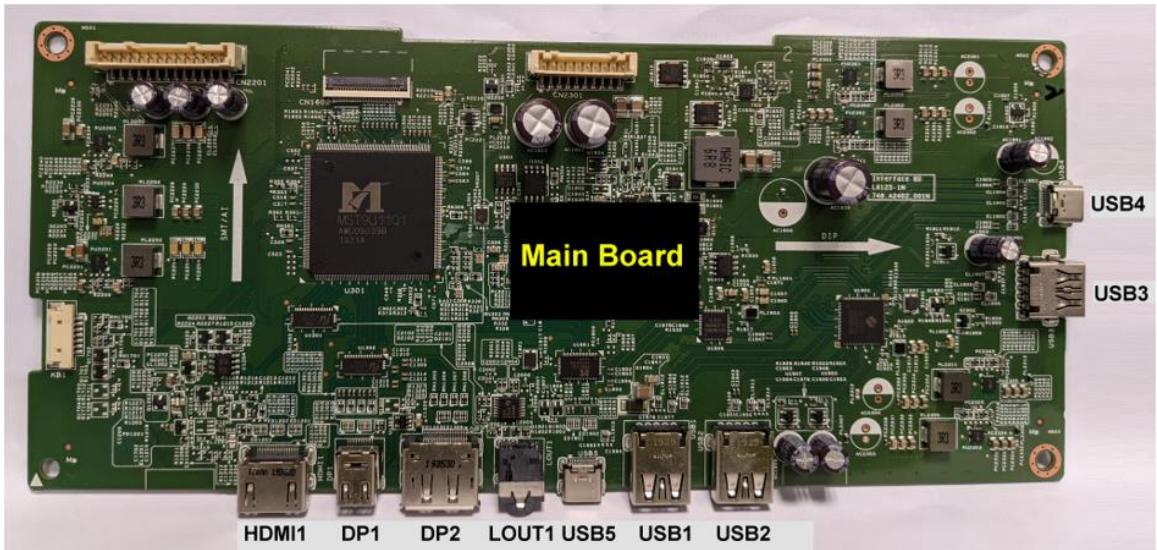
Before repairing connectors, follow these steps:

▲ Prepare the monitor for disassembly. See <u>Preparation for disassembly</u> on page 10.

Phone Jack LOUT1

Repair the phone jack:

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 phone jack out of the through holes.
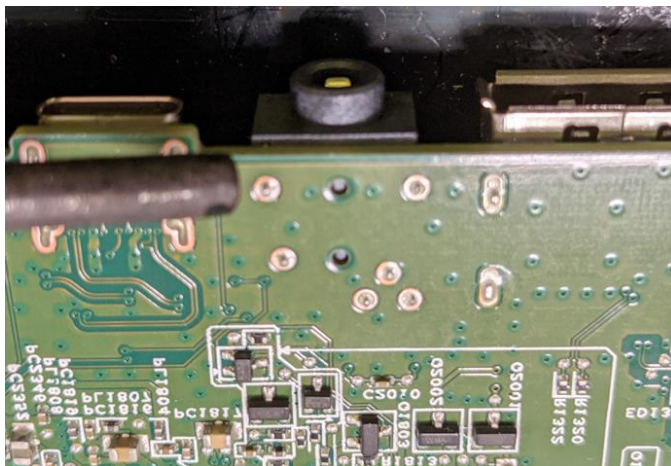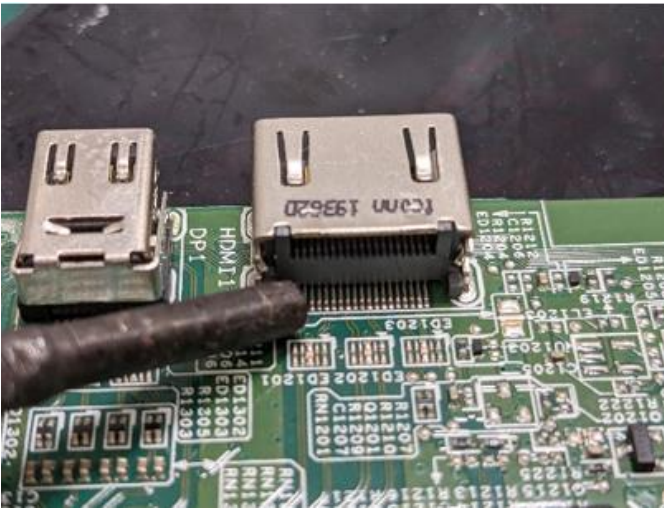

2) Lift the phone jack from the PCB.

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

4) Solder the new component.

HDMI connector HDMI1

1) Repair the HDMI connector:
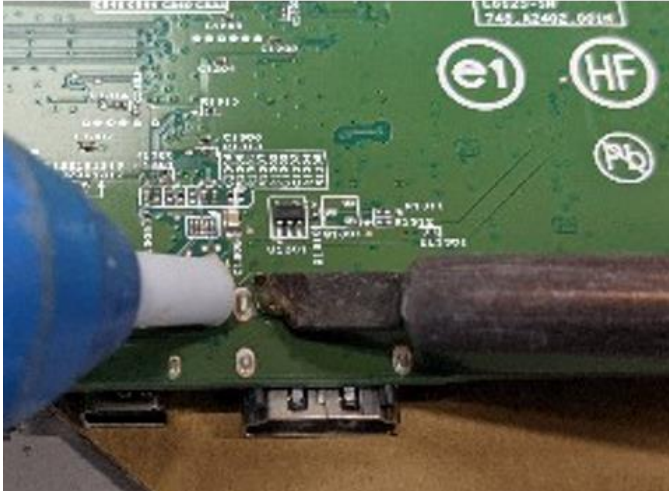
2) Use a hot air gun to melt the solder on the pins.

3) Lift the HDMI 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.

Mini DP connector DP1

Repair the Mini DP connector:

1) Use a soldering iron and a de-soldering pump to remove as much solder as possible from the pin.
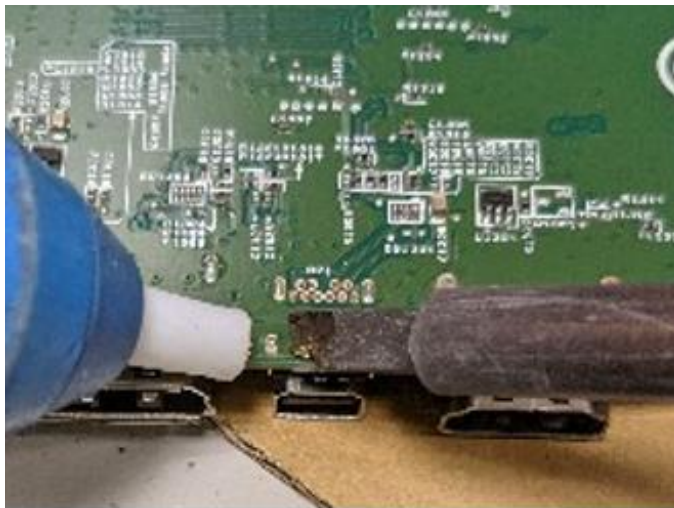
2) Use a hot air gun to melt the solder on the pins.

3) Lift the Mini DP 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.

DP connector DP2

Repair the DP connector:

1) Use a soldering iron and a de-soldering 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 DP 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.

USB-C connector USB5/USB4

Repair the USB-C connector:

1) Use a soldering iron and a de-soldering pump to remove as much solder as possible from the pin.
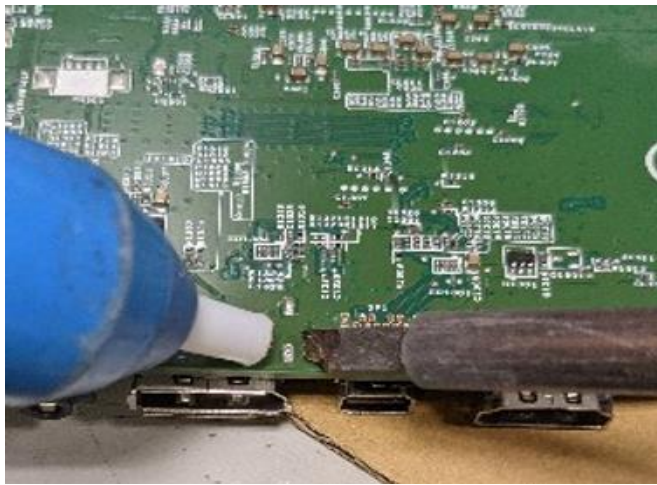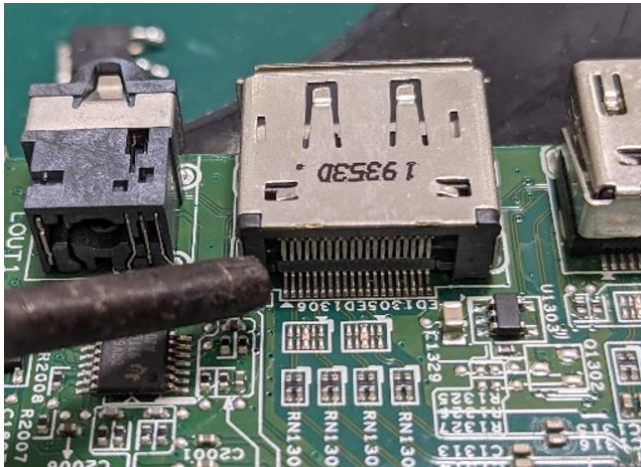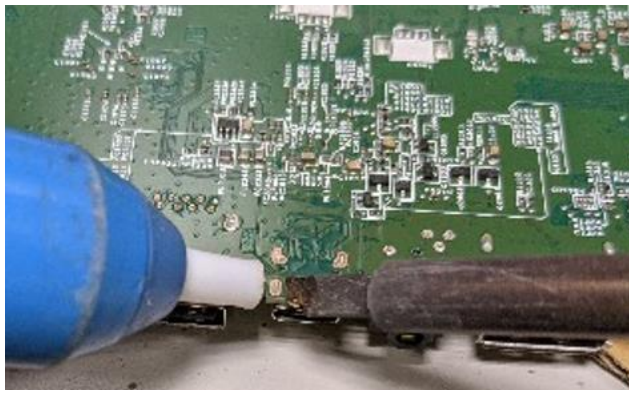
2) Use a hot air gun to melt the solder on the pins.

3) Lift the USB-C 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.

USB-A connector USB1/USB2/USB3

Repair the USB-A 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 USB-A connector out of the through holes.

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.
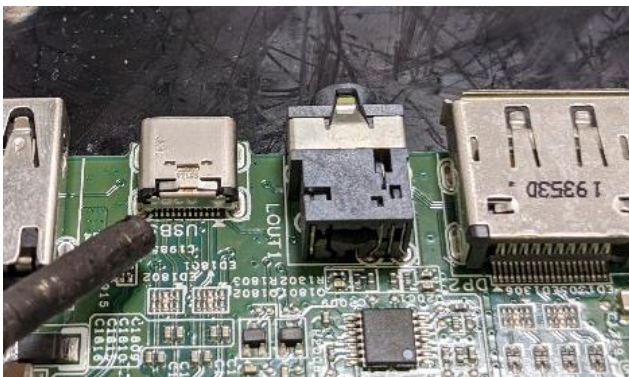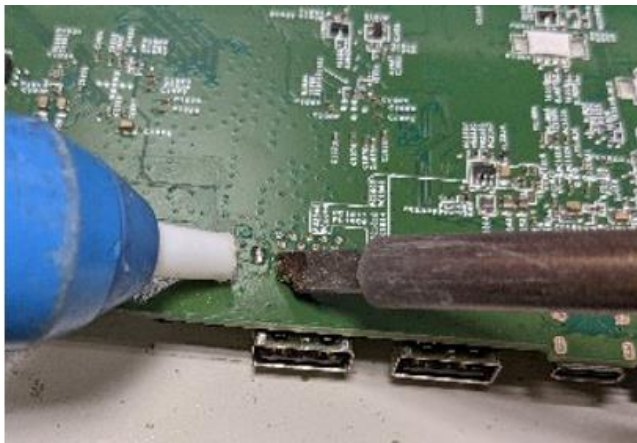
4) Solder the new component.

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
Mini DP test	Confirm whether image displays and sound plays correctly on the monitor.	Computer or DVD player
DP 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 3-USB Type-A and 1-USB Type-C working normally.	Computer or Notebook
Audio test	Change volume and balance to confirm whether volume is smooth and loud enough.	Sound bar or Earphone

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.
	Master power switch is set to off.	Set the master power switch on the rear of the monitor to the On position.
	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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