Maintenance and Service Guide
E243d model

SUMMARY

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

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Assembly part number: 930356-001

Product notice

Only trained service personnel familiar with this product should service it. Before performing any maintenance or service, be sure to read "Important Safety Information".

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:

- 60.5 cm (23.8 in) diagonal viewable screen area with 1920 × 1080 resolution, plus full-screen support for lower resolutions
- Pop-up camera and microphone for online collaboration
- Nonglare panel with an LED backlight
- Wide viewing angle to allow viewing from a sitting or standing position, while moving from side to side
- On-screen display (OSD) adjustments in several languages for easy setup and screen optimization
- Plug and Play capability, if supported by your operating system
- Tilt, swivel, and height adjustment capabilities
- Pivot capability to rotate the monitor head from landscape to portrait orientation
- Removable stand (optional) for flexiblemonitor head mounting solutions
- USB Type-C® and USB Type-A docking for legacy and current HP notebooks
- One DisplayPort™ video output for daisy-chaining a second monitor
- HDMI (High-DefinitionMultimedia Interface) and VGA video inputs
- Audio-in microphone jack on rear and audio-out (headset) jack on side
- Up to 90 W DC power OUT port for charging your legacy HP notebook (USB Type-A notebooks only)
- USB Type-C upstream port for high-speed data and network, audio and video, and power delivery (up to 65 W)
- Four USB Type-A (5 Gbps) downstream ports (two rear ports and two side ports)
- RJ-45 (network) jack
- Security cable slot on rear of monitor for optional security cable
- HP Display Assistant software for adjusting monitor settings and enabling theft-deterrence features
- HDCP (High-bandwidth Digital Content Protection) used on all digital inputs
- Power Saver mode to meet requirements for reduced power consumption
- Four on-screen display (OSD) buttons, three that you can reconfigureto quickly allow selection of the most commonly used operations
- Energy saver feature to meet requirements for reduced power consumption

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

Front components

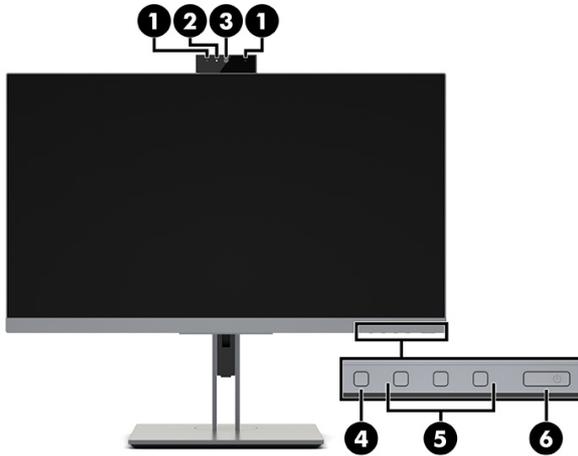To identify the components on the front of the monitor, use this illustration and table.

Table 1-1: Front components and their descriptions

	Component	Description
(1)	Camera microphones	Allow you to participate in a video conference.
(2)	Camera light	On: Camera is in use.
(3)	Camera	Transmits your image in a video conference.
(4)	Menu button	Press to open the OSD menu, select a menu item from the OSD, or close the OSD menu.An indicator is activated above the Menu button when the OSD menu is open.
(5)	Function buttons (assignable)	When the OSD menu is open, press the buttons to navigate through the menu. Lighted icons above the buttons indicate their functions.
(6)	Power button (with power light)	Turns the monitor on or off.

* You can reconfigure reconfigure the function buttons in the OSD menu to quickly select the most commonly used operations.

Rear components

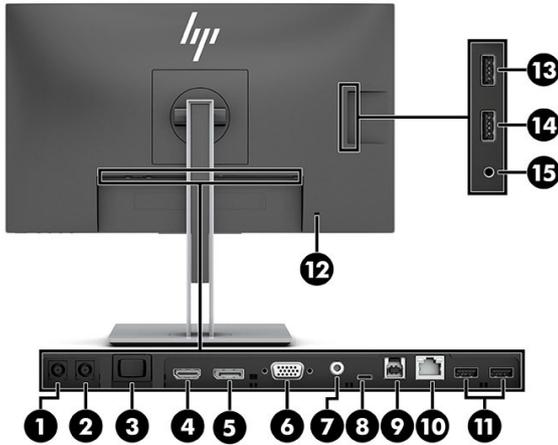To identify the components on the rear of the monitor, use this illustration and table.

Table 1-2: Rear components and their descriptions

	Component	Description
(1)	DC Power IN connector	Connects an AC adapter.
(2)	DC Power OUT connector	Connects the DC power cord to an HP notebook computer to supply power to the computer and, if needed, to charge the computer battery (up to 90 watts).
(3)	Master power switch	Turns the monitor on and off.
(4)	HDMI port	Connects the HDMI cable to a source device.
(5)	DisplayPort OUT connector	Connects a DisplayPort cable to a secondary monitor for daisy-chaining.
(6)	VGA port	Connects a VGA cable to a source device.
(7)	Audio-in jack	Connects an audio cable (not included).
(8)	USB Type-C port (upstream)	Connects a USB Type-C cable to an HP notebook or desktop computer. Serves as a single connection for video, data, and power delivery (up to 65 W).
		NOTE: Your computer USB Type-C port must be able to support USB Type-C Alt Mode and data and power delivery.
		Use only the HP USB Type-C cable provided.
		Supports DisplayPort Alt Mode (video, charging, and USB 3.1) over the USB Type-C connector. Also compatible with USB Type-C, Thunderbolt™-enabled ports.
(9)	USB Type-B upstream port	Connects a USB Type-B cable to a source device.
(10)	RJ-45 (network) jack	Connects a network cable.
(11)	USB Type-A ports (2)	Connect USB devices.
(12)	Security cable slot	Connects an optional security cable (for 23.8 in models only)
(13)	USB port with HP Sleep and Charge	Connects USB devices. Charges most products such as a cell phone, camera, activity tracker, or smartwatch.
(14)	USB Type-A port	Connects a USB device.
(15)	Audio-out (headset) jack	Connects optional 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 in your documentation kit.

Locating the serial number and product number

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

For worldwide models (except India):

Barcode label

HP 型号·E243d
HP EliteDisplay E243d 23.8-inch Docking Monitor
晶显示器/液晶顯示器
60.5cm(23.8") LCD Monitor
Consumo de energía en operación: 28 Wh
Made in China
조국 : 중국 / 中國制造 / 中國製造
Q40G024N-690-13C
FC HP:HQ-TRE.71025

Regulatory Model No/规定型号/型號/모델명:HSTND-9761-A
Assembly Part No. 930356-001   Rev.XXXXXX
Input Rating/输入电压 电流/輸入電壓 電流/ 정격입력
/Tegangan: 19.5V === 9.23A(最大输入/最大輸入 180W/MAX. 180W)
Output Rating/输出电压 电流/輸出電壓 電流/ 정격출력
/Tegangan:19.5V ===4.61A(最大输出/最大輸出 90W/MAX. 90W)
Manufactured /制造日期/製造日期/제 조 일 :March 2018

Serial No.:XXXXXXXX

TXXXXXXXXXXXXXX
Product No. 1TJ76AA/1TJ76AT/1TJ76AS
Head Spare No. 930865-001
Assy No. 930356-700

Spec label

3 Illustrated parts catalog

To identify the monitor major components, use this illustration and table.
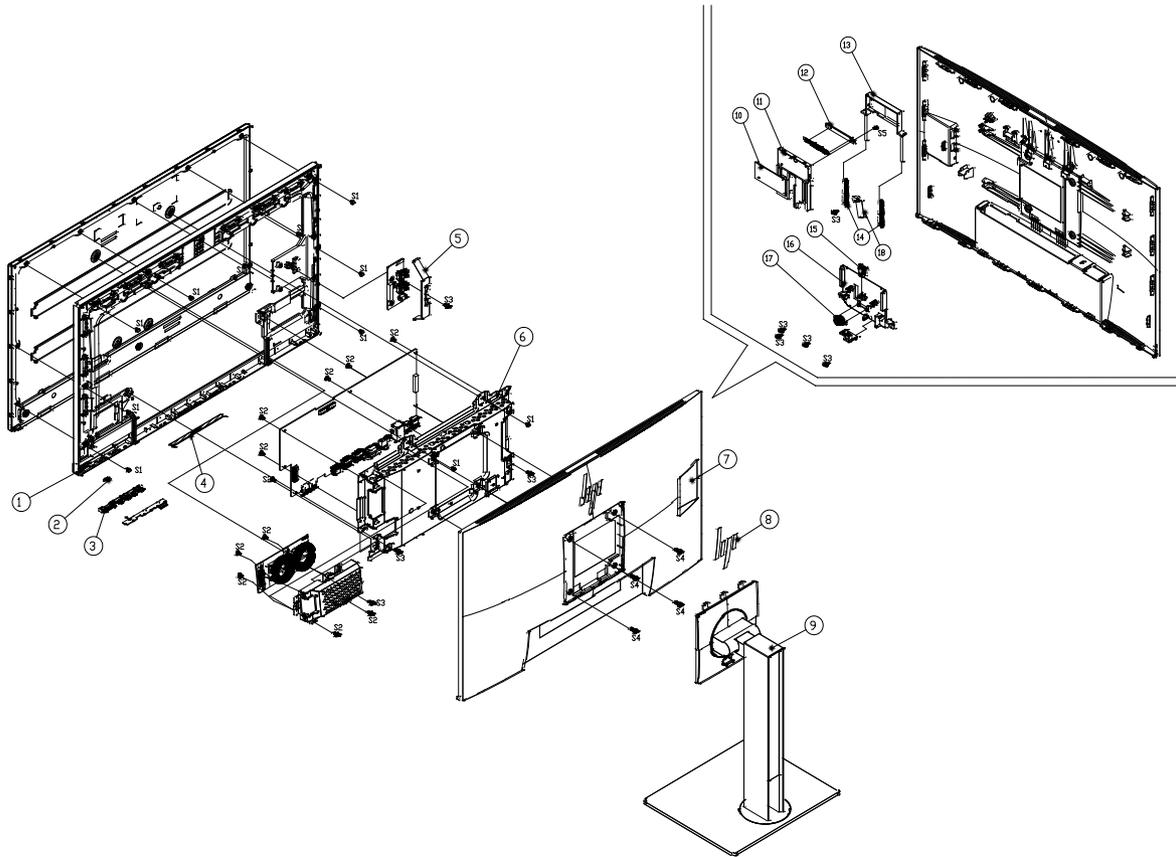
No.	Description	No.	Description
1	MIDDLE_FRAME		
2	LENS		
3	KEY		
5	RUBBER PAD		
5	SHIELD_USB		
6	MAINFRAME		
7	REAR_COVER		
8	LOGO HP size 72		
9	stand-base ass'y		
10	INSULATING SHEET		
11	COVER_WEBCAM_FRONT		
12	BKT_IO		
13	COVER_WEBCAM_REAR		
14	SPRING	**No.**	**Description**

15	WIRE-CLIP --	S1	SCREW P3 4（Middle frame/Panel)
16	COVER_WEBCAM	S2	SCREW D3 6(Main board/Mainframe)
17	HOLDER	S3	SCREW M3 6(BKT/REAR COVER&MAINFRAME/PANEL)
18	SHIELD_IO	S4	SCREW -- 10(STAND-BASE ASSY/REAR COVER)
19	SHIELD_MAINBOARD	S5	SCREW(BKT/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

Connectors by manufacturer

Component description	Location identifier	Component distributor	Distributer part number
PHONE JACK	CN601	RS	913-1021 (RS PRO)
DC POWER JACK	CN7802	Digi-Key	PJ-096H
DC POWER JACK	CN7801	Digi-Key	PJ-096H
RJ45 +LED	CN107	tme	LMJ34788114NWGY （AMPHENOL）
USB B	CN106	RS	692221030100 （Wurth Elektronik）
USB 3.0	CN103	RS	10117835-002LF （Amphenol ICC）
USB 3.0	CN104	RS	10117835-002LF （Amphenol ICC）
D-SUB	CN501	tme	HDL15-SL-B (ADAM TECH)
HDMI	CN502	RS	SD-47151-001 (Molex)
DP	CN504	Farnell	DP1RD20JQ1 (JAE)
USB Type-C	CN101	RS	DX07S024JJ2R1300 （JAE）

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.

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

Clean the room for disassembly.

Identify the disassembly area.

Check the position that the monitors are to be placed along with the number of monitors. Prepare the area for material flow according to the disassembly layout.

Be sure to have the following equipment and materials:

- Press fixture
- Working table
- Screwdriver
- Knife
- Gloves
- Cleaning cloth
- ESD protection
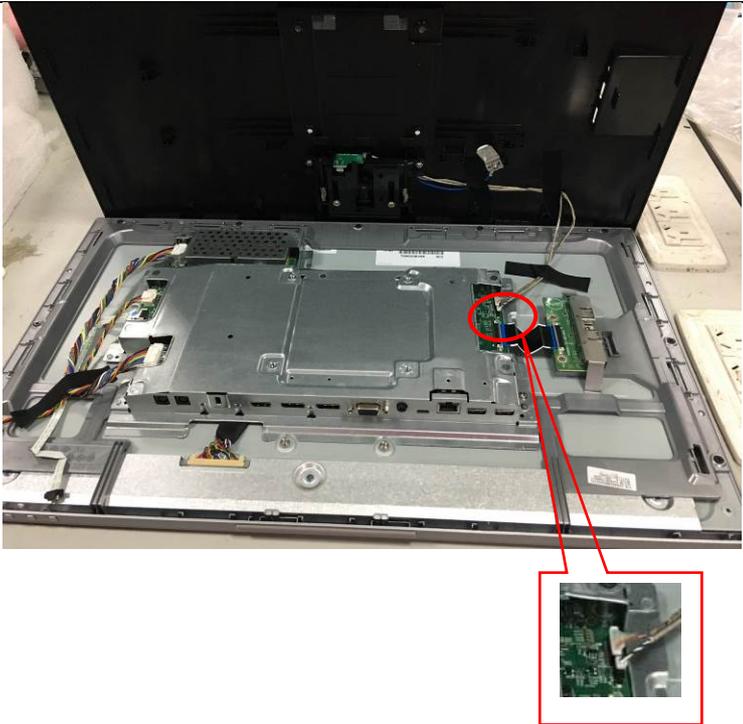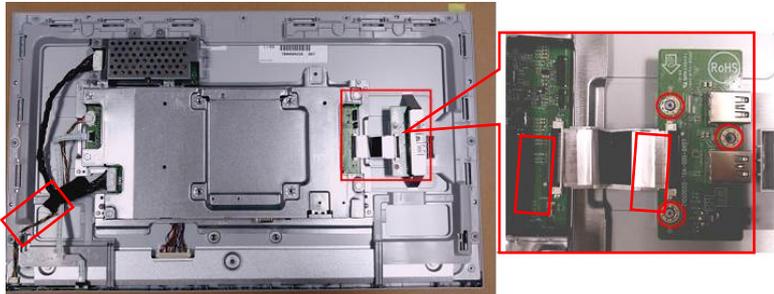- Scraper bar in the following dimensions:
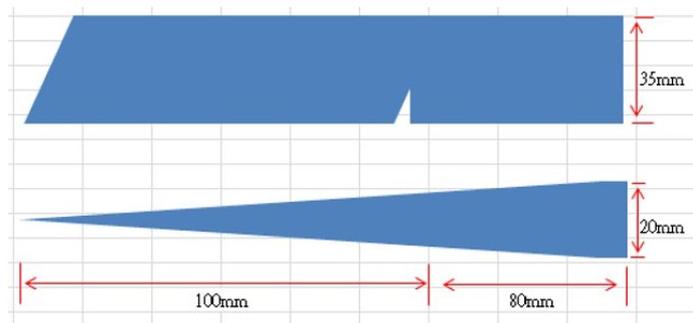
RC

Before removing the RC, follow these steps:

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

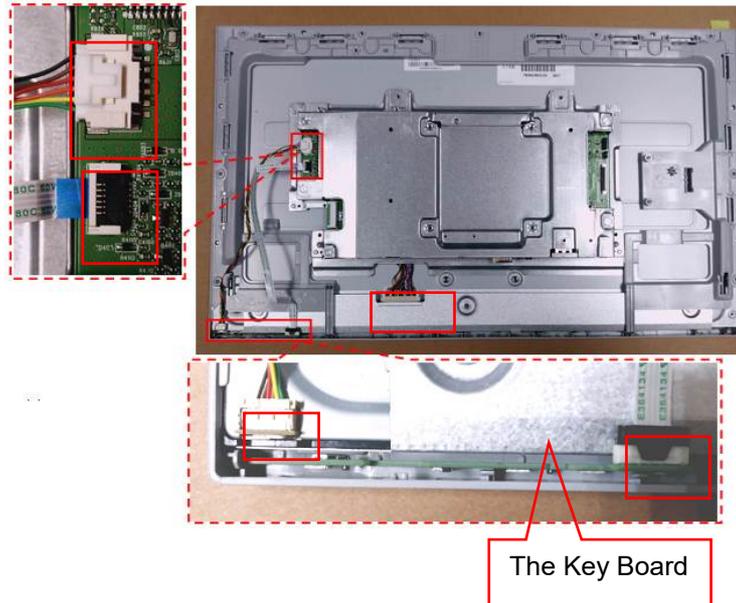| Step	Figure	Description
Preparation and remove the stand-base ass'y		Lay the monitor on a flat, soft and clean surface. Push the button to remove the stand-base assy.
Remove the screws to remove the rear cover		Remove the screws to remove the rear cover

Disconnect the cables		Disconnect the cables
Remove the tape and remove the screws to remove the USB board		Remove the tape and remove the screws to remove the USB board
Remove the screws		Remove the screws.
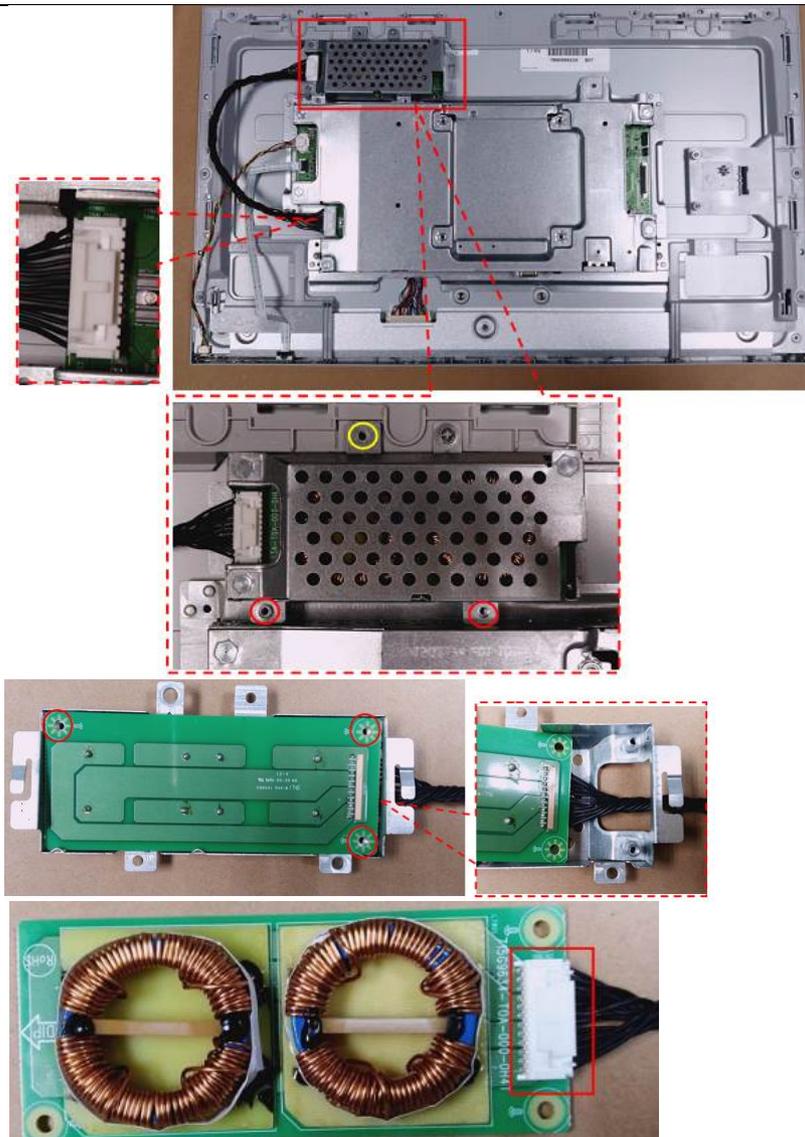
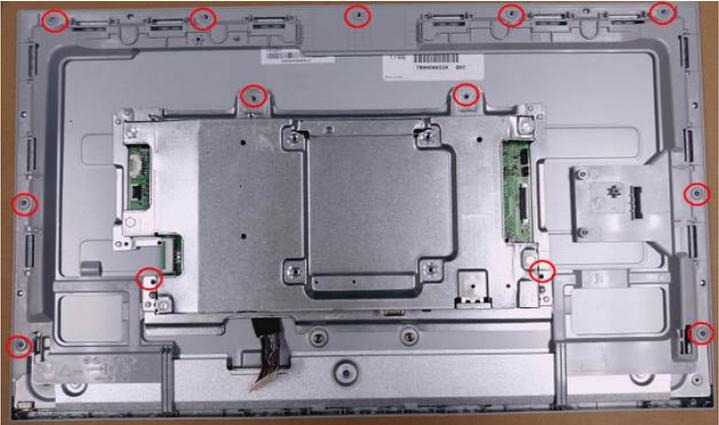|		
Remove the pins and remove the screws to remove the SUB board		Remove the pins and remove the screws to remove the SUB board
Remove the pins	The Key Board	Remove the pins

Remove the Middle_Frame and the Mainframe		Remove the screws to remove the Middle frame and the Mainframe
Middle_Frame		Middle_Frame
The Mainframe		The Mainframe
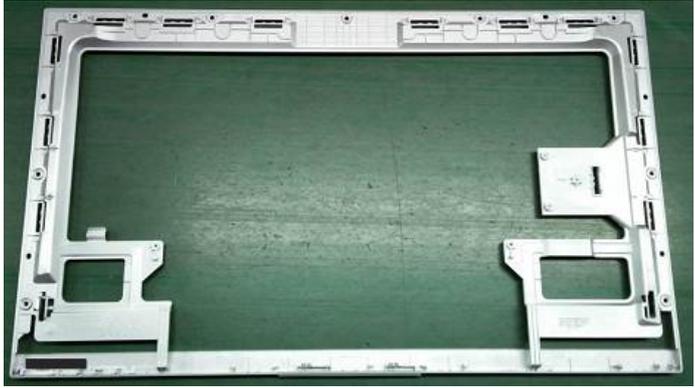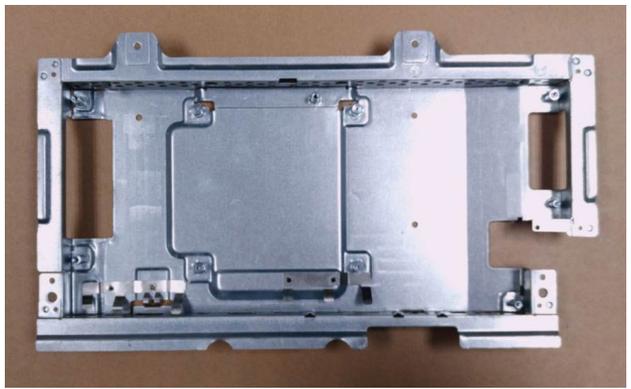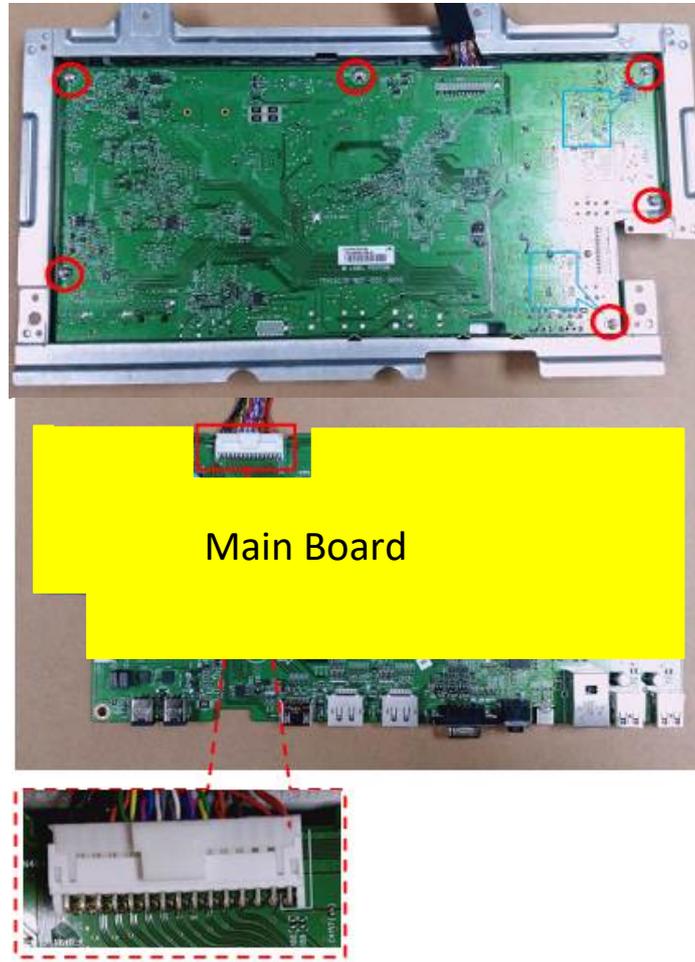
Remove the main board	 Main Board	Remove the screws to remove the main board, take off the pin
The panel		The panel
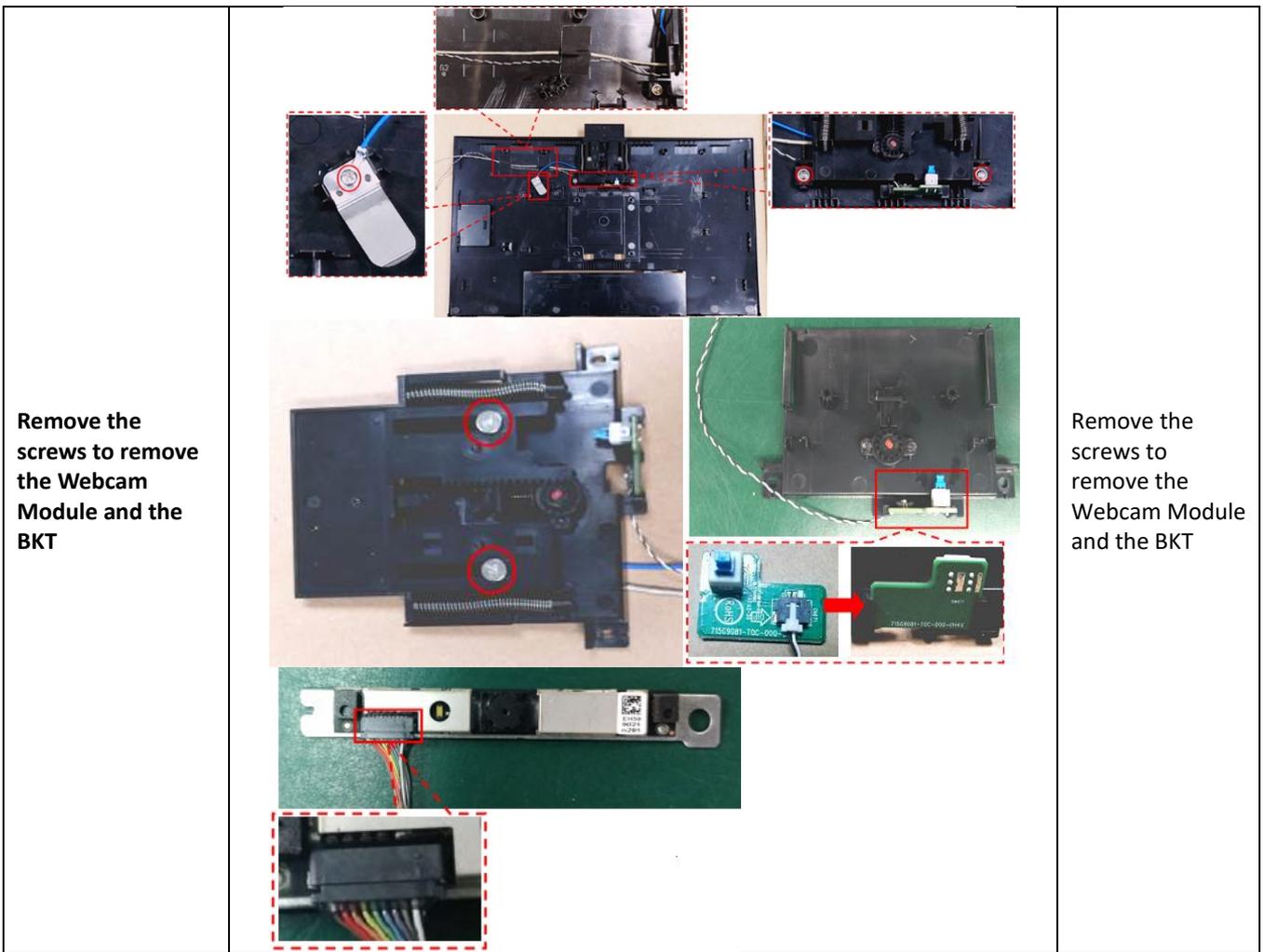
Remove the screws to remove the Webcam Module and the BKT	Remove the screws to remove the Webcam Module and the BKT

Connector repair

This procedure includes HDMI, DisplayPort and audio connectors.

The connectors are on the main board (board part number CBPCLE5HPQA).

The connectors identifiers are as follows:

Connector	Location
PHONE JACK	CN601
DC POWER JACK	CN7802
DC POWER JACK	CN7801
RJ45 +LED	CN107
USB B	CN106
USB 3.0	CN103
USB 3.0	CN104
D-SUB	CN501
HDMI	CN502
DP	CN504
USB Type-C	CN101

Main Board
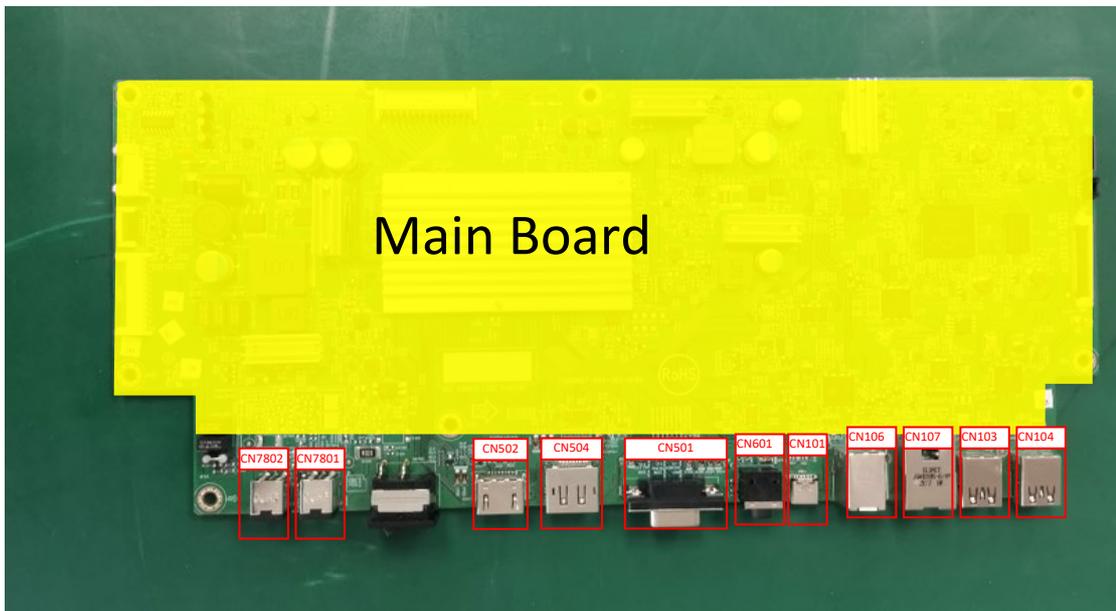
Before repairing connectors, follow these steps:

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

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.

Audio connector CN601

Repair the audio connector:

1) Use a hot air gun to melt the solder on the pins. Pin solder with soldering iron and absorber. You can gently push down with the soldering iron once everything is molten to move the CN601 out of the through holes.

2) Lift the CN601 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.
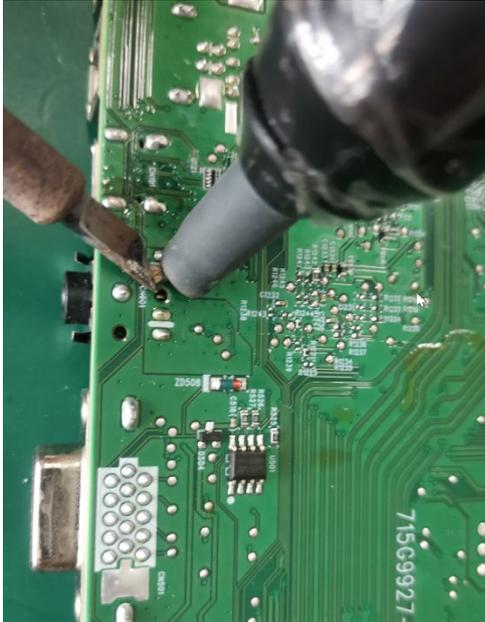
HDMI connector CN502

Repair the HDMI connector:

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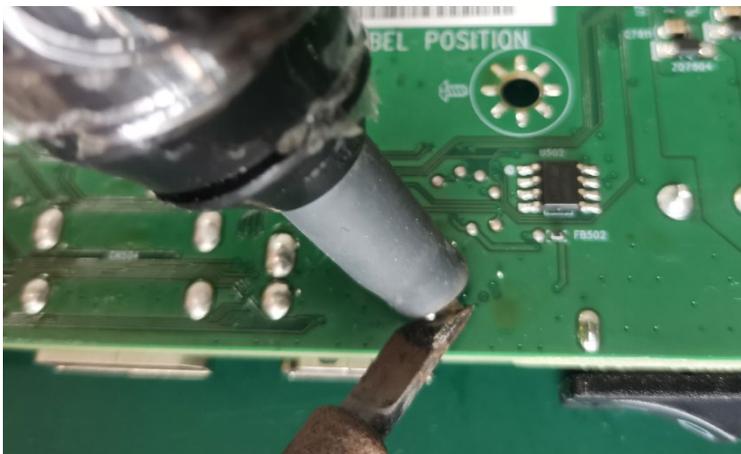
2) Use a hot air gun to melt the solder on the pins.

3) Lift the CN502 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 CN504

Repair the DP 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 CN504 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 TYPE-C connector CN101

Repair the USB-C 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 CN504 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 CN501

Repair the D-Sub port connector:

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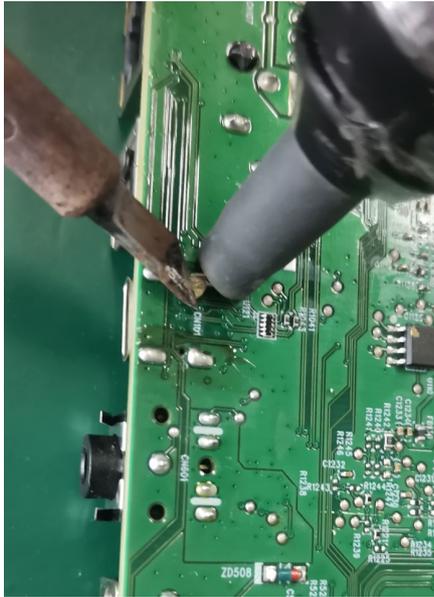
2) Use a hot air gun to melt the solder on the pins.

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.

AC socket CN7801, CN7802

Repair the AC Socket port connector:

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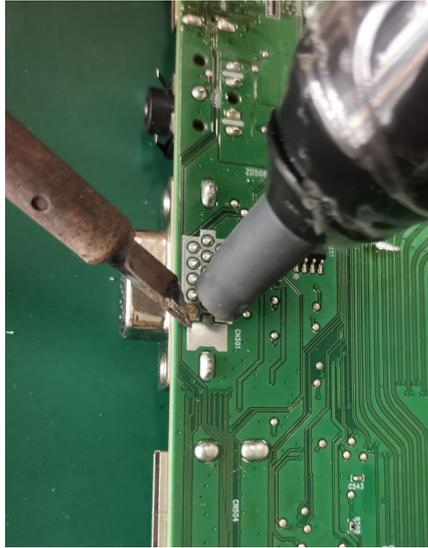
2) Use a hot air gun to melt the solder on the pins.

3) Lift the AC socket 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 port CN106, CN103, CN104

Repair the USB port 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 USB 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.

LAN port CN107

Repair the LAN port 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 CN107 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.

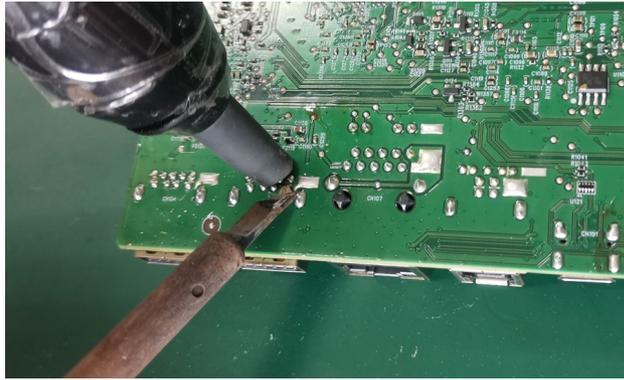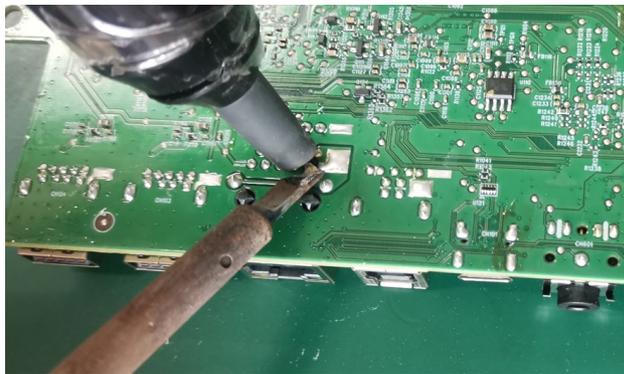# Function test

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
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.

Table 4-2 Common issues and solutions

Issues	Possible cause	Solution
Screen is blank or video isflashing.	Power cord is disconnected.	Connect the power cord.
	Monitor is off.	Press the monitor power button. **NOTE:** If pressing the power button has no effect, press andhold 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 theOn position.
	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 ofthe

computer's on-board video sources.

Image appears blurred, indistinct, or too dark.	Brightness setting is too low.	Open the OSD menu, and select **Brightness** to adjust thebrightness scale as needed.
"Check Video Cable" is displayed on the 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 connecting the video cable.
"Input Signal Out of Range" isdisplayed on screen.	Video resolution and/or refresh rate are set higher than 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 then set auto-sleep to **On**.
"OSD Lockout" is displayed.	The monitor's OSD Lockout functionis enabled.	Press and hold the Menu button for 10 seconds to disable the OSD Lockout function.
"Power Button Lockout" is displayed.	The monitor's Power Button Lockoutfeature is enabled.	Press and hold the Power button for 10 seconds to unlock the power button function.