

Maintenance and Service Guide P19b G4&V19&V20&P204v model

SUMMARY

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

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Product notice

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

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1 Getting started

Read this chapter to learn about safety information and where to find additional HP resources.

Important safety information

Carefully read the cautions and notes within this document to minimize the risk of personal injury to service personnel. The cautions and notes are not exhaustive. Proper service methods are important to the safe, reliable operation of equipment. Improper service methods can damage equipment.

The service procedures recommended and described in this service manual provide effective methods of performing service operations. Service engineers should have prior repair knowledge and experience as well as appropriate training for the product before performing service procedures.

- Be sure your working environment is dry and clean and meets all government safety requirements.
- Be sure that other persons are safe while you are servicing the product.
- Do not perform any action that can cause a hazard to the customer or make the product unsafe.
- Use proper safety devices to ensure your personal safety.
- Always use approved tools and test equipment for servicing.
- Never assume the product's power is disconnected from the main power supply. Check that it is disconnected before opening the product's cabinet.
- Modules containing electrical components are sensitive to electrostatic discharge (ESD). Follow ESD safety procedures while handling these parts.
- Some products contain more than one battery. Do not disassemble or expose a battery to high temperatures, such as throwing into fire, or the battery may explode.
- Refer to government requirements for battery recycling or disposal.

This information provides general service information for the monitor. Adherence to the procedures and precautions is essential for proper service.

IMPORTANT: Only trained service personnel who are familiar with this HP product should perform service or maintenance for it. Before performing any service or maintenance, personnel must read the important safety information.

IMPORTANT: You must disconnect the power cord from the power source before opening the monitor to prevent component damage.

Important service information and precautions

- Repair must be performed by professional service technicians in a repair center. End users should not perform these procedures.
- Please note during servicing that the primary side is the high voltage area.
- This monitor meets ROHS requirements. Be sure to use lead-free solder wire when soldering.
- If you must change a capacitor, be sure to match the polarity as printed on the PCB.
- If you must replace a capacitor, make sure the specification and part number match the BOM and location.

- If you must replace a capacitor, insert new parts carefully to avoid a short circuit caused by the near pin.
- Do not get the board wet. Water and moisture can cause a short circuit that causes malfunctions.
- To avoid damage, be sure to use lead-free solder.
- When soldering, work quickly to avoid overheating the circuit board.
- Keep the soldering iron tip clean and well tinned when replacing parts.
- After repair, perform a close inspection of the circuit board to confirm it is in good condition.
- After repair, perform a function test to confirm the power supply is working properly.

ERP Lot5 requirement

1. A professional repairer must have the technical competence to repair electronic displays and comply with the applicable regulations for repairers of electrical equipment in the Member States where the repairer operates. Reference to an official registration system as professional repairer, where such a system exists in the Member States, shall be accepted as proof of compliance.

2. A professional repairer must have insurance that covers liabilities resulting from repairs, regardless of whether required by the Member State.

RoHS (2002/95/EC) requirements

Applied to all countries that require RoHS.

The RoHS (Restriction of Hazardous Substance in Electrical and Electronic Equipment Directive) is a legal requirement by the EU (European Union) for the global electronics industry sold in the EU and other countries. Any electrical and electronics products launched in the market after June 2006 should meet this RoHS requirement. Products launched in the market before June 2006 are not required to be compliant with RoHS parts. If the original parts are not RoHS complaint, the replacement parts can be non-ROHS complaint. If the original parts are RoHS compliant, the replacement parts MUST be RoHS complaint.

If product service or maintenance requires replacing parts, confirm the RoHS requirement before replacement.

General descriptions

This manual contains general information. There are two levels of service:

Level 1: Cosmetic/appearance/alignment service

Level 2: Circuit board or standard parts replacement

Firmware updates

Firmware updates for the monitor are available at <u>support.hp.com</u>. 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:

- 47 cm (18.5-inch) diagonal viewable screen area with 1366 x 768 resolution, plus full-screen support for lower resolutions; includes custom scaling for maximum image size while preserving original aspect ratio
- 49.5 cm (19.5-inch) diagonal viewable screen area with 1600 x 900 resolution, plus full-screen support for lower resolutions; includes custom scaling for maximum image size while preserving original aspect ratio
- Anti-Glare panel with an LED backlight
- Wide viewing angle to allow viewing from a sitting or standing position, or when moving from side to side (select products only)
- Tilt capability
- VGA video inputs (select products only)
- HDMI (High-Definition Multimedia Interface) video input (select products only)
- Plug-and-play capability if supported by your operating system
- Cable management feature for placement of cables and cords
- Security cable slot on the rear of the monitor for an optional security cable
- On-Screen Display (OSD) adjustments in several languages for easy setup and screen optimization
- HDCP (High-Bandwidth Digital Content Protection) copy protection on all digital inputs (HDMI model only)
- 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**.

Button components

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



Compo	nent	Function
1	Menu/Select	Opens the OSD menu or selects items on the OSD menu.
2	Auto Adjustment /Minus	Auto Adjustment: If the OSD menu is inactive, press to do an auto adjustment from a VGA.
		Minus: If the OSD menu is open, press to navigate backward through the OSD menu and decrease adjustment levels.
3	Viewing Modes / Plus	Viewing Modes: If the OSD menu is inactive, press to activate the Viewing Modes to choose different video settings.
		Plus: If the OSD menu is open, press to navigate forward through the OSD menu and increase adjustment levels.
5	Brightness /Exit	Brightness: If the OSD menu is inactive, press to activate the Brightness to adjust brightness.
		Exit: If the OSD menu is open, press to save any changes made, and exit the OSD menu.
5	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.

V19



Table 1-2: Rear components and their descriptions

Component		Function
1	Power connector	Connects the power cable to the monitor
2	VGA connector	Connects a VGA cable to the source device.
3	Security cable slot	Connects an optional security cable

P19b G4 & V20/P204v



Table 1-3: Rear components and their descriptions



Rear component location showing of V20/P204v

Compo	nent	Function
1	Power connector	Connects the power cable to the monitor
2	HDMI connector	Connects an HDMI cable to the source device.
3	VGA connector	Connects a VGA cable to the source device.
4	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):

V19

Spec label



Spec label for Worldwide region of V19

Barcode label



\sim 47 cm(18.5 in.) LCD Color Monitor 彩色液晶顯示器 / 彩色液晶显示器 Regulatory Model No. / 認證型號 / 规定型号 /²² [일명: HSD-0060-F Input Rating / 輸入規格 / 输入规格: 100-240V ~ 1.0A(1,0A) 50/60Hz Made in China / 제全: 53 / 中國製造 / 中国制造 為防止電擊之危險 請勿任意打開後蓋 为防止电击之危险 请勿任意打开后盖 警告 Warning Warnung \mathbb{A} Serial No./序號/序号: 3CQ9970001 3CQ9970001 ent electric shock, do not remove covert ent electric shock, do not remove covert en Sie nicht den Deckel, um einen elektrischen Schlag zu vermeiden! viter toute électrocution, ne pas démonter le capot! vitar descargas electricas, no quite la tapa! PARA USO DOMESTICO O PARA USO EN OFICINA] CAN ICES-3(B)/NMB-3(B) Consumo de energia: 8 Wh Product No.: 9TY83AA 9TY83A7 9TY83AB 9TY83A8 IS 13252 (Part 1) /IEC 60950-1 Manufactured/ 製造日期/制造日期/제本년월일: January 2020 8 Assembly Part No.: L95410-001 L95709-001 Spares No.: R-41082635 Rev.: ITT111 www.bis.gov.in 3C017MT00-xxx-G(A)xx

Barcode label for India region of V19

P19 G4

Spec label

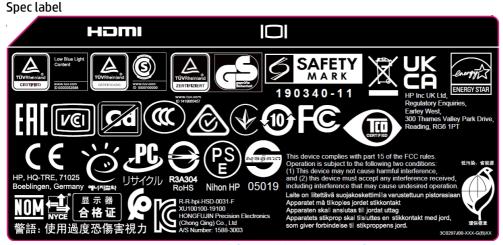


Barcode label



Barcode label for India region of P19b G4

V20



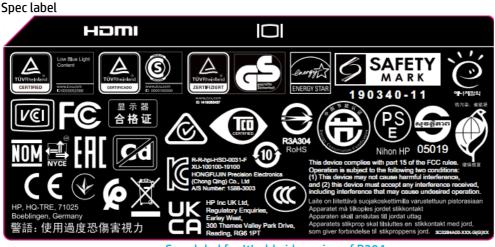


Bar code label



Barcode label for India region of V20

P204v



Spec label for Worldwide region of P204v

Bar code label



Barcode label for Worldwide region of P204v

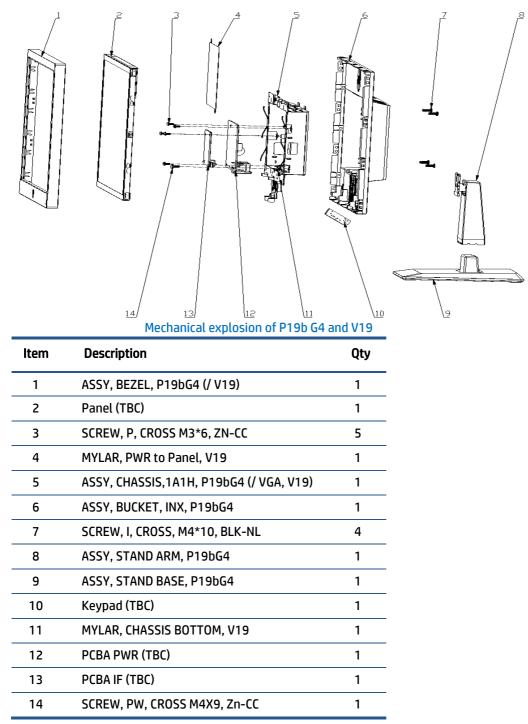


Barcode label for India region of P204v

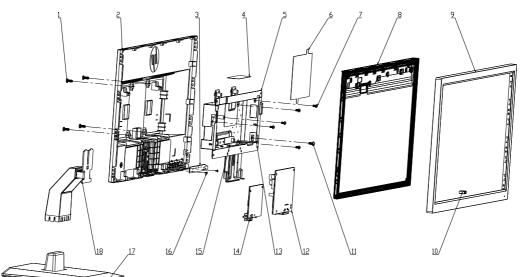
3 Illustrated parts catalog

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

P19b G4 and V19



V20/P204v



Mechanical explosion of V20

ltem	Description	Qty
1	SCREW, I, CROSS, M4*10, BLK-NL	4
2	ASSY, BUCKET, CMI, P204v	1
3	Keypad (TBC)	1
4	MYLAR, CHASSIS MAIN, P174, TOP 2	1
5	ASSY, CHASSIS, P204v	1
6	MYLAR, POWER BOARD AND PANEL, P174	1
7	SCREW, P, CROSS M3*6, ZN-CC	5
8	PANEL (TBC)	1
9	ASSY, BEZEL, CMI, P204	1
10	RUBBER FOR LENS, BLACK, P204, HF	1
11	SCREW, PW, CROSS M4X9, Zn-CC	1
12	PCBA PWR (TBC)	1
13	MYLAR, CHASSIS SAFETY 1, ISLAND, P174	1
14	PCBA IF (TBC)	1
15	MYLAR, CHASSIS SAFETY 2, ISLAND, P174	1
16	SCREW I CROSS T-T2*4 LE14JT-71L HF	2
17	ASSY, STAND BASE, P204	1
18	ASSY, STAND ARM, P204	1

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	Remark
PCBA, PI/BD, W/OSPK, LP19S5-	M84525-001	790RP1400D00R01	P19b G4-BOE
D18/P19b G4/R	1104323 001		
PCBA, PI/BD, W/OSPK, LP19S5-	M84526-001	790RP1400600R01	P19b G4-INL
618/P19b G4/R	1104320-001	790821400000801	
PCBA, PI/BD, W/OSPK, LP19S4-	M94076-001	790RM1400D00R01	V19-B0E
D10/P19v G4/R	M94070-001	7500000000	
PCBA, PI/BD, W/OSPK, LP19S4-	M94076-002	790RM1400600R01	V19-INL
610/P19v G4/R	M94070-002	790801400000801	
PCBA, PI/BD, W/OSP, LE20RQ-	M90741-001	790QF1400701H01	V20/P204v-AU0
71G/P204v/HF/ES8	190741-001	/ 500[1400/01001	
PCBA, PI/BD, W/OSP, LE20RQ-	M90742-001	7900F1400601H01	V20/P204v-INL
61G/P204v/HF/ES8	190742-001		

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

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

Capacitors by distributor

Component description	Location	Component distributor	Distributor part number
Capacitor 680 µF 10*12.5 10K		Farnell	16ZLH680MEFC10X12.5
Capacitor 680 µF 10*12.5 6K	C873		16ZLS680MEFC10X12.5
Capacitor 680 µF 10*12.5 10K		RS	16ZLH680MEFC10X12.5

Connectors by manufacturer

Component description	nponent description Location identifier		Distributer part number
HDMI Port	CN301	Farnell	208658-1051
VGA Port	CN201	Digi-Key	193-015-213R531-ND

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 <u>https://partsurfer.hp.com/Search.aspx.</u>

NOTE: HP continually improves and changes product parts. For complete and current information about supported parts for your computer, go to <u>http://partsurfer.com</u>, 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:

				Ť
				35mm
				¥
				1
				20mm
	_			<u> </u>
	 	6	80mm	

Rear Cover

Before removing the Rear Cover, follow these steps:

Prepare the monitor for disassembly. See Preparation for disassembly on page 14.

Remove the Rear Cover of P19b G4&V19:

1) Remove four screws from the rear case.



Remove the rear cover screws

2) Insert the scraper bar tool into the gap between the front bezel and rear case. The hook opens. Repeat the steps.



Separate the front bezel and rear case

3) Turn over rear cover and disconnect the terminal.



Separate the cable

4) Peel off the cable from rear cover, unfix two screws.



Separate keyboard from rear cover

5) Peel off all aluminum foils and tapes, disconnect the cables.



Separate taps and cable

- 6) Take out chassis and panel.
- 7) Take away the mylar. Unscrew two bolts and six screws.



Separate screws from PCBA board

8) Take out power board and IF board, and then disconnect the terminals



Separate PCBA from chassis

Remove the Rear Cover of V20/P204v:

1) Remove four screws from the rear case.



Remove the rear cover screws

2) Insert the scraper bar tool into the gap between the front bezel and rear case. The hook opens. Repeat the steps.



Separate the front bezel and rear case

3) Turn over rear cover and disconnect the terminal.



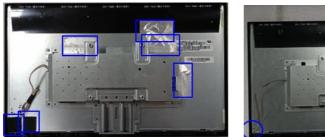
Separate the cable

4) Peel off the cable from rear cover, unfix two screws.



Separate keyboard from rear cover

5) Peel off all aluminum foils and tapes, disconnect the cables.





Separate taps and cable

6) Take out chassis and panel.



Take off the rubber on bezel

7) Take away the mylar. Unscrew two bolts and six screws.



Separate screws from PCBA board

8) Take out power board and IF board, and then disconnect the terminals



Separate PCBA from chassis

Power board

The power board part number is 790**1400***H01*.

Before removing the power board, follow these steps:

▲ Prepare the monitor for disassembly. See Preparation for disassembly on page 14.

Remove the power board:

1) The power board connector position is as follows:



Power Board location showing of connector

CN4 Foxconn P/N: 3406BA900-39U-H CN851 Foxconn P/N: 3406BA900-39U-H 2) Locate the part number location on the board



Part number location of power board

3) Remove the backlight cable and main board.



Remove the backlight cable and main board

Connector repair

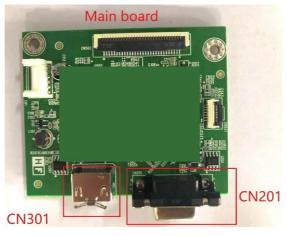
This procedure includes VGA and HDMI connectors.

The connectors are on the main board (board part number **V19**:790RQ1300***R01; **V20/P204**v: 790S71300***H01; **P19b:** 790RP1300***H01).v

P19b G4/V20/P204v

The connectors identifiers are as follows:

Connector	Location
HDMI Port	CN301
VGA Port	CN201



Connector location of Mainboard

Before repairing connectors, follow these steps:

▲ Prepare the monitor for disassembly. See Preparation for disassembly on page 14.

VGA connector CN201

Repair the VGA 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 CN201 out of the through holes.



Take off VGA connector

- 2) Lift the CN201 connector from the PCB.
- 3) Place the new component on the circuit board. Be sure that it matches the footprint.
- 4) Solder the new component.

HDMI connector CN301

Repair the HDMI 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 CN301 out of the through holes.



Take off HDMI connector

- 2) Lift the CN301 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.

V19

The connectors identifiers are as follows:

Connector	Location
VGA Port	CN201



Connector location of Mainboard

Before repairing connectors, follow these steps:

▲ Prepare the monitor for disassembly. See Preparation for disassembly on page 14.

VGA connector CN201

Repair the VGA 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 CN201 out of the through holes.



Take off VGA connector

- 2) Lift the CN201 connector from the PCB.
- 3) Place the new component on the PCB. Be sure that it matches the PCB footprint.
- 4) Solder the new component.

Function test

After repair, be sure to confirm that all functions are working.

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 correctly on the monitor.	Computer or DVD player

Table 4-1: Function test

Support and troubleshooting

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

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.

Table 4-2: Solving common problems

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