Maintenance and Service Guide

OMEN 27c 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

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

Display features

- Three-sided borderless 68.5 cm (27 in) curved monitor with 2560 × 1440 @ 240 Hz (DP) or 144 Hz (HDMI) resolution, plus full-screen support for lower resolutions; includes custom scaling for maximum image size while preserving original aspect ratio
- Liquid crystal display (LCD) with active matrix and vertical alignment (VA)
- Wide color gamut to provide coverage of DCI-P3 color spaces
- Antiglare panel with an LED backlight
- HP Eye Ease with Eye safe certification (default mode) to reduce blue light to keep your eyes comfortable
- Wide viewing angle to allow viewing from a sitting or standing position, or moving from side to side
- Height and tilt adjustment capability
- On-screen display (OSD) adjustments in several languages for easy setup and screen optimization
- Color space presets for DCI-P3 (Gaming mode) and sRGB (Standard mode)
- Security cable slot on the rear of the monitor for an optional security cable

Connectors

- DisplayPort™ video input (cable included)
- High-Definition Multimedia Interface™ (HDMI) video input
- Audio-out (headphone) jack
- USB Type-C® port (data only)
- USB Type-A–to–USB Type-C cable and DisplayPort cable provided
- 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

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

Front View

Rear components

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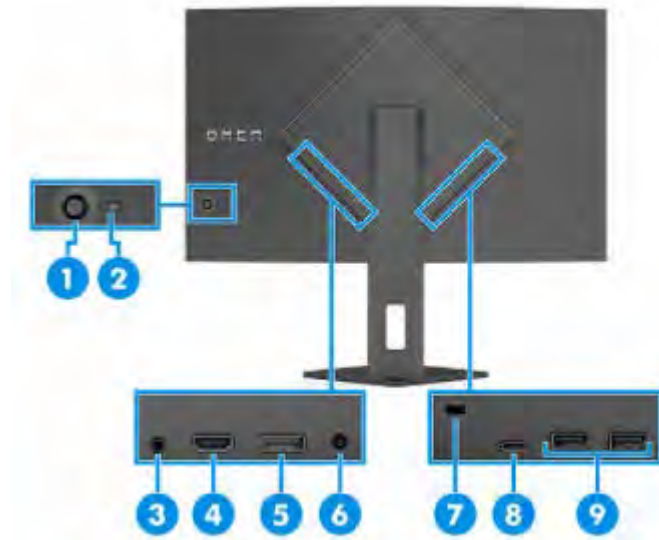

Table: Rear components and their descriptions

Component		Description
(1)	OSD controller	Opens the OSD menu and makes adjustment to monitor settings.
(2)	Power button	Turns the monitor on or off.
(3)	Audio-out (headphone) jack	Connects headphones or earbuds. **CAUTION:** To reduce the risk of personal injury, adjust the volume before using headphones or earbuds. For additional safety information, see the *Product Notices* provided in your documentation kit.
(4)	HDMI port	Connects the HDMI cable to a source device such as a computer or game console.
(5)	DisplayPort connector	Connects the DisplayPort cable to a source device such as a computer or game console.
(6)	Power connector	Connects an AC adapter.
(7)	Security cable slot	Connects an optional security cable.
(8)	USB Type-C port	Connects a USB Type-C cable to a source device such as a computer or game console. This port only enables the USB Type-A ports to perform their functions.
(9)	USB Type-A ports	Connects a USB cable to a peripheral device, such as a keyboard, mouse, or USB flash drive.

Locating the serial number and product number

The SPEC label and Barcode label 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.

BARCODE LBL   SPEC LBL

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.
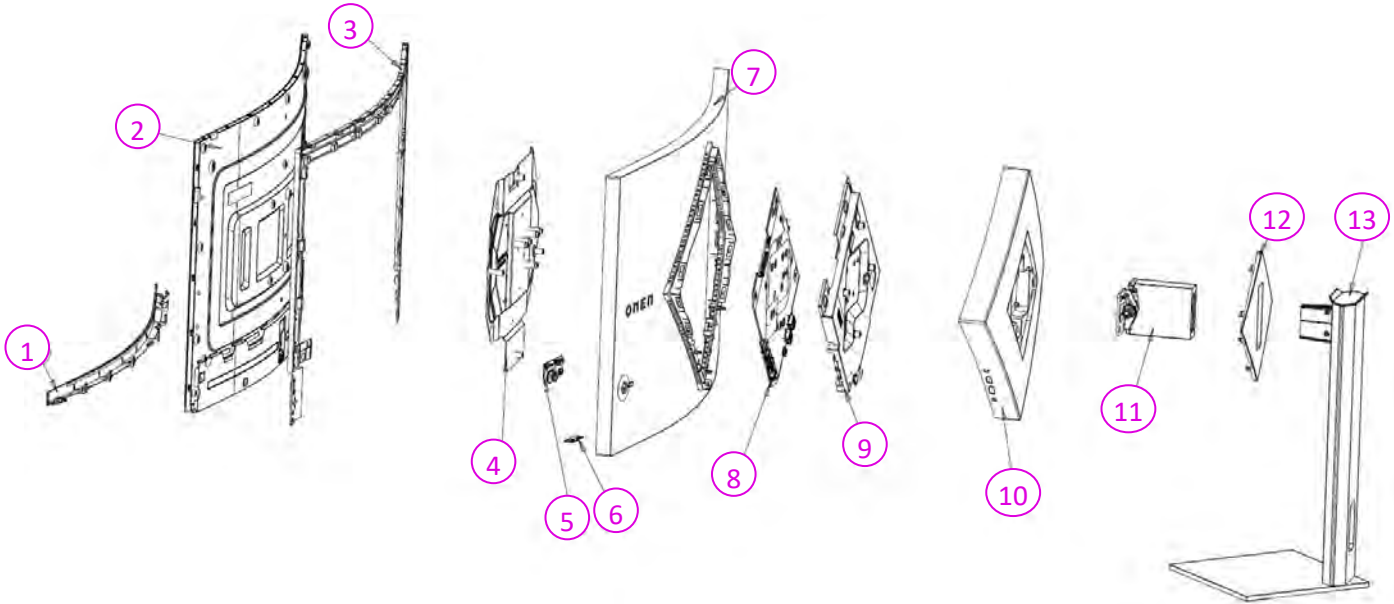
Table: Monitor major components and their descriptions

Item	Description	Qty
1	DECO	1
2	PANEL	1
3	MID FRAME	1
4	BTM SHD	1
5	CTRL BD	1
6	LED BD	1
7	RC OMEN 27C	1
8	Main BD	1
9	TOP SHD	1
10	RC BUCKET	1
11	HINGE	1
12	VESA COVER	1
13	STAND	1

How to order parts

Capacitors and connectors available for purchase from EU distributor

- Farnell: Farnell UK - Electronic Components Distributor
- RS Component: Capacitors | RS Components (rs-online.com)

Connectors by Distributor:

Component Description	Location Identifier	Component Distributor	Part number of Manufacturer/ Distributor
HDMI	J4	Farnell; RS	Molex 2086581001
DisplayPort (DP)	J3	Farnell	Molex 47272-0001
USB Type C	J13	Farnell	HIROSE(HRS) - CX90B1-24P
USB Type A	J9; J10	RS	Molex 48393-0003

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.

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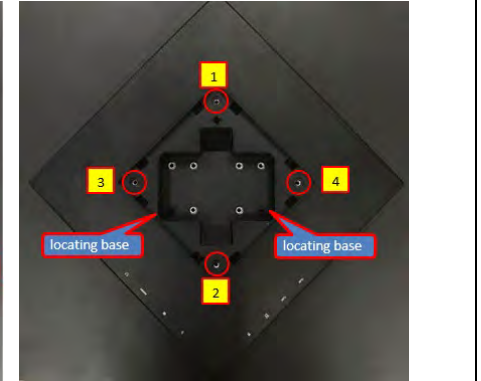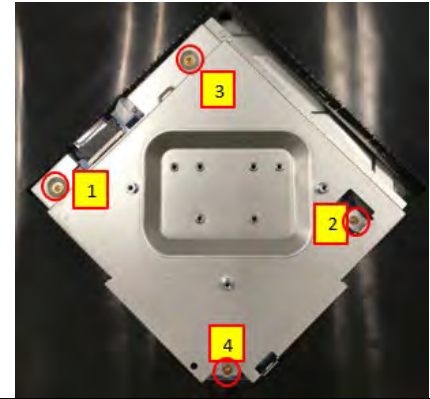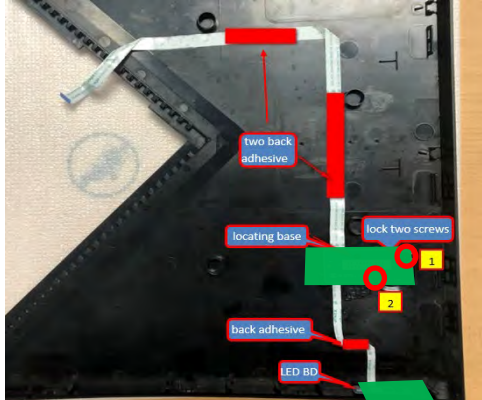
1) Clean the room for disassembly.

2) Identify the disassembly area.

3) 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.

4) Be sure to have the following equipment and materials:

- Press fixture
- Working table
- Screwdriver
- Knife
- Gloves
- Cleaning cloth
- ESD protection
- Curve sponge Jig- CS.5J5A5.001

During assembly and disassembly, please place curve sponge jig to avoid damaging the panel.

| Item	Qisda P/N	Description	Photo
1	CS.4G5A5.001	SPONGE JIG OMEN 27c CURVE	

Disassembly procedure

Rear Cover

S1	1) Disassemble Hinge Cover from the Hinge as the picture 1. 2) Unlock 6 screws and disassemble Hinge from the RC Cover as the picture 2. 3) Unlock 4 screws and disassemble RC Cover from the Top SHD as the picture 3.
	PICTURE 1 **PICTURE 2** **PICTURE 3**
S2	1) Tear off the wide and narrow conduct tapes from the Top SHD as the picture 1. 2) Unlock 4 screws and disassemble Top SHD from the Main BD as the picture 2. 3) Tear off LVDS, lamp wire and Ctrl BD cable from the Main BD as the picture 3. 4) Disassemble Main BD from the RC and disassemble RC from the monitor.
	PICTURE 1 **PICTURE 2** **PICTURE 3**
S3	1) Unlock 2 screws and disassemble Ctrl BD from the RC as the picture 1. 2) Disassemble LED BD from the RC as the picture 1. 3) Pull out the LED BD cable and Ctrl BD cable from the RC. 4) Pull out the LED BD from the Ctrl BD.
	PICTURE 1

| **S4**	1) Unlock 11 screws from the MF as the picture 1.
	2) Disassemble DECO from the monitor and disassemble MF from the Panel.
	3) Tear off the acetate tapes and pull out the Lamp wire from the Panel as the picture 2.
	4) Unlock 6 screws and disassemble Bottom SHD from the Panel as the picture 3.
	5) Tear off the long acetate tape and pull out the LVDS from the Panel as the picture 4.

PICTURE 1

PICTURE 2
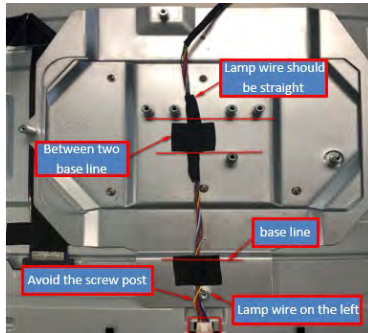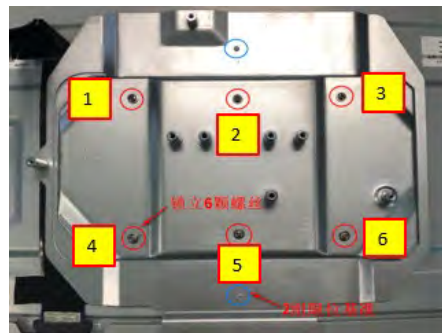
PICTURE 3

PICTURE 4

Connector repair

Repair Condition: Connector repair is only for the monitor that has been out of warranty period.

- The repair procedure is for HDMI, DisplayPort, USB Type C and USB Type A connectors.

- The connectors are on the main board (Main board part number 5E.5A501.001).

- Please refer to the location to repair the correct parts:

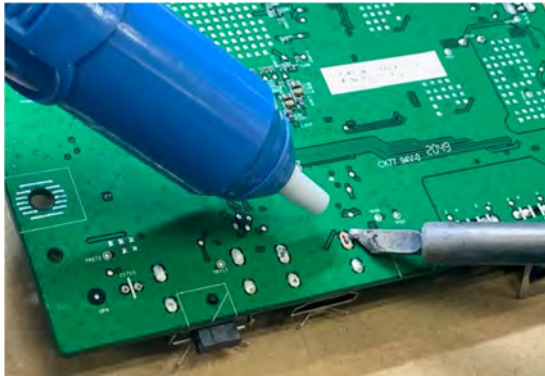| Connector	Location
HDMI	J4
DisplayPort (DP)	J3
USB Type C	J13
USB Type A	J9; J10
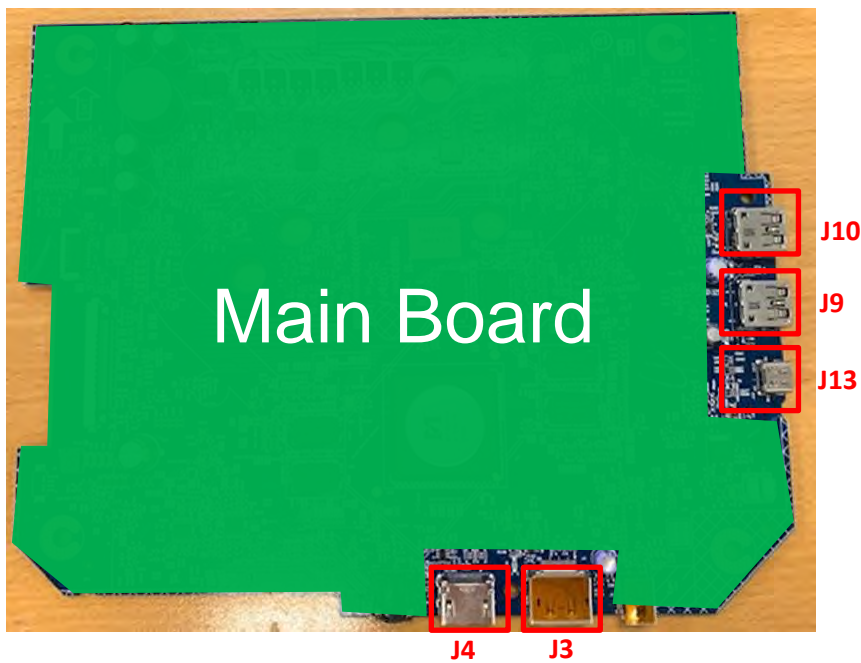
IMPORTANT:

- **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 repair- J4

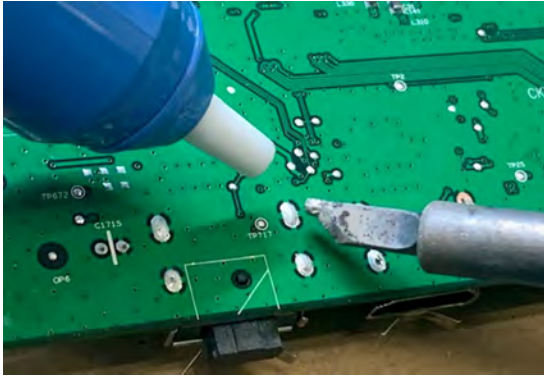1) Use a soldering iron and a de-soldering pump to remove as much solder as possible from one of the pin.
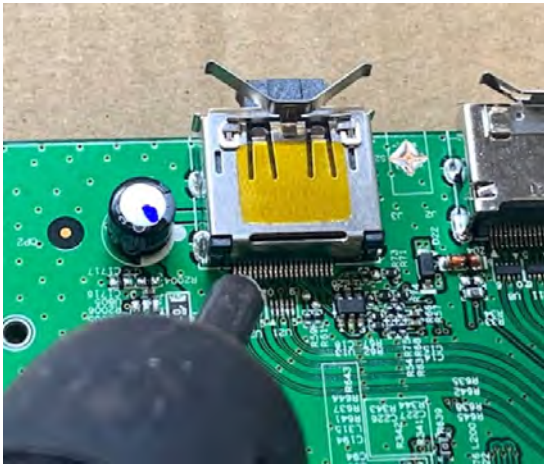

2) Use a hot air gun to melt the solder on the pins

3). Lift J4 from the PCB

4). Place new component on the location, and must check it can match PCB footprint

5). Soldering the new component by solder iron

DP Connector repair- J3

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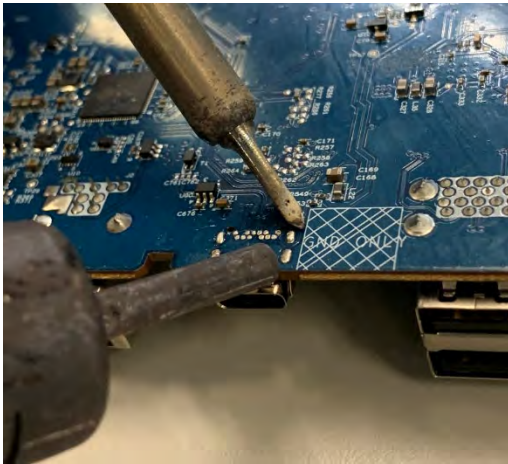

2) Use a hot air gun to melt the solder on the pins

3) Lift J3 from the PCB
4) Place new component on the location, and must check it can match PCB footprint
5) Soldering the new component by solder iron

USB type C Connector repair-J13

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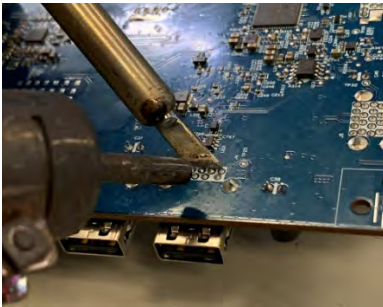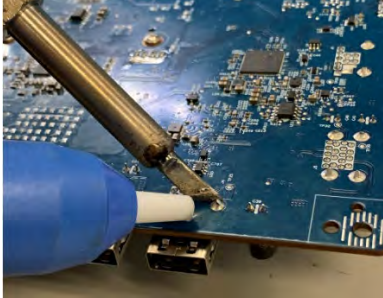

2) Use a hot air gun to melt the solder on the pins

3) Lift connector from the PCB

4) Place new component on the location, and must check it can match PCB footprint

5) Soldering the new component by solder iron

USB Type A Connector repair- J9, J10

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 connector out of the through holes

2). Lift connector from the PCB

3). Place new component on the location, and must check it can match PCB footprint

4). Soldering the new component by solder iron

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 test	Confirm whether image displays and sound plays correctly on the monitor.	Computer or DVD player
USB Type C USB Type A test	Connected USB wire with PC and Monitor. Connected USB drive to check USB function ok.	USB wire and PC

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

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