# Maintenance and Service Guide

## 32s model

**SUMMARY**

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

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**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

The HP LCD (liquid crystal display) monitor has an active matrix, thin-film transistor (ADS) screen with the following features:

- Large diagonal display
- Maximum graphics resolution:

  1920 x 1080 @ 60Hz

  Plus full-screen support for lower resolutions
- VGA analog signal
- HDMI digital signal
- Easy viewing from a sitting or standing position, or while moving from one side of the monitor to the other
- Tilt adjustment
- Removable base
- Security lock slot for a locking security cable (security cable sold separately)
- Plug and Play capability, if supported by your computer system
- On-Screen Display (OSD) adjustments in several languages for easy setup and screen optimization
- Energy saver feature to meet requirements for reduced power consumption
- HDCP(High-bandwidth Digital Content Protection)copy protection on all digital inputs.

**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.

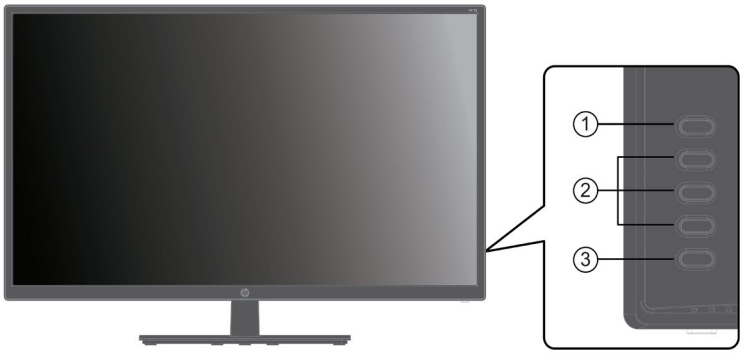



**Table 1-1: Front components and their descriptions**

| No. | Icon | Description |
|---|---|---|
| 1 | **Menu button** | Opens and closes the OSD menu.<br><br>**NOTE:** To activate the Menu button and the Function buttons, press anyof the buttons so that the button labels appear on the screen. |
| 2 | **Function buttons** | Use these buttons to navigate through the OSD menu based on the indicators next to the buttons that are activated while the OSD menu isopen.<br><br>**NOTE:** You can reconfigure the Function buttons in the OSD menu toquickly select the most commonly used operations. |
| 3 | **Power button** | Turns the monitor on or off. |

# Locating the serial number and product number

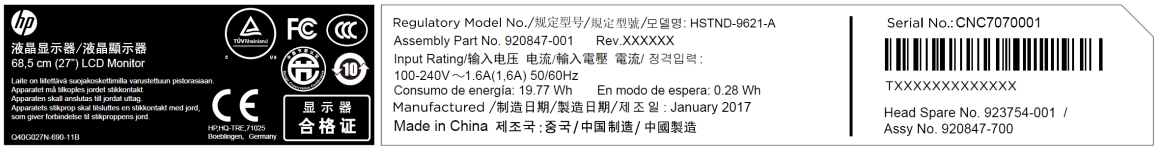
The rating label on the monitor provides the product number and serial number. You may need these numbers when contacting HP about your monitor model.

The rating label is on the back of the monitor.

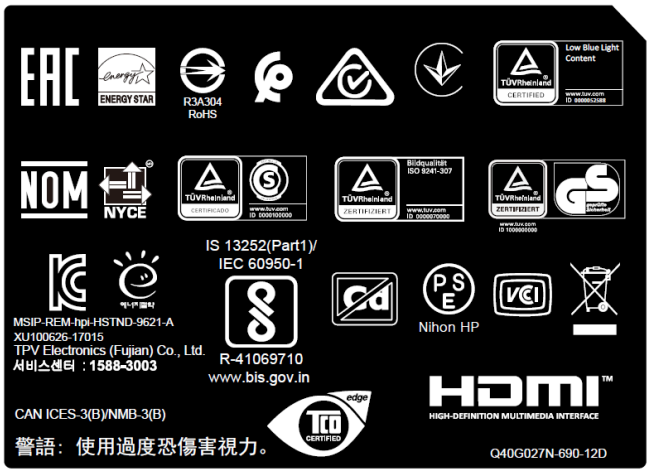
**For worldwide models (except India):**

**For India:**

Bar code label

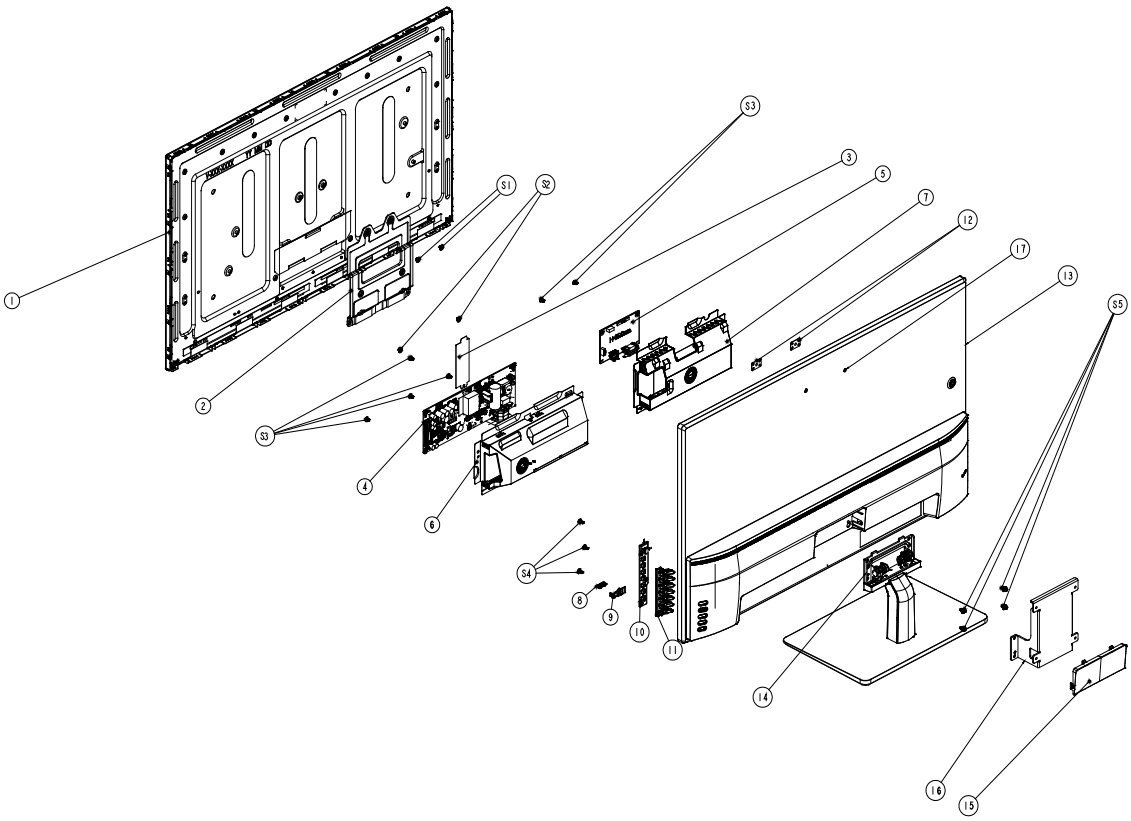



Spec label



# 3 Illustrated parts catalog

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



| No. | Description |
|---|---|
| 1 | PANEL |
| 2 | BKT_HINGE |
| 3 | INSULATING SHEET |
| 4 | POWER BOARD NA |
| 5 | MAIN BOARD |
| 6 | MAINFRAME |
| 7 | MAINFRAME |
| 8 | KEY BOARD |
| 9 | LENS |
| 10 | KEY BOARD |
| 11 | KEY |
| 12 | BKT_WEBCAM |
| 13 | REAR_COVER |
| 14 | stand ass'y NA AUO |
| 15 | COVER_HINGE |
| 16 | BKT_VESA |
| 17 | PLUG |

| No. | Description |
|---|---|
| S1 | SCREW M4 4(BKT HINGE/PANEL) |
| S2 | SCREW M4 6(BKT HINGE/PANEL) |
| S3 | SCREW D3 6(MAIN BOARD/POWER BOARD/MAINFRAME) |
| S3 | SCREW D3 6(MAIN BOARD/POWER BOARD/MAINFRAME) |
| S4 | SCREW M3 8(KEY BOARD/REAR COVER) |
| S5 | SCREW M4 10(STAND ASSY/REAR COVER) |

# How to order parts

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

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

- Farnell: Farnell UK - Electronic Components Distributor
- RS: Capacitors | RS Components (rs-online.com)
- tme: Transfer Multisort Elektronik
- Digi-Key: Digikey Electronics

### Power board

| Description | HP spare part number | Manufacturer part number |
|---|---|---|
| PSU 32s | M74279-001 | PLPCHL351UQA2 |
| PSU 32s | M74279-002 | PLPCHL351UQA3 |

### Capacitors by distributor

| Component description | Location | Component distributor | Distributor part number |
|---|---|---|---|
| EC 470UF 20% 25V 10*12 5000 hr 1.45A EV1 | C917 and C919 | Digi-Key | 25YXG470MEFC10X12.5 |
| EC 470uf 20% 25V 10X16 RS 4000 hr ERS1EM | C916 and C918 | Digi-Key | 25ZL470MEFC10X16 |

### Connectors by manufacturer

| Component description | Location identifier | Component distributor | Distributer part number |
|---|---|---|---|
| HDMI | CN501 | RS | SD-47151-001 (Molex) |
| D-sub | CN101 | tme | HDL15-SL-B (ADAM TECH) |

**NOTE:** Rear cover and chassis need to be modified to hold connector. Connector may need modifications to meet functional, safety and regulatory requirements accordingly if it doesn't match exactly.

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.

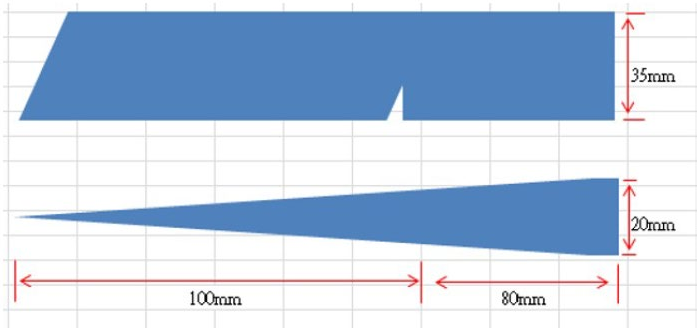
2) Clean the room for disassembly.

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:

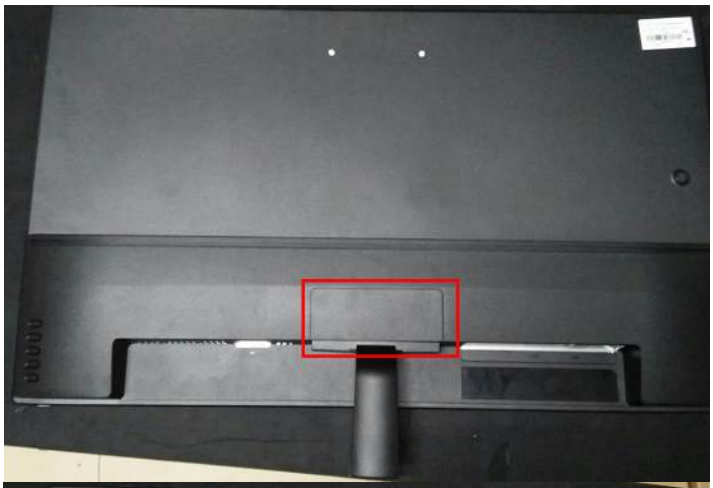
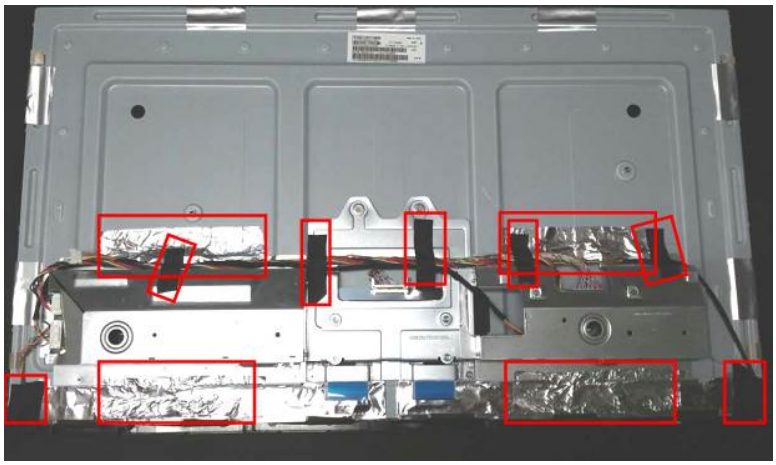
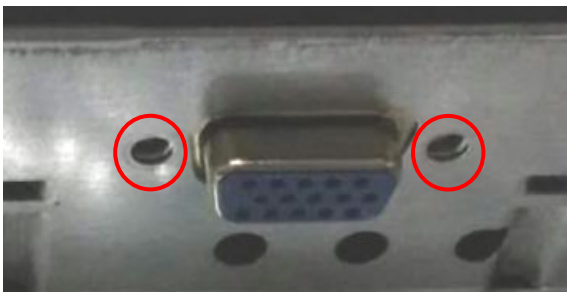


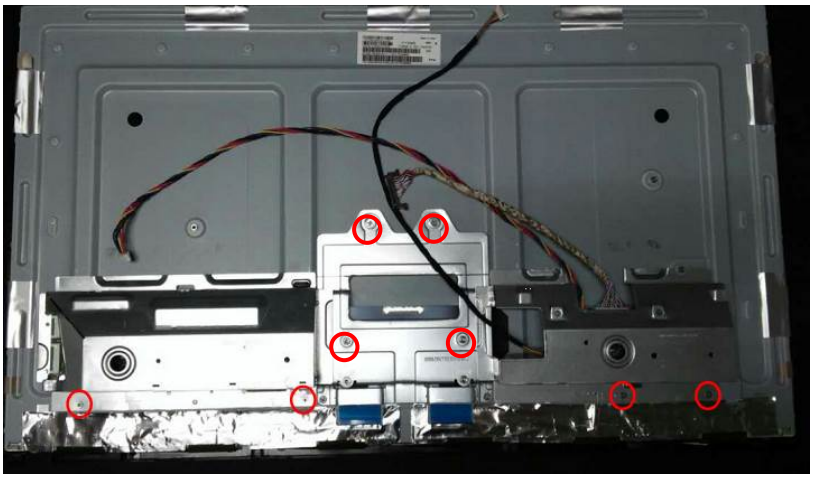
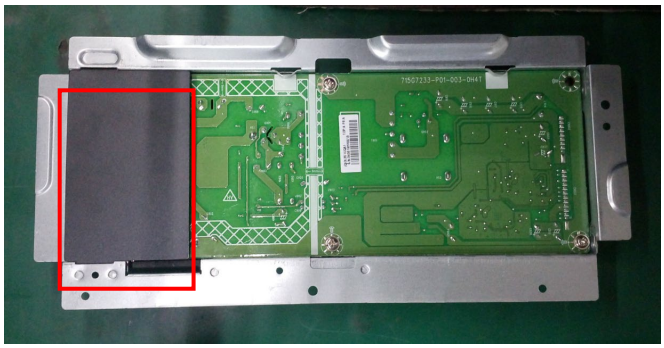
# RC

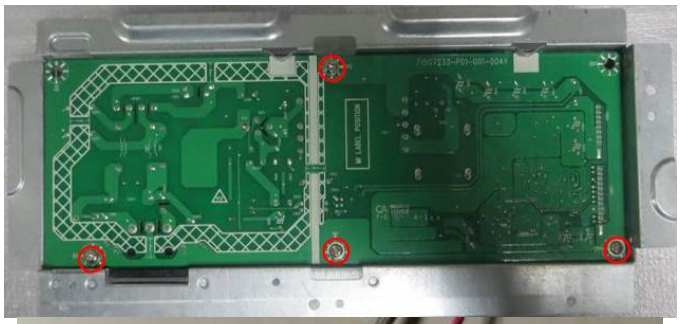
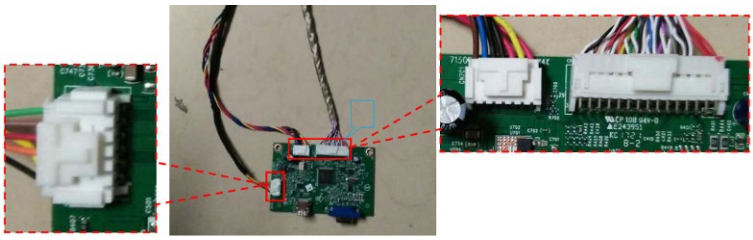
Before removing the RC, follow these steps:

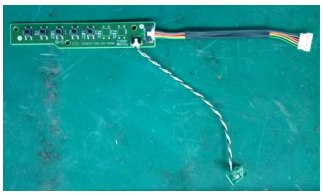
- Prepare the monitor for disassembly. See Preparation for disassembly on page 9.

| Step | Figure | Description |
|---|---|---|
| **Preparation** | | Lay the monitor on a flat, soft and clean surface. |
| **Remove the base** | | Remove the screws to remove base |

| | | |
|---|---|---|
| **Remove the COVER_HINGE and remove the screws to remove the Hinge** |  <br> | Remove the COVER_HINGE and remove the screws to remove the Hinge |
| **Remove the tapes** |  | Remove the tapes |
| **Remove the screws** |  | Remove the screws. |

| | | |
|---|---|---|
| **Remove the pins** | | Remove the pins |
| **Remove the screws** |  | Remove the screws |
| **Remove the Mylar** |  | Remove the Mylar |

| | | |
|---|---|---|
| **Remove the main board and power board** |  <br> | Remove the screws to remove the main board and power board |
| **Remove the connectors** |  | Remove the connect pins |
| **The mainframe** | <br> | The mainframe |

| | | |
|---|---|---|
| **The panel** | | The panel |
| **The key board** |  | Remove the screws to remove the key board |
| **The rear cover** | | The rear cover |

# Power board

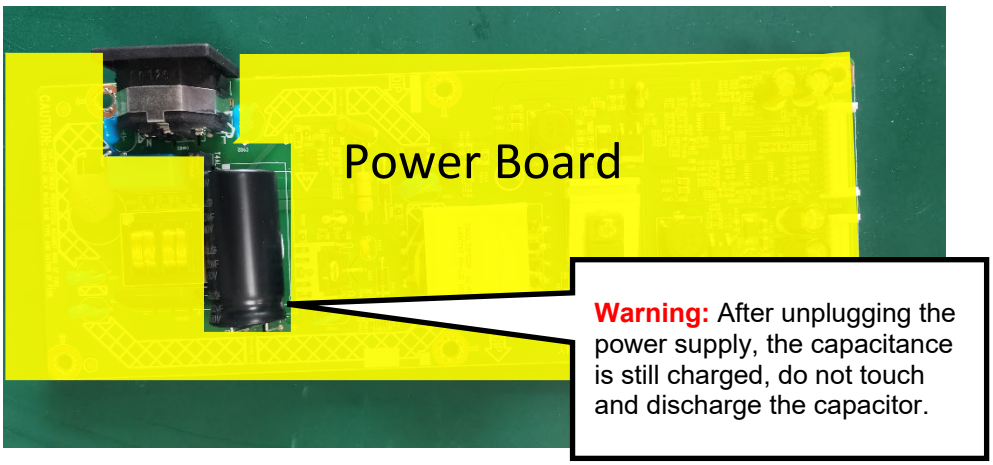
The power board part number is PLPCHL351UQA2

Before removing the power board, follow these steps:

▲ Prepare the monitor for disassembly. See Preparation for disassembly on page 9.

Remove the power board:

1) The HP 32s power board connector position is as follows:




2) Locate the part number location on the board.

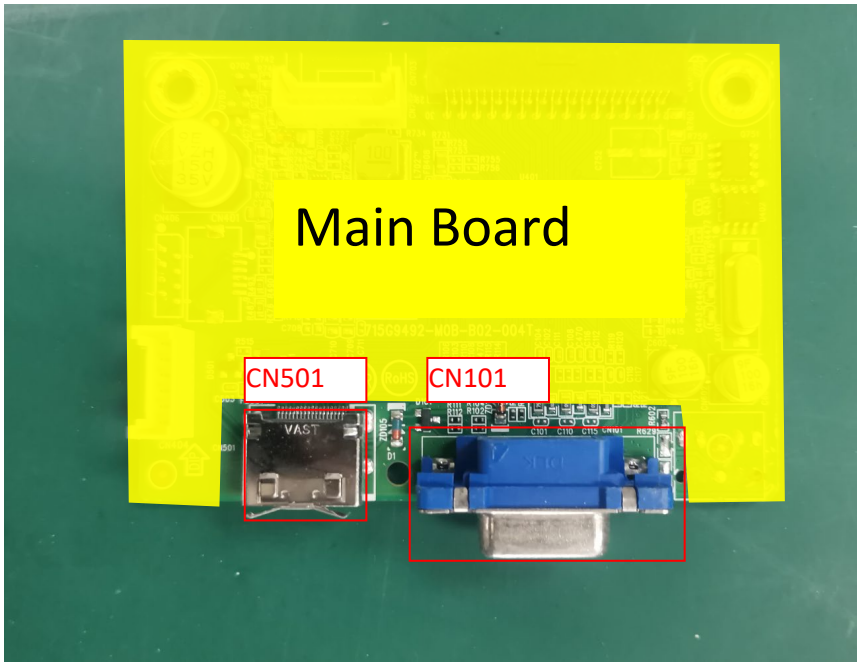
# Connector repair

This procedure includes HDMI, D-sub connectors.

The connectors are on the main board(spare part number CBPCLC3HPQ1).

The connectors identifiers are as follows:

| Connector | Location |
|---|---|
| HDMI | CN501 |
| D-sub | CN101 |




Before repairing connectors, follow these steps:

▲ Prepare the monitor for disassembly. See Preparation for disassembly on page 9.

**IMPORTANT:**

- **Repair Condition: Connector repair is only for out of warranty.**
- **Repairing must operate by professional repairers (Note) in repair center, not applicable for end user.**
- **Electrostatic protection is required when component replacement is required.**
- **The monitor meets ROHS, please use Lead-free solder wire for soldering.**
- **If Connector need to replace, must check specification and part number whether match the BOM and location.**
- **If connector need to replace, please insert new parts carefully because the near pin may cause short circuit by inappropriate operate.**
- **DO NOT allow any liquid on the board. Water and moisture may cause short-circuit to the electronic components and lead to malfunctions.**
- **The fusion point of Lead-Free solder is requested. Repairing with conventional lead wire may cause damage.**
- **Work quickly to avoid overheating the circuit board as soon as you confirm the steady soldering condition.**
- **Keep the soldering iron tip clean and well tinned and when replacing parts.**
- **A close inspection of the circuit board revealed look in good condition.**

- **After repaired, must connect source to each port to check Main board function is ordinary.**

**Note:** (The requirement of professional repairers' regulation by ERP lot5)

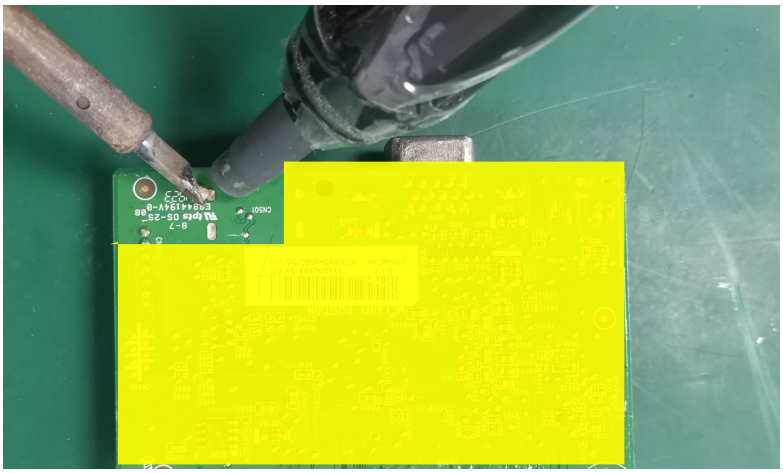
1) The professional repairer has the technical competence to repair electronic displays and complies with the applicable regulations for repairers of electrical equipment in the Member States where it operates. Reference to an official registration system as professional repairer, where such system exists in the Member States concerned, shall be accepted as proof of compliance with this point.

**2)** The professional repairer is covered by insurance covering liabilities resulting from its activity, regardless of whether this is required by the Member State.

## HDMI connector CN501

Repair the HDMI connector:

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



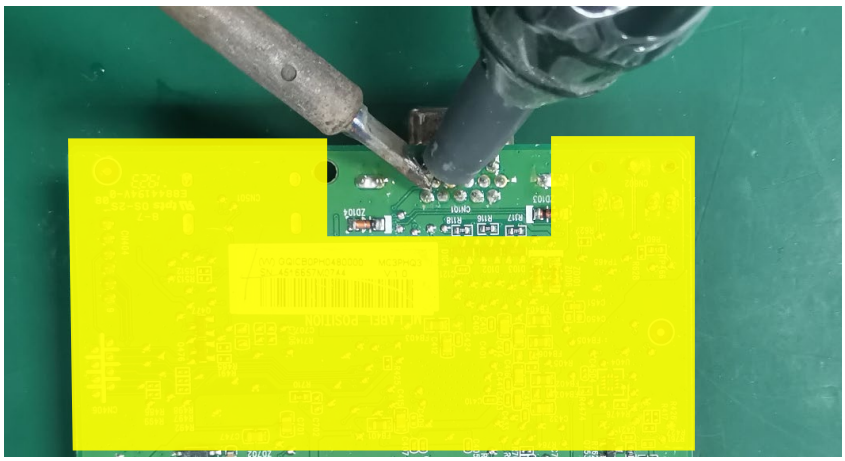
2. Use a hot air gun to melt the solder on the pins.

3. Lift the CN501 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.

## D-sub connector CN101

Repair the D-sub connector:

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



2. Lift the CN101 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.

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 test | Confirm whether image displays and sound plays correctly on the monitor. | Computer or DVD player |
| D-SUB test | Confirm whether image displays and sound plays correctly on the monitor | Computer or D-SUB player |
| Audio test | Change volume and balance to confirm whether volume is smooth and loud enough. | Speaker |

# Support and troubleshooting

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

| Problem | Possible Cause | Solutions |
|---|---|---|
| Screen is blank or video is flashing. | Power cord is disconnected. | Power cord is disconnected. |
| | Monitor is off. | Press the front bezel Power button.<br><br>NOTE: If pressing the Power button has no effect, press and hold the Power button for 10seconds to disable the Power button lockout feature. |
| | Video cable is improperly connected. | Connect the video cable properly. See Connecting the cables for more information. |
| | System is in sleep mode. | Press any key on the keyboard or move themouse to exit sleep mode. |
| | Video card is incompatible. | Open the OSD menu and select the Input Control menu. Set Auto-Switch Input to Off andmanually select the input. |
| Image appears blurred, indistinct, or too dark. | Brightness is too low. | Open the OSD menu and select Brightness toadjust 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 surethat 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. SeePreset display resolutions for more information. |
| 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. |

| | | |
|---|---|---|
| OSD Lockout is displayed. | The monitor's OSD Lockout function is enabled. | Press and hold the Menu button on the frontbezel for 10 seconds to disable the OSD Lockout function. |
| Power Button Lockout is displayed. | The monitor's Power Button Lockout function is enabled. | Press and hold the Power button for 10 seconds to disable the Power Button Lockoutfunction. |