



Maintenance and Service Guide

P24q G4 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 compliant, the replacement parts can be non-ROHS compliant. If the original parts are RoHS compliant, the replacement parts **MUST** be RoHS compliant.

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 2560 × 1440 resolution, plus full-screen support for lower resolutions; includes custom scaling for maximum image size while preserving original aspect ratio

The monitor features include the following:

- Nonglare IPS panel with an LED backlight
- Wide viewing angle to allow viewing from a sitting or standing position, or when moving from side to side
- Tilt capability
- Pivot capability to rotate the monitor panel from landscape to portrait mode
- Swivel and height adjustment capabilities
- Removable stand for flexible monitor panel mounting solutions
- VGA video input
- One HDMI (High-Definition Multimedia Interface) video input (cable provided)
- Plug and Play capability, if supported by your operating system
- Security cable slot provision on rear of monitor for optional security cable
- On-screen display (OSD) adjustments in several languages for easy setup and screen optimization
- HP Display Assistant software for adjusting monitor settings and enabling the 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**.

Front components

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

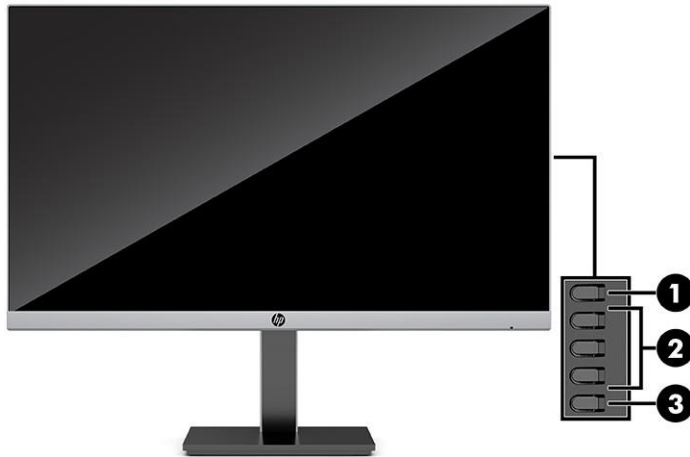


Table 1-1: Front components and their descriptions

Component	Function
1 Menu button	Press to open the OSD menu, select a menu item from the OSD, or close the OSD menu. When the OSD menu is open, the Menu light turns on.
2 OSD buttons (assignable)	When the OSD menu is open, press the buttons to navigate through the menu. The function light icons indicate the default button functions.
3 Power button	Turns the monitor on or off.

Rear components

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

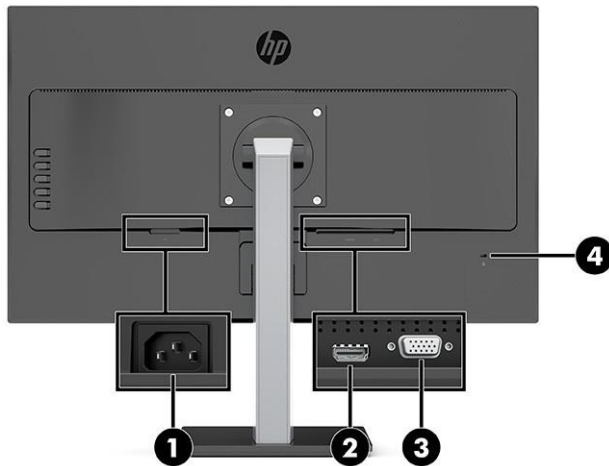
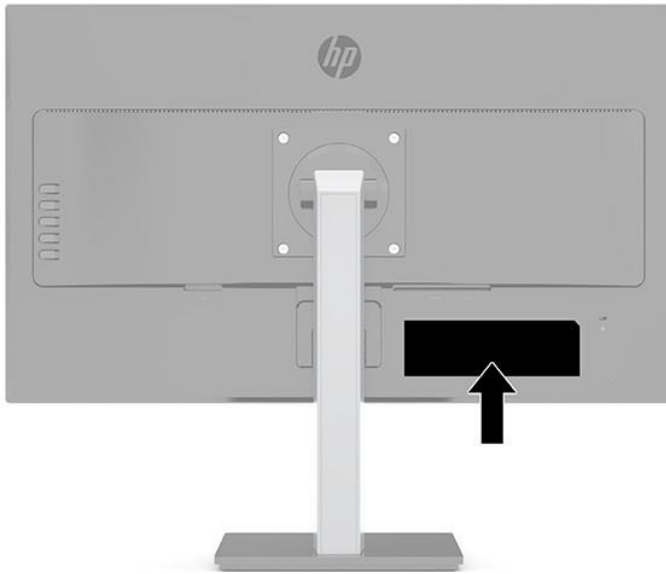


Table 1-2: Rear components and their descriptions

Component	Function
1 Power connector	Connects the power cord.
2 HDMI port	Connects the HDMI cable to a source device such as a computer or game console.
3 VGA port	Connects the VGA cable to the source device.
4 Security cable slot	Connects an optional security cable to the monitor.

Locating the serial number and product number

The SPEC 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.

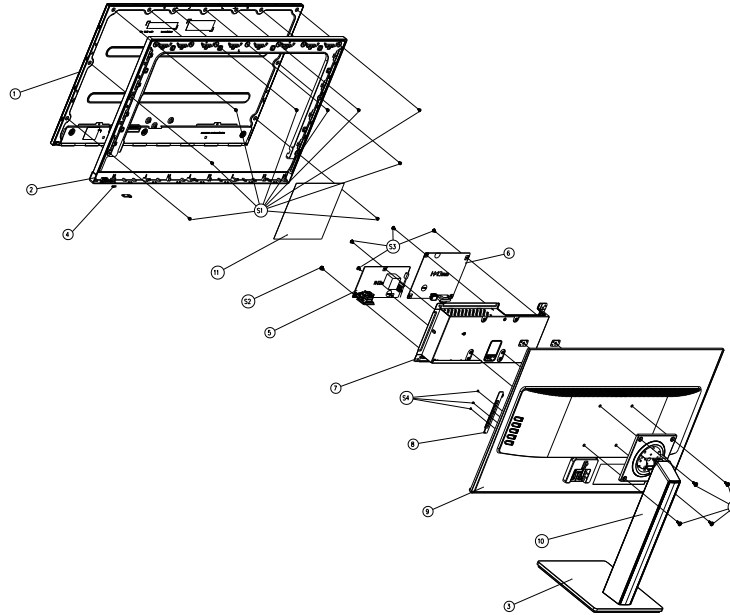


For worldwide models (except India):

<p>hp 型号:P24q G4</p> <p>Serial No.: CNC0230001</p>  <p>HDNKE7QBBH1HPHN Product No.8MB10AA /8MB10AS/8MB10AT Head Spare No. L82393-001 / Assy No. L81897-700 Regulatory Model No./规定型号/型号/모델명 : HSD-0046-A Assembly No. L81897-001 Rev.BBM121 Manufactured/制造日期/製造日期/제조일 : June 2020</p>	<p>液晶显示器/液晶顯示器 60.5cm(23.8") Monitor</p> <p>Electrical Ratings/电源电压 交流/電壓 電流/정격입력/ Input Rating: 100-240V~ 0.75-0.3A(1.6A for Mexico) 50/60Hz 警告: 使用過度恐傷害視力。 HP Inc. 서비스센터: 1588-3003</p> <p>Laita on liitettävä suojakoskettimilla varustettuun pistorasiaan. Apparätet må stikopplas jordat stikkontakt. Apparätet skall anslutas till jordat uttag. Apparätets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikkroppens jord. The equipment must be connected to an earthed mains socket-outlet. L'appareil doit être branché sur une prise de courant munie d'une mise à la terre.</p>	<p>CE HP40-TRE 71022 Boebingen, Germany</p> <p>NOM</p> <p>NYCE</p> <p>Low Blue Light Content</p> <p>TÜV Rheinland CERTIFIED</p> <p>TÜV Rheinland CERTIFIED</p> <p>TÜV Rheinland CERTIFIED</p> <p>TÜV Rheinland CERTIFIED</p> <p>UK CA HP Inc UK Ltd, Regulatory Enquiries, Emley Wood, 330 Thames Valley Park Drive, Reading, RG6 1PT</p> <p>FCC</p> <p>RoHS</p> <p>ERC</p> <p>CCC</p> <p>10</p> <p>CD</p> <p>显示器合格证</p> <p>HDMI HIGH-DEFINITION MULTIMEDIA INTERFACE</p>
<p>This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. CAN ICES-3(B)/NMB-3(B) 제조국: 중국/中國製造/中國製造 / Made in China Q40G024N-690-25E</p>	<p>↓</p>	<p>↓</p>

3 Illustrated parts catalog

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



Item	Description	Qty
1	PANEL	1
2	BEZEL	1
3	BASE_ASS'Y	1
4	LENS	1
5	ADAPTER BOARD	1
6	MAIN BOARD	1
7	MAINFRAME	1
8	KEY BOARD	1
9	REAR_COVER	1
10	stand ass'y NA LGD	1
11	INSULATING SHEET	1
S1	0M1G3030 4120	9
S2	QM1G38400601200ARA	1
S3	0D1G1030 6120	4
S4	Q01G6019 1	3
S5	0M1G2940 10225	4

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
PSU P24q G4	N02582-001	ADPCJ1903AA2

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

- tme: [Transfer Multisort Elektronik](#)
- RS Component: [Capacitors | RS Components \(rs-online.com\)](#)
- Digi-Key: [Digikey Electronics](#)

Capacitors by distributor

Component description	Location	Component distributor	Distributor part number
EC 470UF 20% 25V 10*16 ED/EC 470UF 20% 25V 10*16 -- 1.21A ECR1EXX4	C916	Digi-Key	EEU-FM1E471
EC 470UF 20% 25V 10*16 ED/EC 470UF 20% 25V 10*16 -- 1.21A ECR1EXX4	C917	Digi-Key	RZW471M1EBK-1016S

Connectors by manufacturer

Component description	Location identifier	Component distributor	Distributor part number
HDMI	CN503	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>.

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

NOTE: HP continually improves and changes product parts. For complete and current information about supported parts for your product, go to <https://partsurfer.hp.com/Search.aspx>, select your country or region, and then follow the on-screen instructions.

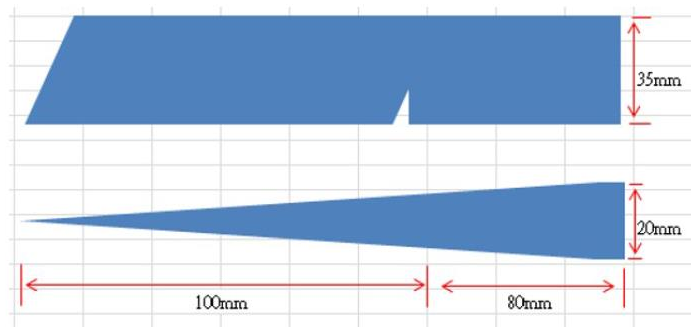
4 Removal and replacement procedures

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:



Rear Cover

Before removing the Rear Cover, follow these steps:

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

Remove the Rear Cover:

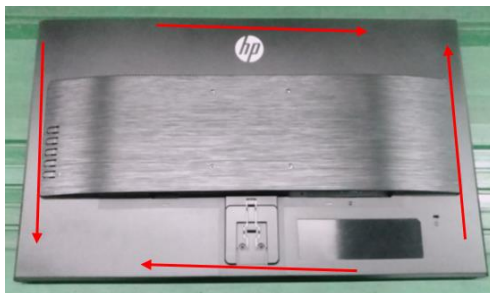
- 1) Remove four screw from the rear case.



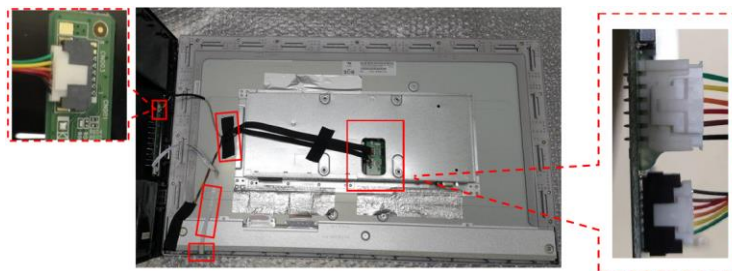
- 2) Use your fingers to split the left and right sides apart between the middle frame and rear case.



- 3) Insert the scraper bar tool into the gap between the middle frame and rear case, and then rotate. The hook opens. Repeat the steps.

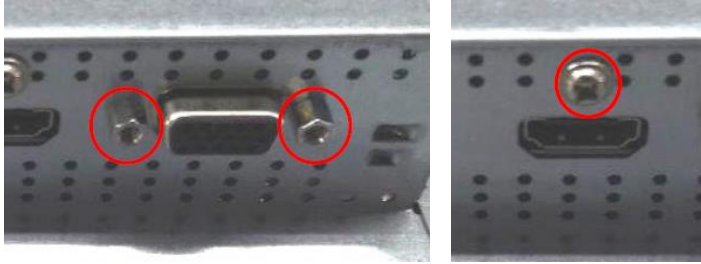


- 4) Lift the rear cover and remove the key board wire and light bar wire from the interface-board.

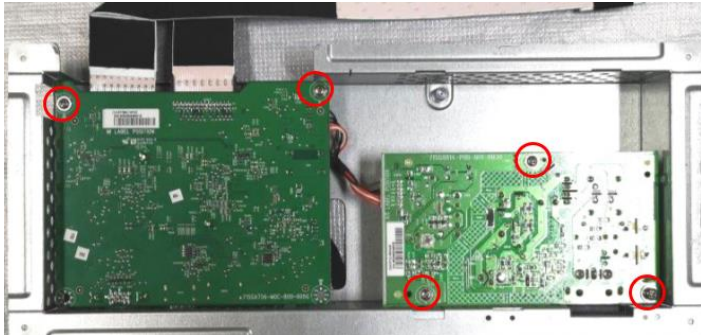


- 5) Disassemble the Key board from the Rear cover and LED board from the middle frame. (if required).

- 6) Remove 3 screws from the bracket.



- 7) Disassemble 5 screws from the board.



- 8) Disassemble all the boards from housing

Power board

The power board part number is ADPCJ1903AA2.

Before removing the power board, follow these steps:

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

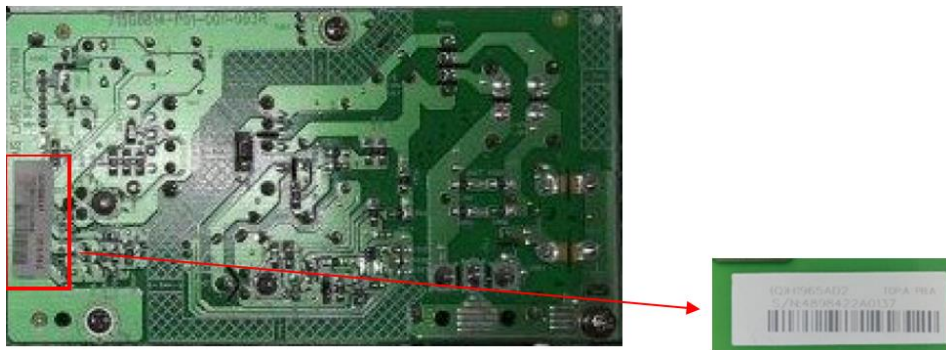
Remove the power board:

- 1) The HP P24q G4 power board connector position is as follows:



Warning: After unplugging the power supply, the capacitance is still charged, do not touch and discharge the capacitor.

- 2) Locate the part number location on the board.



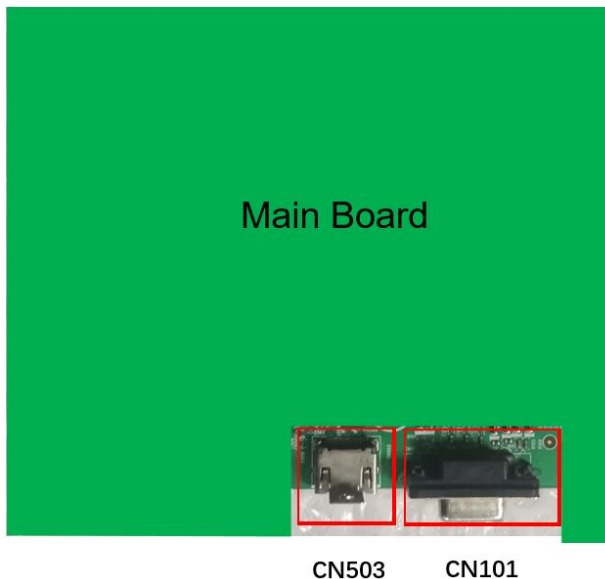
Connector repair

This procedure includes HDMI and D-SUB connectors.

The connectors are on the main board (board part number CBPRNE7HPQ6)

The connector's identifiers are as follows:

Connector	Location
HDMI	CN503
D-SUB	CN101



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.

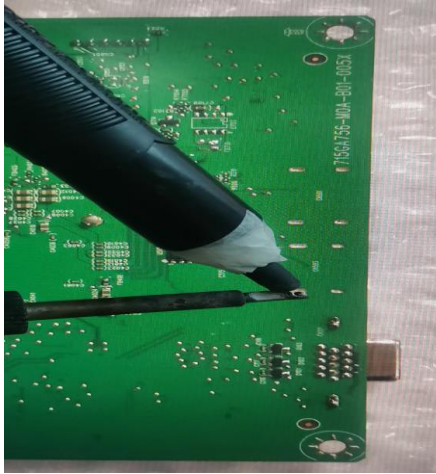
HDMI connector CN503

Repair the HDMI 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.

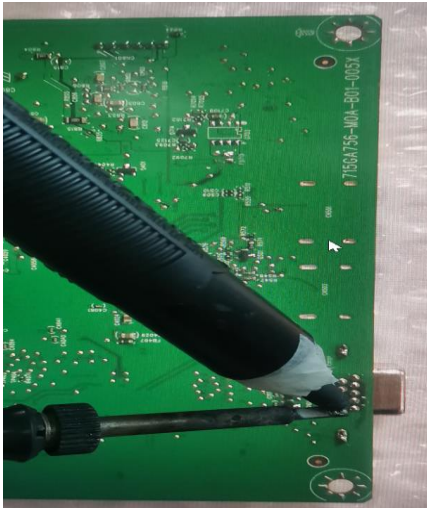


- 3) Lift the CN503 connector from the circuit board.
- 4) Place the new component on the circuit board. Be sure that it matches the footprint.
- 5) Solder the new component.

D-SUB connector CN101

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) Lift the CN101 connector from the circuit board.
- 3) Place the new component on the circuit board. Be sure that it matches the 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
D-SUB test	Confirm whether image displays and sound plays correctly on the monitor.	Computer or D-SUB player

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.
	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 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 AutoSwitch Input to Off and manually select the input, or replace the video card or connect the video cable to one of the computer's on-board video sources.
Image appears blurred,	Brightness is too low.	Open the OSD menu and select Brightness to adjust

indistinct, or too dark.		the brightness scale as needed.
Check Video Cable is displayed on screen.	Monitor video cable is disconnected.	Connect the appropriate video signal cable between the computer and monitor. Be sure that the computer power is off while connecting the video cable.
Input Signal Out of Range is displayed on screen.	Video resolution and/or refresh rate are set higher than what the monitor supports.	Change the settings to a supported setting.
The monitor does not enter into a low-power sleep state.	The monitor's power saving control is disabled.	Open the OSD menu and select Power, select Auto-Sleep Mode, and then 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 for 10 seconds to disable the OSD Lockout function.
Power Button is Locked is Displayed	The monitor's power button is locked. Function is enabled.	Press and hold the Power button for 10 seconds to unlock the power button function.

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