



# Maintenance and Service Guide

## U28 model

### **SUMMARY**

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

© Copyright 2022 HP Development Company, L.P.

AMD is a trademark of Advanced Micro Devices, Inc. Bluetooth is a trademark owned by its proprietor and used by HP Inc. under license. NVIDIA is a trademark and/or registered trademark of NVIDIA Corporation in the U.S. and other countries. USB Type-C and USB-C are registered trademarks of USB Implementers Forum. DisplayPort and the DisplayPort logo are trademarks owned by the Video Electronics Standards Association (VESA) in the United States and other countries.

The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

First Edition: March 2022

Document Part Number: M03631-U28-MSG-V1

Assembly part number: M03631-001

## **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 Content

1	Getting started .....	2
	Important safety information .....	2
	Important service information and precautions .....	3
	RoHS (2002/95/EC) requirements .....	3
	General descriptions .....	3
	Firmware updates .....	4
	Before returning the repaired product to the customer .....	4
2	Monitor features .....	5
	Features .....	5
	Front components .....	6
	Rear components .....	7
	Locating the serial number and product number .....	8
3	Illustrated parts catalog .....	10
	How to order parts .....	11
4	Removal and replacement procedures .....	12
	Preparation for disassembly .....	12
	Rear Cover .....	12
	Power board (adapter) .....	15
	DisplayPort connector location .....	16
	HDMI connector P103 .....	16
	Function test .....	18
	Support and troubleshooting .....	18
	Index .....	20

---

# 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](https://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:

71.12 cm (28-inch) diagonal viewable screen area with 3840 x 2160 resolution, plus full-screen support for lower resolutions; includes custom scaling for maximum image size while preserving original aspect ratio

The monitors include the following features:

- Anti-Glare panel with an LED backlight
- Wide color gamut to provide coverage of sRGB color spaces
- Wide viewing angle to allow viewing from a sitting or standing position, or when moving from side to side
- Tilt, swivel, and height adjustment capabilities
- Pivot capability to rotate the monitor head from landscape to portrait orientation
- Removable stand for flexible monitor head mounting solutions
- DisplayPort video input
- High-Definition Multimedia Interface
- Audio headphone
- USB Type-C upstream port for high-speed data/network, audio and video, and power delivery (up to 65 W)
- USB 3.0 hub with one upstream port (connects to the computer) and three downstream ports (connect to USB devices)
- Picture in Picture (PIP) functionality to enable the DisplayPort and HDMI inputs to be viewed in each half of the screen
- 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
- High-Bandwidth Digital Content Protection (HDCP) copy protection on all digital inputs
- Energy saver feature to meet requirements for reduced power consumption
- HP HDR (High Dynamic Range)

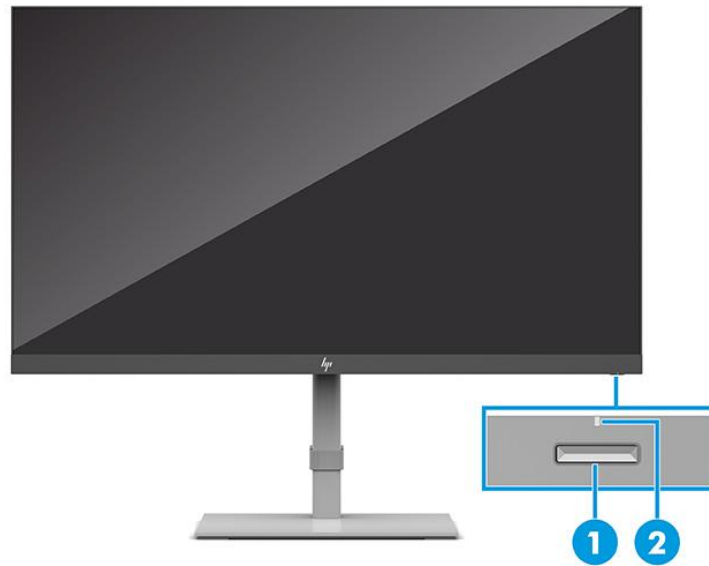
---

**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.



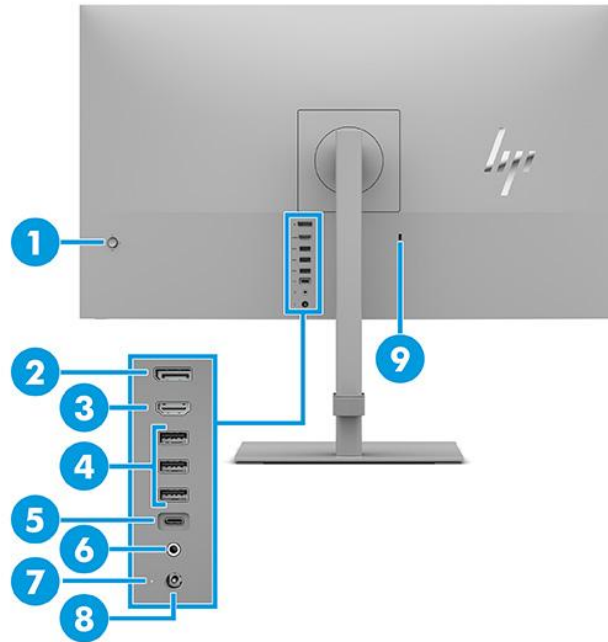
**Table 1-1: Front components and their descriptions**

Component	Function
1 Power button	Turns the monitor on or of.  <b>NOTE:</b> Be sure that the master power switch on the monitor is in the On position to turn on the monitor.
2 Power light	White: The monitor is on.  Amber: The monitor is in a reduced power state because of inactivity.



# Rear components

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

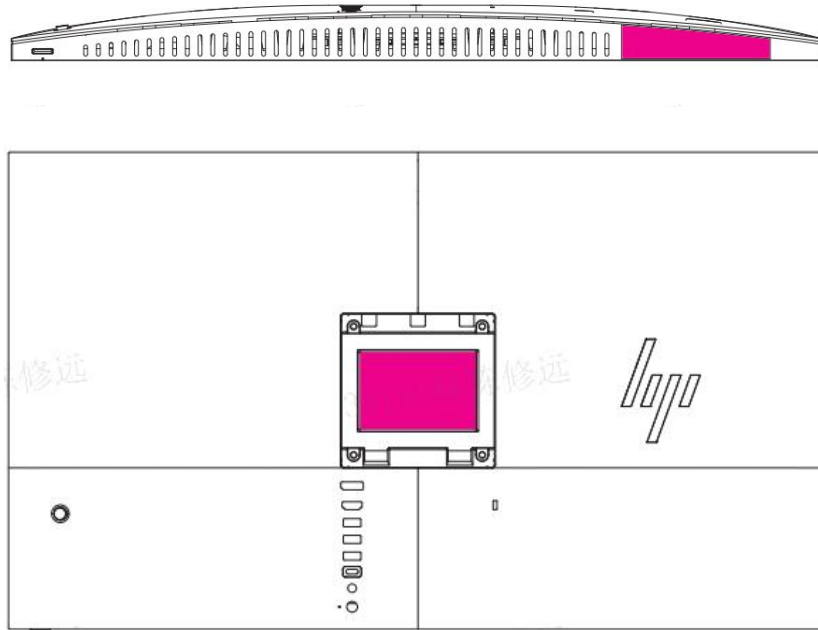


**Table 2-2: Rear components and their descriptions**

Component	Function
1 OSD joystick	Opens the OSD menu, selects an item from the menu, or closes the OSD menu.
2 DisplayPort connector	Connects the DisplayPort cable to a source device such as a computer or game console.
3 HDMI port	Connects the HDMI cable to a source device such as a computer or game console.
4 USB SuperStream ports (downstream) (3)	Connect USB cables to a peripheral device, such as a keyboard, mouse, or USB hard drive.
5 USB Type-C port (upstream)	Connects a USB Type-C cable to a source device such as a computer or game console. You can use this port to deliver up to 65 W of power to a device. Power outputs are 5 V/9 V/10 V/12 V/15 V/20 V to achieve a 65 W output. This port also enables the USB Type-A ports to perform their functions.
6 Audio-out (headphones) jack	Connects optional headphones. <b>WARNING!</b> To reduce the risk of personal injury, adjust the source device volume before using headphones, earbuds, or a headset. For additional safety information, see the Product Notices provided in your documentation kit.
7 Power light	White: The monitor is connected to power or powered on.
8 Power connector	Connects an AC adapter.
9 Security cable slot	Connects an optional security cable.

# Locating the serial number and product number

The SPEC label (1) and Barcode label (2) are located on the rear of the monitor. The serial number and product number are located on a Safety label. You may need these numbers when contacting HP about the monitor model.



For worldwide models (except India):

**hp** HP U28 4K HDR 28-inch Monitor

型号/型號/모델명: HP U28 4K HDR

液晶显示器/液晶顯示器/모니터  
70.9cm (28") Monitor

Regulatory Model No./规定型号/型號/모델명: HSD-0074-V

Input Rating/輸入規格/輸入規格/정격입력:  
DC 19.5V — 9.23A (9,23A)

Made in China/Fabriqués en Chine/中国制造/中國製造/제조국: 중국

Adapter source refer to User's Manual  
Voir le manuel de l'utilisateur pour plus de détails sur l'adaptateur d'alimentation applicable.  
适用的电源适配器请参阅说明书  
適用的電源變壓器請參閱說明書

---

HP U28 4K HDR

Low Blue Light Hardware Solution!

**HDMI**

---

**WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

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.

警告：使用過度恐傷害視力  
警告：使用過度恐傷害視力  
CAN ICES-3(B)/NMB-3(B)

**EAC**

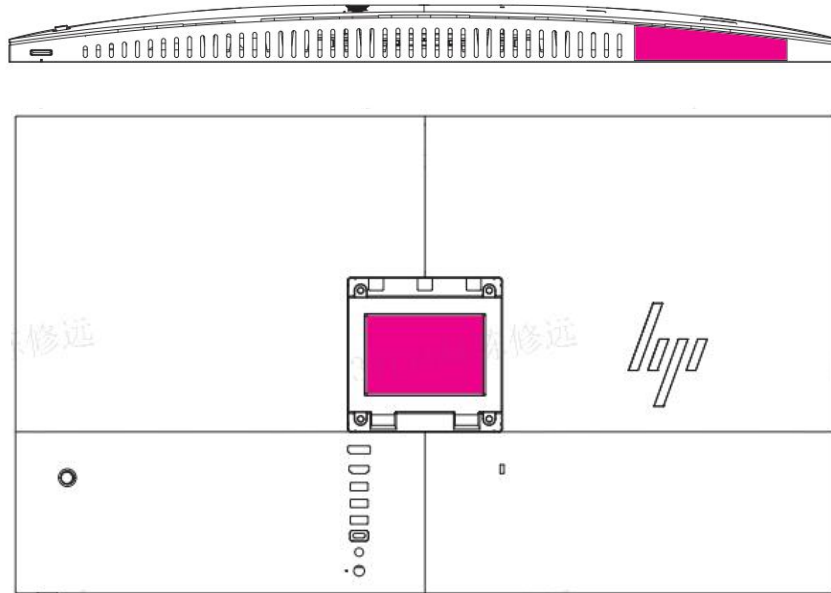
HP, HQ-TRE, 71025  
Boeblingen, Germany

HP Inc UK Ltd, Regulatory Enquiries,  
Earley West, 300 Thames Valley Park  
Drive, Reading, RG6 1PT

---

Consumo de energia: 26.62 Wh

For India:



**IS 13252 (Part 1)/ IEC 60950-1**

**hp** Video Monitor/液晶显示器/液晶顯示器/모니터

Regulatory Model No./规定型号/型號/모델명: HSD-0074-V

Input Rating/输入规格/輸入規格/정격입력: DC 19.5V = 9.23A (9,23A)

Made in China/Fabriqués en Chine/中国制造/中國製造/제조국:중국

Adapter source refer to User's Manual

Voir le manuel de l'utilisateur pour plus de détails sur l'adaptateur d'alimentation applicable

适用的电源适配器请参阅说明书 / 适用的電源變壓器請參閱說明書

**R-41083445**

**www.bis.gov.in**

**SMP**

**HP U28 4K HDR**

**TUV Rheinland ZERTIFIZIERT** TÜV Rheinland ID: 201805003

**TUV Rheinland ZERTIFIZIERT** TÜV Rheinland ID: 202002003

**HDMI**

**TCO CERTIFIED**

**TUV Rheinland ZERTIFIZIERT** TÜV Rheinland ID: 022005413

**cd**

**CCC**

**显示器合格证**

**74420**

**ENERGY STAR**

**WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.**

**FCC** 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.

**ENERGY STAR**

**警告: 使用過度恐傷害視力**

**警告: 使用過度恐傷害視力**

**CAN ICES-3(B)/NMB-3(B)**

**EAC**

**CE**

**PC** リサイクル

**HP, HQ-TRE, 71025 Boeblingen, Germany**

**R-R-hpl-HSD-0074-V**

**K-Tronics (Suzhou) Technology Co., Ltd**

**A/S 연락처 : 1588-3003**

**UK CA** HP Inc UK Ltd, Regulatory Enquiries, Earley West, 300 Thames Valley Park Drive, Reading, RG6 1PT

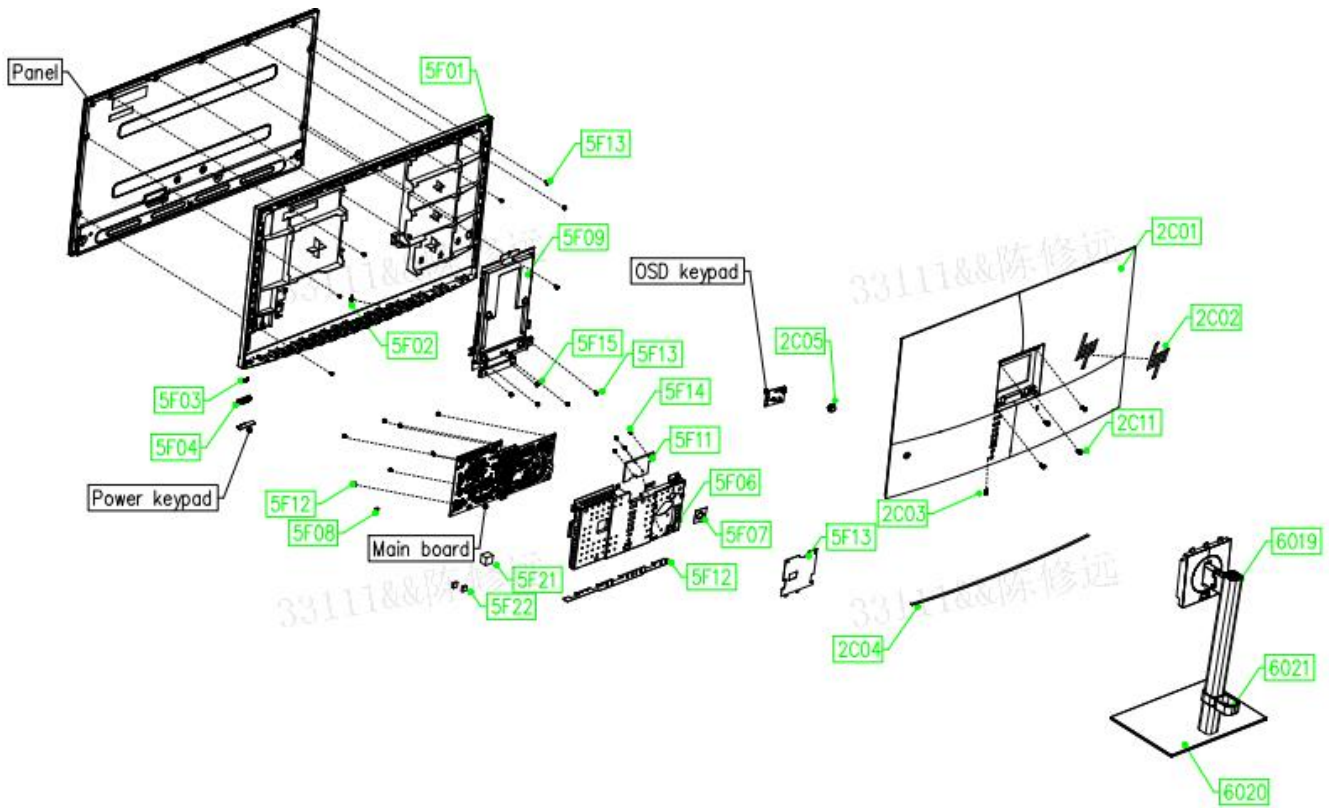
**VCCI**

**Consumo de energía: 26.62 Wh**

**SMP**

# 3 Illustrated parts catalog

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



Item	Description	Qty	Item	Description	Qty
6019	#ASSY Neck_GR_AL	1	5F04	#Power Key_GR_ABS+OBP	1
6020	#ASSY Base_GR_AL	1	5F06	#Chassis_GR_AL	1
6021	#ASSY Base Holder_GR_PC	1	5F07	#EVA_30_30_0.25_	1
2C01	#Bucket-GR_ABS+OBP	1	5F08	#EVA_GR_10.1_6_4	1
2C02	#Warning Lable_GR	1	5F09	#HAS_Bracket_GR_SGCC	1
2C03	#DC-in Lens_GR_PC	1	5F11	#Chassis_GR_HP_AL	1
2C04	#Mylar_GR_PET_482.4_16.77_0.325	1	5F12	#SCRW_1018_3_6_HAT	7
2C05	#OSD Key_GR_ABS+OBP	1	5F13	#SCRW_1018_3_5_PAN	12
2C11	#SCRW_Cross_4_10	4	5F14	#SCRW_1018_3_4_PAN	4
5F01	#RUBBER_20_20	1	5F15	#SCRW_1018_3_3_PAN	2
5F02	#Middle Frame Label 4k HDR_GR	1	5F21	#RUBBER_GR_KE951_18_1_5_18	1
5F03	#Power Lens_GR_PC_HB	1	5F22	#RUBBER_GR_KE951_10_1_0_4	2

## How to order parts

Connectors are available for purchase from the following EU distributors:

- Digi-Key: [digikey.co.uk](http://digikey.co.uk)
- RS Component: [Capacitors | RS Components \(rs-online.com\)](http://Capacitors | RS Components (rs-online.com))

### Connectors by manufacturer

Component description	Location identifier	Component distributor	Distributor part number
HDMI	P103	Digi Key	900-0476591100TR-ND
DP	P105	Digi Key	A118339-ND
USB-C	P111	Digi Key	670-2949-1-ND
USB-A	P502	RS Component	769-3466

---

**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.

---

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

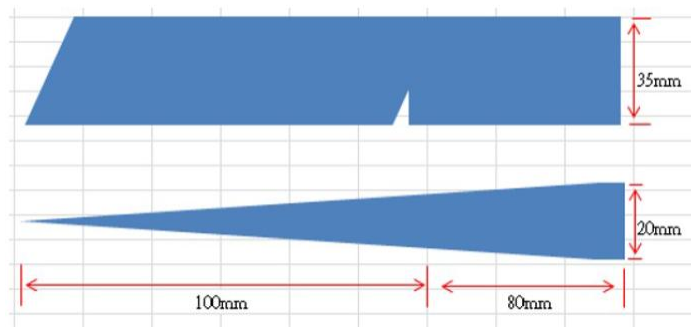
## 4 Removal and replacement procedures

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:

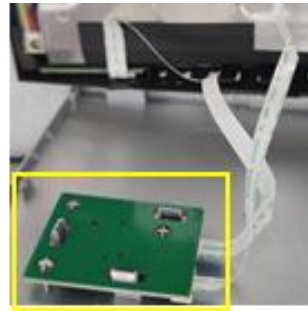
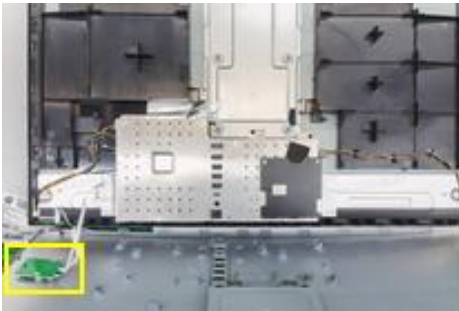
- ▲ Prepare the monitor for disassembly.

Prepare the machine for rework, take a protective pad, and place the machine on the protective pad.

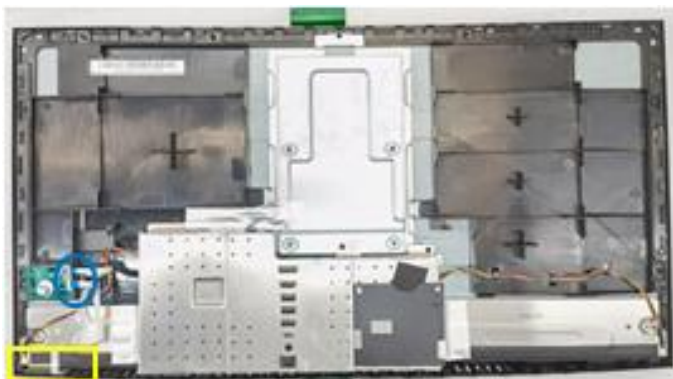
- 1) Remove wall mount screws and rear cover, Take the electric screwdriver and remove the 4 rear cover wall mounted screws (as shown blue circle) and remove rear cover.



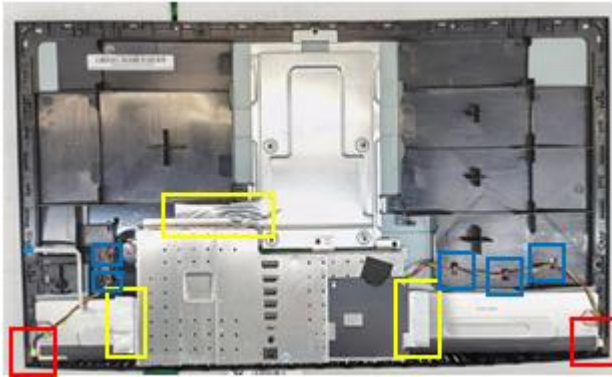
- 2) Remove the rear cover and key board. Remove the rear cover first, after disassembling the rear cover, hold the rear cover with your hand (do not damage the wire), remove the buttons from the rear cover, and then put the rear cover aside.



- 3) Remove the function key board and power key board. After opening the hook at the connector of the function key board in the blue circle, unplug the two FFC wires. Take out the power keypad from the yellow square and unplug the cable; place the power keyboard and the function key board at the designated position.



- 4) Remove aluminum tape and backlight wire. Tear off the three aluminum tape at the yellow square, and then pull out the backlight wire from the interface (when you take out the backlight wire, hold down the backlight wire connector, and remove the backlight wire from the hook, as shown in the blue square).



- 5) Remove the screws of the shielding cover. Take the electric screwdriver and remove the three screws, at the red circle, and then remove the two black foams at the blue square.

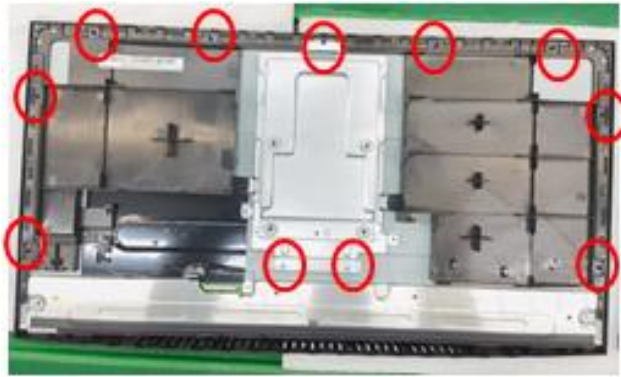


- 6) Remove FFC cable. Lift the shielding cover and pull out the FFC cable (to pull out the FFC cable, you need to pinch both sides of the blue circle, and then pull it out), and place the shielding cover aside.

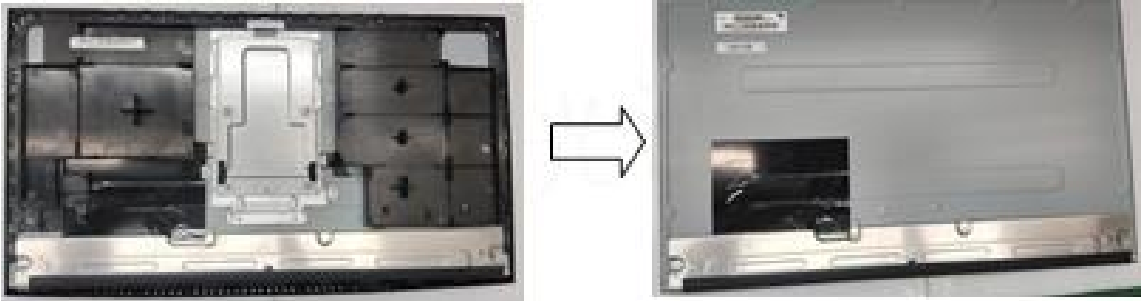




- 7) Remove the mid bezel fixing screws. Take the electric screwdriver and remove the screw as shown in the red circle.



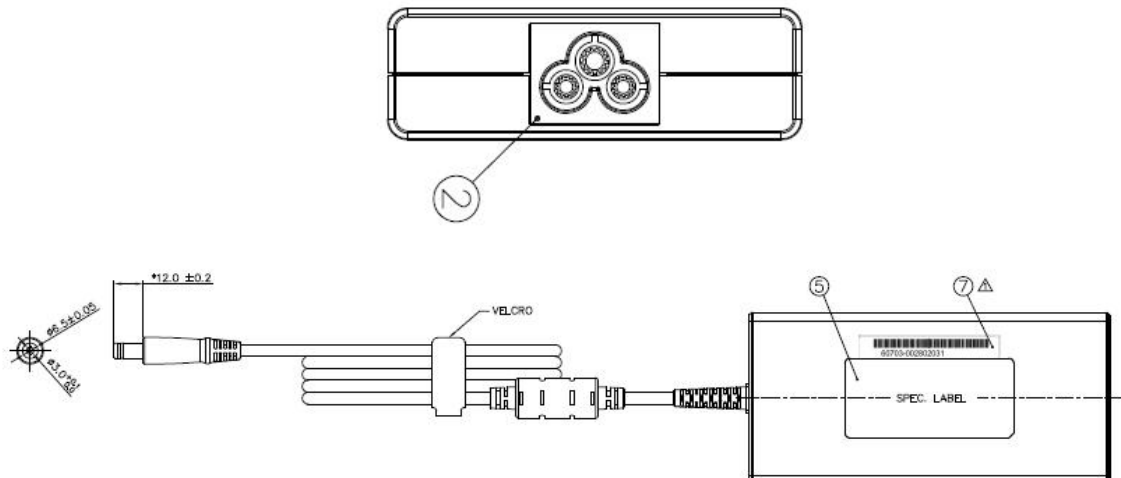
- 8) Remove the mid bezel and main bracket. Remove the mid bezel and the main bracket, as shown in the figure.



## Power board (adapter)

The power board part number is 60703-00280.(adapter)

- 1) The HP U28 power board connector position is as follows:



# DisplayPort connector location

This procedure includes HDMI,DP connectors.

The connectors are on the main board (board part number 21201-03113).

The connectors identifiers are as follows:

Connector	Location
HDMI	P103
DP	P105
USB-C	P111
Earphone	P602
USB-A	P502, P503, P504



Before repairing connectors, follow these steps:

- ▲ Prepare the monitor for disassembly. See [Preparation for disassembly](#) on page 12.

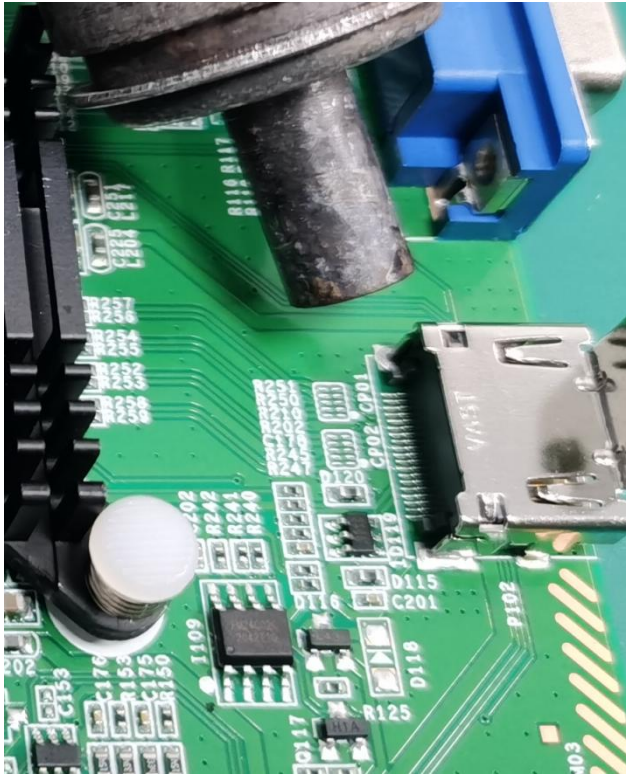
## HDMI connector P103

Repair the HDMI connector:

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



- 3) Use a hot air gun to melt the solder on the pins.



- 4) Lift the P103 connector from the PCB.
- 5) Place the new component on the PCB. Be sure that it matches the PCB footprint.
- 6) 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
VGA test	Confirm whether image displays plays correctly on the monitor.	Computer or DVD 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.
	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 <b>Brightness</b> to adjust the brightness scale as needed.
<b>Check Video Cable</b> 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.

<b>Input Signal Out of Range</b> 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 <b>Power Control &gt; Auto-Sleep Mode</b> and set auto-sleep to <b>On</b> .
<b>On-Screen Menus are Locked</b> is displayed.	The monitor's OSD lock function is enabled.	Press and hold the <b>Menu</b> button on the front bezel to 10 seconds to disable the OSD lockout function.
<b>Power Button is Locked</b> 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.

# Index

- components
  - front, 5
  - rear, 6
- connector repair, 16
- features, 4
- firmware updates, 3
- front components, 5
- function test, 17
- how to order parts, 10
- illustrated parts catalog, 9
- parts, 10
- parts, ordering, 10
- power board removal, 14
- precautions, 2
- preparation for disassembly, 11
- RC removal, 11
- rear components, 6
- removal
  - power board, 14
  - RC, 11
- removal and replacement procedures, 11
- returning to customer, 3
- RoHS (2002/95/EC) requirements, 3
- safety information, 2
- serial number location, 7
- service information, 2
- spare parts, 11
- support and troubleshooting, 18
- troubleshooting, 18