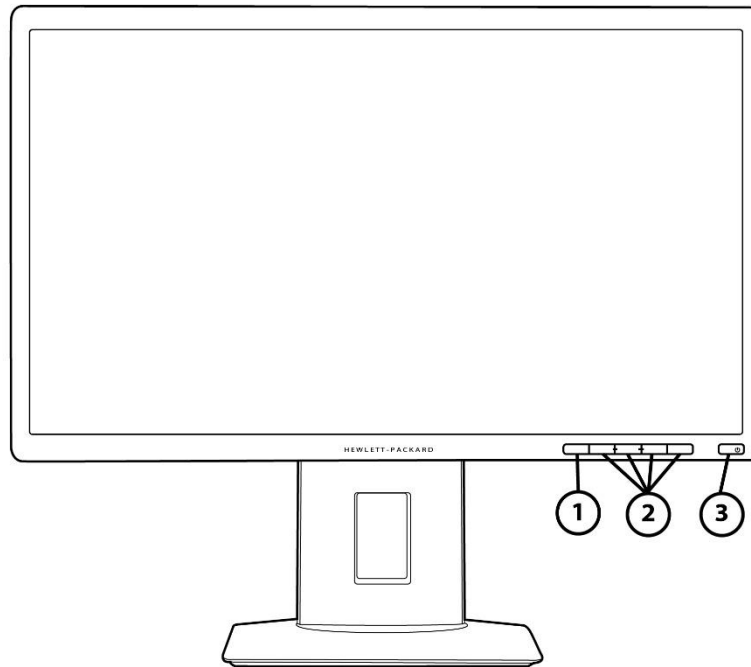


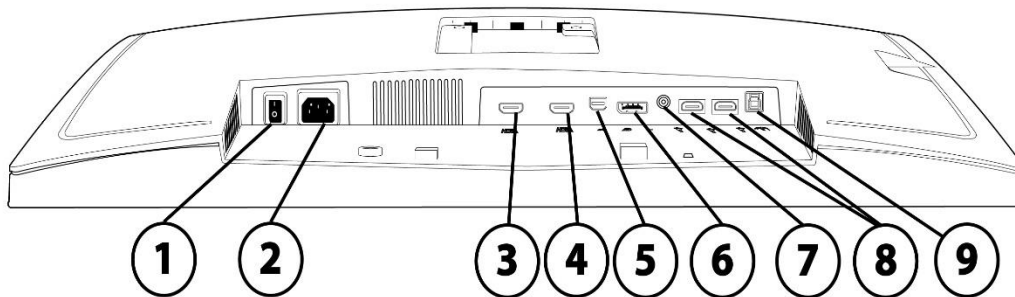
Overview

HP Z24s 23.8-inch IPS UHD Display



- 1. Menu button
- 2. 4-button OSD

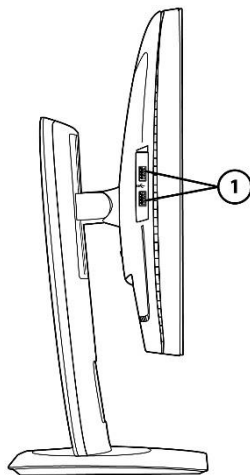
- 3. Power button



- 1. Master power switch
- 2. Power connector
- 3. HDMI v 1.4 input (MHL 2.0)
- 4. HDMI v 1.4 input
- 5. Mini-DisplayPort

- 6. DisplayPort v 1.2
- 7. Audio Output 3.5 mm
- 8. (2) USB 3.0 downstream
- 9. USB 3.0 upstream port

Overview



1. USB 3.0 downstream

Overview

Enjoy an ultra-affordable, ultra high-definition /4K¹ experience with the HP Z24s 23.8-inch IPS UHD Display.

Key features:

- Get massive 3840 x 2160 resolution,¹ 185 ppi, and sRGB color gamut for your demanding digital workflows.
- Connect your display to a workstation, PC, and range of digital video devices.
- Instantly mirror your smart phone or tablet content and charge your devices through MHL.²
- Boost your productivity with more expansive views of your projects, documents, and media with 8 million pixels—4x that of a Full HD display.
- Find your most comfortable viewing position with 4-way ergonomic adjustability.
- Get award-winning service and support, and extend your protection with optional HP Care Packs.⁴
- Reduce power consumption and help lower your costs with an energy-efficient design.

¹ 4K content required.

² MHL 2.0 port will charge a MHL compatible smart phone and tablet battery. Includes a DisplayPort to HDMI dongle to increase connect flexibility. Requires the smart phone or tablet to be enabled for MHL or have an HDMI dongle to connect to the monitor. See your mobile device specifications. Max display resolution is Full HD.

³ Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit www.hp.com/go/cpc. HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.

Technical Specifications

Models: J2W50A4

Panel	Type	23.8-inch IPS w/LED backlight
	Viewable Image Area (diagonal)	60,45 cm (23.8-inch) widescreen; diagonally measured
	Panel Active Area (W × H)	52,7 x 29,64 cm (20.74 × 11.66 in)
	Resolution	3840 x 2160 @ 60 Hz (30Hz max for HDMI)
	Aspect Ratio	16:9
	Viewing Angle	Up to 178° horizontal/178° vertical typical
	Brightness	300 cd/m ² (custom color)
	Contrast Ratio (Typical)	1000:1 Static; 5,000,000:1 Dynamic (DCR)
	Response Times*	14 ms gray-to-gray
	Pixel Pitch	0.137 mm
	Pixels Per Inch (PPI)	185.4
	Backlight Lamp Life (to half brightness)	30,000 hours minimum
	Color Support	8-bit color depth + A-FRC
	Color Gamut (Typical)	99.8% sRGB
<p>* Performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.</p>		
User Controls	Buttons or Switches	Menu, 4-button OSD and Power
	Languages	10 (English, Spanish, German, French, Italian, Netherlands, Portuguese, Japanese, T-Chinese and S-Chinese)
	On Screen Display (OSD) User Controls	Luminance, Color Control, Image Control, Input Control, PIP Control, Power Control, OSD Control, Management, Language, Information, Reset
	Audio Controls	N/A
Signal Interface/ Performance	Horizontal Frequency	24–135 kHz
	Vertical Frequency	24–60 Hz
	Native Resolution	3840 x 2160 @ 60 Hz (30Hz max for HDMI)
		NOTE: The video card must be capable of supporting 3840 × 2160 – 60Hz to drive the monitor at the Preferred Mode.
	Preset Graphic Modes (non-interlaced)	640 x 480 @ 60Hz 720 x 400 @ 70 Hz 720 x 480 @ 60 Hz

Technical Specifications

		800 x 600 @ 60 Hz	
		1024 x 768 @ 60 Hz	
		1280 x 720 @ 60 Hz	
		1280 x 768 @ 60 Hz	
		1280 x 800 @ 60 Hz	
		1280 x 960 @ 60 Hz	
		1280 x 1024 @ 60 Hz	
		1366 x 768 @ 60 Hz	
		1440 x 900 @ 60 Hz	
		1600 x 900 @ 60 Hz	
		1600 x 1200 @ 60 Hz	
		1680 x 1050 @ 60 Hz	
		1920 x 1080 @ 60 Hz	
		1920 x 1200 @ 60 Hz	
		2560 x 1440 @ 60 Hz	
		2560 x 1600 @ 60 Hz	
		3840 x 2160 @ 24	
		3840 x 2160 @ 30	
		3840 x 2160 @ 60	
	Maximum Pixel Clock Speed	600 MHz	
	Anti-Glare	Yes	
Video/Other Inputs	Plug and Play	Yes	
	Input Connectors	(1) HDMI 1.4, (1) MHL 2.0 ¹ /HDMI 1.4 (1) DisplayPort 1.2, (1) Mini-DisplayPort HDCP support on all inputs	
	USB	Integrated USB 3.0 hub with four downstream connectors	
	Video Cables Included	(1) DisplayPort 1,8 m (5.9 ft) (1) Mini-DisplayPort 1,8 m (5.9 ft) (1) USB 3.0 1,8 m (5.9 ft)	
	Audio	(1) Audio output 3.5mm	
Multimedia	Speakers	N/A	
Power	Power Supply	Internal	
	Input Power	90 - 265 VAC at 45 - 63 Hz	
	Maximum Power	88 W	
	Typical Power	60 W	
	Sleep Power	0.5 W	
	Power Cable Length	1,9 m (6 ft)	
Mechanical	Dimensions (W × D × H)	Unpacked w/stand (highest setting)	55,61 x 21,02 x 52,68 cm (21.9 x 8.3 x 20.7 in)
		Unpacked w/o stand (head only)	55,61 x 6,97 x 33,53 cm (21.9 x 2.7 x 13.2 in)

Technical Specifications

		Packaged	65,5 x 29,9 x 44,5 cm (25.78 x 11.77 x 17.51 in)
	Weight	Head Only	4,3 kg (9.1 lb)
		Unpacked	6,46 kg (14.1 lb)
		Packaged	9,1 kg (20.1 lb)
Ergonomic Features	Detachable Stand	Yes, ships detached	
	Height Adjustment	Yes, 130 mm	
	Tilt Range	-5° to + 35° vertical	
	Swivel	Yes, +/- 45°	
	Pivot	Yes	
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 5,000 m (0 to 16,404 ft)	
	Altitude - Non-operating	0 to 12,192 m (0 to 40,000 ft)	
	White LED Backlights	Yes	
	CCFL Panel	No	
	Arsenic-Free Display Glass	Yes	
	Low Halogen²	Yes (except cables)	
	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

Energy Consumption

(in accordance with US

ENERGY STAR® test method)

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation	43.82 W	44.17 W	44.01 W
Sleep	0.63 W	0.7 W	0.64 W
Off	0.23 W	0.28 W	0.23 W

Heat Dissipation*

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation	150 BTU/hr	151 BTU/hr	151 BTU/hr
Sleep	2 BTU/hr	2 BTU/hr	2 BTU/hr
Off	1 BTU/hr	1 BTU/hr	1 BTU/hr

*NOTE: 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).
- Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.
- This product contains 21.1% post-consumer recycled plastic (by wt.)
- This product is 97.2% recycle-able when properly disposed of at end of life.

Packaging Materials

External:	PAPER/Cardboard & misc	1600 g
Internal:	PLASTIC/EPS (Expanded Polystyrene)	585 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).

Environmental Data

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.

Environmental Data

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 and Accessories

Options	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 DisplayPort Cable Kit —Part number VN567AA	Connects a DisplayPort connector on an HP Business Desktop computer to a DisplayPort connector on a monitor
	HP LCD Monitor Quick Release — Part number EM870AA ⁴	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. For more information, refer to this product's QuickSpecs document.
	HP Business PC Security Lock Kit — Part number PV606AA	Attaches to the rear of the PC with a six-foot steel cable that can be used to secure a PC or peripherals such as mice, keyboards, monitors or USB security devices to protect them against unauthorized removal by physically connecting the system to an anchor point.
What's in the box?	Monitor and Accessories	HP Z24s 23.8-inch IPS UHD Display, AC power cord (1.9m) 6.2 ft, DisplayPort cable (1.8m) 5.9 ft, Mini-DisplayPort to DisplayPort cable (1.8m) 5.9 ft, USB 3.0 cable (1.8m) 5.9 ft
	Documentation	CD (includes user guide, warranty, drivers)
	Software	INF and ICM install files
Other	User Guide Languages	English, Arabic, S. Chinese, T. Chinese, Czech, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Kazakh, Korean, Norwegian, Polish, Brazilian Portuguese, Russian, Slovenian, Spanish, Swedish and Turkish.
	Warranty Languages	English, Arabic, S. Chinese, T. Chinese, Czech, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Kazakh, Korean, Norwegian, Polish, Brazilian Portuguese, Russian, Slovenian, Spanish, Swedish and Turkish.
	Color	Black
	VESA Mounting	100 mm VESA mount
	Security Lock-Ready	Yes
	Country of Origin	China
Certification and Compliance	CEL Grade 1, Microsoft WHQL Certification (Windows 8.1 and Windows 7), CE, CB, KC, KCC, NOM, PSB, ICE, TUV-S, EAC, CCC, EPA, ISC, VCCI, FCC, BSMI	
Compatibility	Compatible with platforms using the VESA standard video modes. Recommended for use with HP products.	
Service and Warranty	Protected by HP, including a 3 year standard limited warranty. Optional HP Care Pack Services are extended service contracts that extend your protection beyond the standard warranties. ³	

Options and Accessories

1. MHL 2.0 port will charge a MHL compatible smart phone and tablet battery. Requires the smart phone or tablet to be enabled for MHL or have an HDMI dongle to connect to the monitor. See your mobile device specifications.
2. External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.
3. Service levels and response times for HP Care Pack Services may vary depending on your geographic location. Service starts from date of hardware purchase. Restrictions and limitations apply. See <http://www.hp.com/go/cpc> for details.
4. 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.

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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.

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Change Log

Change Log			
April 1, 2015	From v1 to v2	Update	Added Environmental Data Chart
May 20, 2016	From v2 to v3	Update	Removed ENERGY STAR and EPEAT references
June 6, 2016	From v3 to v4	Update	Removed TCO references