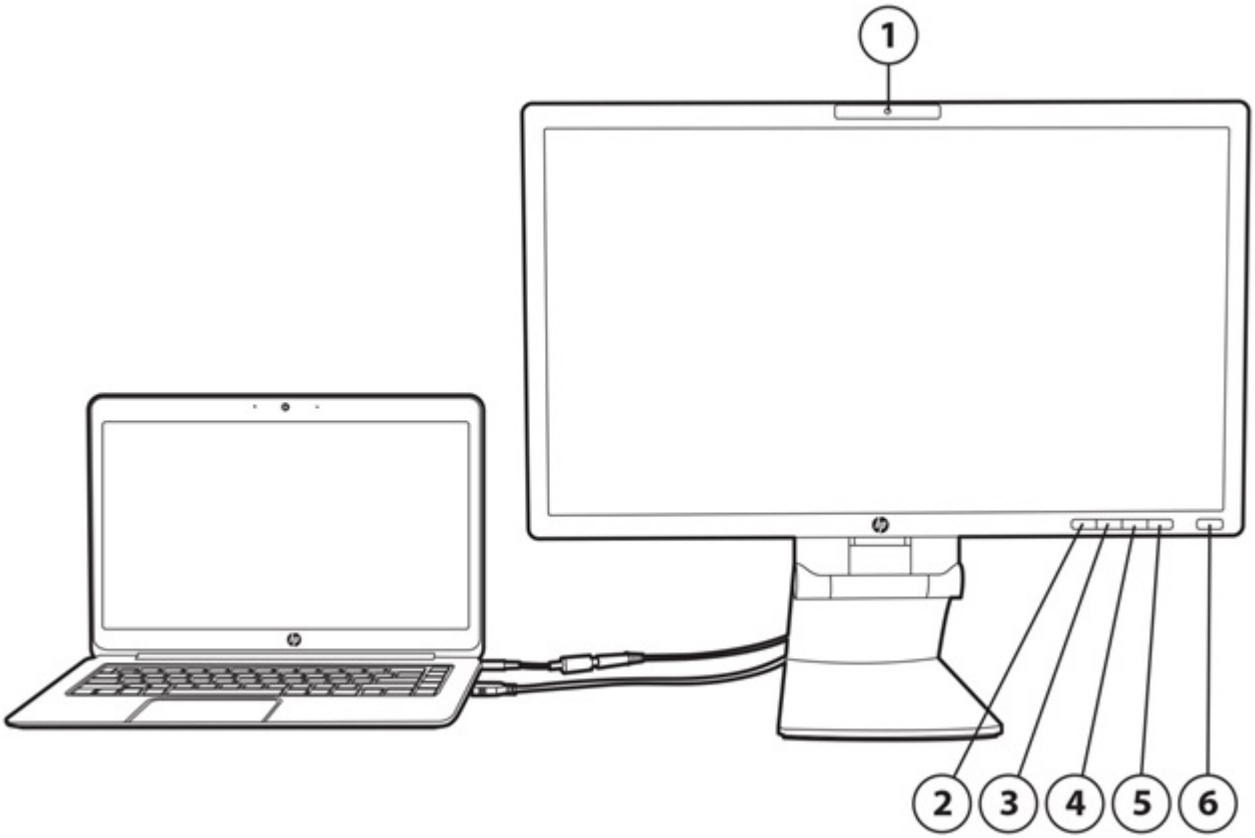
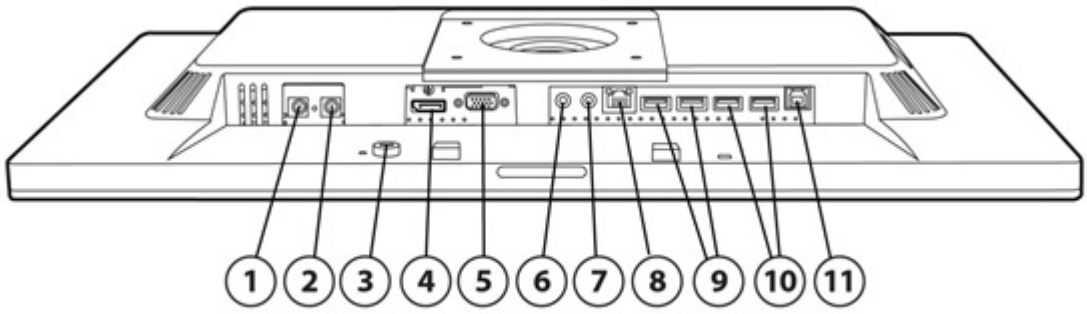
Overview



1.	**Webcam and Microphones**	720p HD Webcam, LED lights up when webcam is in use and dual microphones	**4.**	**Plus/source**	If the OSD menu is on, press to navigate forward through the OSD menu and increase adjustment levels. If the OSD menu is inactive, press to activate the source button that chooses the video signal input (DisplayPort, USB or VGA).
2.	**Menu**	Opens, selects or exits the OSD menu.	**5.**	**OK/auto**	If the OSD menu is on, press to select the highlighted menu item. If the OSD menu is inactive, press to activate the auto adjustment feature to optimize the screen image. The auto adjustment feature only functions if the active adjustment feature is VGA.
3.	**Minus**	If the OSD menu is on, press to navigate backward through the OSD menu and decrease adjustment levels.	**6.**	**Power and Power LED**	Turns the monitor on or off. White = Fully powered. Amber = Sleep mode. Flashing Amber = Sleep Timer mode.

NOTE: Shown with HP Business Notebook (notebook sold separately).

Overview



1. DC Power in
2. DC power out
3. Lock slot
4. DisplayPort
5. VGA connector
6. Headphones out
7. Audio in
8. RJ-45 (network) jack
9. USB 2.0 downstream (2)
10. USB 3.0 downstream (2)
11. USB 3.0 upstream

Model

F3J72AA

Introduction

Create an instant workspace driven by a 23-inch diagonal IPS display with the HP EliteDisplay S231d 23-in IPS LED Backlit Notebook Docking Monitor. With one USB cable connection from your notebook to your display, you can immediately access the network, the display's integrated collaboration tools, and your peripherals, and get to work. Charge your HP Notebook battery and power your HP Notebook through the display's DC power cable.[1]

Key Benefits

- Collapse a desk full of docking stations and power cables into one efficient hub with a display that delivers network connectivity, port replicator expansion for your peripherals, and HP Notebook charging.
- View all the stunning details on a 23-inch diagonal display with 1920 x 1080 full HD resolution, wide viewing angle IPS, 250 cd/m^2 brightness, 1000:1 contrast ratio, 5 M:1 dynamic contrast ratio, and 7 ms response time.
- Quickly connect and collaborate and optimize your virtual communication technologies with an integrated webcam, speakers, and dual microphones.
- Find your sweet spot with customizable tilt, height adjustment, swivel, and pivot settings-the most adjustability available on an HP business display
- Reduce power consumption and help lower your costs with an intelligent, energy-efficient design that is ENERGY STAR® and TCO qualified, meets TCO Certified Edge requirements, and EPEAT® Gold[3] registered.

*Battery charging capability for HP Commercial Notebooks up to 90W, EliteBook Mobile Workstations will have pass through power capability only.

Technical Specifications

Panel	**Type**	IPS (In Plane Switching) LED Backlit LCD panel
	Viewable Image Area (diagonal)	**58,42 cm** (23.0 in.) widescreen; diagonally measured
	Panel Active Area (W x H)	**50,9 x 28,64 cm** (20.03 x 11.27 in.)
	Aspect Ratio	16:9
	Viewing Angle (typical)	Up to 178° horizontal/178° vertical (10:1 minimum contrast ratio)
	Brightness (typical)*	250nits (cd/m^2)
	Contrast Ratio (typical)*	1,000:1
	Dynamic Contrast Ratio (typical)*	5,000,000:1
	Response Rate (typical)*	7 ms (gray to gray)
	Pixel Pitch	0.265 mm
	Backlight Lamp Life (to half brightness)	30,000 hours
	Color Gamut (typical)	72%
	Color Support**	Can display up to 16.7 million colors
	*All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower. ** With the use of FRC technology.	
On Screen Display (OSD) Controls	**Buttons or Switches**	Menu; Minus ("-"); Plus ("+") /Source; OK/Auto; Power
	Languages	English, French, Spanish, Italian, German, Nederlands, Japanese, Traditional Chinese, Simplified Chinese, Brazilian Portuguese
	User Controls	Brightness, Contrast, Color, Image Control, OSD Control, Management features, Language, Input Select, Information and Factory Reset.
Signal Interface/ Performance	**Horizontal Frequency**	24 to 80 kHz
	Vertical Frequency	50 to 60 Hz
	Native Resolution	1920 x 1080 @ 60 Hz
	Preset VESA Graphic Modes (non-interlaced)	1920 x 1080 @ 60 Hz 1680 x 1050 @ 60 Hz 1600 x 900 @ 60 Hz 1440 x 900 @ 60 Hz 1280 x 1024 @ 60 Hz 1280 x 720 @ 60 Hz 1024 x 768 @ 60 Hz 800 x 600 @ 60 Hz 720 x 400 @ 70 Hz 640 x 480 @ 60 Hz
	Maximum Pixel Clock Speed	170MHz

Technical Specifications

	User Programmable Modes	Yes (10)	
	Anti-Glare	Yes	
	Default Color Temperature	Standard (6500K)	
Video/Other Inputs	**Plug and Play**	Yes	
	Input Connectors (Video)	(1) USB 3.0 upstream (interface to notebook); (1) VGA (analog); (1) DisplayPort 1.2	
	Sync Input	TTL separate synch	
	Video Cable*	(1) USB 3.0 included, (1) VGA cable, (1) DisplayPort cable * Included cables may vary by region.	
	Video Cable Length	**1,8 m** (5.9 ft.)	
	Audio	(1) Audio in; (1) Headphone/line out	
	USB	4 total USB ports: (2) USB 3.0 ports; (2) USB 2.0 downstream ports	
	Network	(1) RJ-45 Network in	
	Webcam	Built-in 720p HD Webcam w/ dual mic and LED	
Power	**Type**	External	
	Input Power	100 - 240 VAC, 50 - 60 Hz	
	Typical Power Consumption	38W	
	Maximum	60W	
	Power Saving	2.2W standby	
	Power Cable Length	**(1,8 m)** 5.9 ft or **(1,83 m)** 6 ft*, included * Included cables may vary by region.	
	Notebook charging	Built-in HP Business Notebook charger with HP Smart AC Technology to power and charge HP notebooks (up to 90W)* * Pass through power only for HP Commercial Notebooks above 90W	
	Charging Power cable length	1.8 m (5.9 ft.)	
Mechanical	**Dimensions** (W x D x H)	**Unpacked w/ stand**	**54,4 x 24,24 x 46,99 cm** (21.41 x 9.54 x 18.5 in)
		Unpacked w/o stand (head only)	**54,4 x 5,1 x 32,9 cm.** (21.41 x 2 x 12.95 in.)
		Packaged	**62 x 18,3 x 51,8 cm.** (24.41 x 7.2 x 20.39 in.)
	Weight	**Head only**	**3,87 kg** (8.54 lb.)
		Unpacked	**6,12 kg** (13.5 lb.)
		Packaged	**8,66 kg** (19.1 lb.)
	Tilt Range	-5° to +30°	
	Swivel Range	Yes (360°)	
	Height Adjustable	Yes, 150 mm	
	Pivot Rotation	Yes	

Technical Specifications

	Base	Attached
Environmental	**Temperature – Operating**	**5° to 35° C** (41° to 95° F)
	Temperature– Non-operating	**-20° to 60° C** (-4° to 140° F)
	Humidity – Operating	20% to 80% non-condensing
	Humidity – Non-operating	5% to 95%, 38.7° C max wet-bulb
	Altitude – Operating	**0 to 5000 m.** (16,404 ft.)
	Altitude – Non-operating	**0 to 12192 m.** (40,000 ft.)
	White LED Backlights	Yes
	CCFL Panel	No
	Arsenic-Free Display Glass	Yes
	Low Halogen[3]	Yes
	Mercury-Free Display Backlighting	Yes

Environmental Data

Eco-Label Certifications & declarations

This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:

- IT ECO declaration
- US ENERGY STAR®
- TCO 6.0 and TCO Certified Edge
- EPEAT® Gold registered in the United States. See http://www.epeat.net for registration status in your country

Energy Consumption (in accordance with US ENERGY STAR® test method)

	115VAC, 60Hz	**230VAC, 50Hz**	**100VAC, 60Hz**
Normal Operation	19.37 W	19.52 W	19.38 W
Sleep	1.72 W	1.77 W	1.72 W
Off	0.35 W	0.37 W	0.33 W

Heat Dissipation*	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 60Hz**
Normal Operation	66 BTU/hr	67 BTU/hr	66 BTU/hr
Sleep	6 BTU/hr	6 BTU/hr	6 BTU/hr
Off	1 BTU/hr	1 BTU/hr	1 BTU/hr

* Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

Additional Information

- This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2002/95/EC.
- This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive - 2002/96/EC.
- This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).
- This product is in compliance with the IEEE 1680 (EPEAT) standard at the

gold level, see www.epeat.net

- Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.
- This product contains 13.9% post-consumer recycled plastic (by wt.)
- This product is 98.9% recycle-able when properly disposed of at end of life.

Packaging Materials	**External:**	PAPER/Cardboard & misc	430 g
	Internal:	PLASTIC/EPS (Expanded Polystyrene)	372 g
		PLASTIC/Polyethylene low density	10 g

RoHS Compliance

Hewlett-Packard is committed to compliance with all applicable environmental laws and regulations, including the European Union Restriction of Hazardous Substances (RoHS) Directive. HP's goal is to exceed compliance obligations by meeting the requirements of the RoHS Directive on a worldwide basis. By July 1, 2006, RoHS substances will be virtually eliminated (virtually = to levels below legal limits) for all HP electronic products subject to the RoHS Directive, except where it is widely recognized that there is no technically feasible alternative (as indicated by an exemption under the EU RoHS Directive).

Material Usage

This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at: http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf):

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants - may not be used as flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Nickel - finishes must not be used on the external surface designed to be frequently handled or carried by the user.
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) - except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

Packaging

HP follows these guidelines to decrease the environmental impact of product packaging:

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

Hewlett-Packard Corporate Environmental Information

For more information about HP's commitment to the environment:

Global Citizenship Report
http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html
Eco-label certifications
http://www.hp.com/hpinfo/globalcitizenship/environment/productdesign/ecolabels.html
ISO 14001 certificates:
http://www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html

Options

HP USB Graphics Adapter-Part number NL571AA	Enables connection of up to six simultaneous displays to help you boost productivity and multi-task across several open applications. Use one Adapter to bridge between a notebook or desktop PC and second monitor or use multiple Adapters to connect several displays to each other.
HP Dual Output USB Graphics Adapter -Part Number C5U89AA	You can boost your productivity by creating a dual-monitor setup with the HP Dual Output USB Graphics Adapter - featuring both DVI-I and DisplayPort inputs to drive displays at high resolutions through a single USB 3.0 connection to your PC.
HP LCD Monitor Quick Release-Part number EM870AA [1]	An easy-to-use, VESA-compliant, LCD monitor mounting solution that allows you to quickly and securely attach an LCD monitor to a variety of stands, brackets, arms or wall mounts.

Technical Specifications

	HP LCD Speaker Bar-Part number NQ576AA	Powered directly by the connected PC, the Speaker Bar seamlessly attaches to the monitor's lower bezel to bring full audio support to select HP flat panel monitors. Features include dual speakers with full sound range and dual external headphone jacks. Sold separately. For more information, refer to the product's QuickSpecs.
	HP Single Monitor Arm-Part number BT861AA	The flexible design of the HP Single Monitor Arm provides a seemingly endless range of display adjustments with an amazing 13 inches of lift, 50 degrees of tilt, and 360 degrees of pan and rotation - all at your fingertips -- helping you stay comfortable and productive throughout the day.
	HP Adjustable Dual Display Stand-Part Number AW664AA	Premium space-saving dual screen solution provides access to more monitor real estate and makes it possible to manage multiple applications simultaneously. Weight adjustable for dual monitors from 17-24". Rotate displays into portrait/landscape positions.
	HP Display and Notebook II Stand-Part number E8G00AA	Quickly and easily create a comfortable workspace for your notebook or notebook and docking station and an external display with the HP Display and Notebook II Stand, which brings your notebook PC, docking station, and display up off the desk.
	HP Adjustable Display Stand-Part number AW663AA	Turn your HP Business Notebook into a desktop solution supporting up to a 24 inch display. A dual-hinged, smooth-motion display stand allows for greater depth, height and tilt adjustment for maximum comfort.
	HP Business Digital Headset - Part number QK550AA	A headset that is perfect for call centers, telephone-intensive jobs, or casual use while working at your desk. The over-the-head flexible design includes light padding, full size leather ear phones and a mounted microphone boom.
What's in the box?	**Monitor and Accessories**	HP EliteDisplay S231d 23-in IPS LED BLU Notebook Docking Monitor, External power supply (150W), USB cable, DC power cable, VGA cable, DisplayPort cable, DC jack dongle cable and rubber ring, webcam rubber cover
	Documentation	CD (includes user guide, warranty, drivers) Hard copy warranty booklet (Country specific)
	Featured Software	HP Display Assistant is a software utility that enables theft deterrence and allows monitor adjustment, color calibration, and security/asset management using the Display Data Channel Command Interface (DDC/CI) protocol of the connected PC or workstation.
Other	**User Guide Languages**	English, Danish, Dutch, Finnish, French, German, Italian, Norwegian, Spanish (International), Swedish, Czech, Greek, Hungarian, Polish, Russian, Slovenian, Turkish, Arabic, Portuguese (Brazilian), Bahasa Indonesia, T. Chinese, S. Chinese, Japanese
	Warranty Languages	English, German, French, Italian, Turkish, Greek, Arabic, Hungarian, Czech, Russian, Polish, Japanese, Dutch, Danish, Finnish, Portuguese, Norwegian, Swedish, T. Chinese, Korean, Slovenian, Bahasa, Spanish
	Color	Black
	VESA External Mounting	Yes (one set of standard 4-hole pattern, 100 mm).
	Security Lock-Ready	Yes
Certification and Compliance	CB, CE, TUV-S, EAC, CUL, FCC, CSA, NOM, S-Mark, VCCI, PSB, ISC, CCC, BSMI, C-Tick, E-Standby, KC, CECP, ENERGY STAR®, EPEAT Gold®[7], CEL Grade 1, TCO Certified Edge, TCO Certified, SmartWay Transport Partnership (NA only), Microsoft WHQL.	
Operating System Support	Windows 8.1 Pro (32-bit or 64-bit)* Windows 8.1 (32-bit or 64-bit)*	

Technical Specifications

	Windows 8 Pro (32-bit or 64-bit)* Windows 8 (32-bit or 64-bit)* Windows 7 Ultimate (32-bit or 64-bit)** Windows 7 Professional (32-bit or 64-bit)** Windows Vista with Service Pack 1 or 2 (32-bit or 64-bit) *Not all features are available in all editions of Windows 8 and 8.1. Systems may require upgraded and/or separately purchased hardware, drivers and/or software to take full advantage of Windows 8.1 functionality. See http://www.microsoft.com. **Not all features are available in all editions of Windows 7. This system may require upgraded and/or separately purchased hardware to take full advantage of Windows 7 functionality. See http://www.microsoft.com/windows/windows-7/ for details.
Compatibility - USB	Compatible with notebook platforms configured with either USB 2.0 or USB 3.0 ports
Compatibility - Power Charging	Compatible with any HP Commercial Notebook configured with Smart AC 3-Pin connector[4]
Service and Warranty	Protected by HP, including a 3 year standard limited warranty. Optional Care Pack Services are extended service contracts which go beyond your standard warranties.[2]

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1. The HP Quick Release has been designed to support a maximum of up to 24 lbs (10.9 kg) for all devices mounted. Because mounting surfaces vary widely and the final mounting method and configuration may vary, mounting fasteners are not supplied (other than the VESA-compliant screws). HP recommends that you consult with a qualified engineering, architectural or construction professional to determine the appropriate type and quantity of mounting fasteners required for your application and to ensure that your mounting solution is properly installed to support applied loads.
2. HP Care Pack Services extend service contracts beyond the standard warranties. Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts from date of hardware purchase. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: http://www.hp.com/go/lookuptool. Additional HP Care Pack Services information by product is available at: http://www.hp.com/hps/carepack.
3. External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.
4. HP Smart AC Technology will charge HP notebooks up to 90W and only allow power pass through for HP Notebooks above 90W.
5. 17 to 24-inch diagonal monitors need to meet supported weight limits of 6 to 12.1 lbs. (2.7to 5.5 kg).
6. The Integrated Work Center Stand has been designed to support 17 to 24-inch diagonal HP LCD monitors from 2.3 kg to 5.2 kg (5.07 lbs to 11.24 lbs).
7. EPEAT® Gold where HP registers commercial display products. See www.epeat.net for registration status in your country.

All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower. 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.