

Technical Specifications

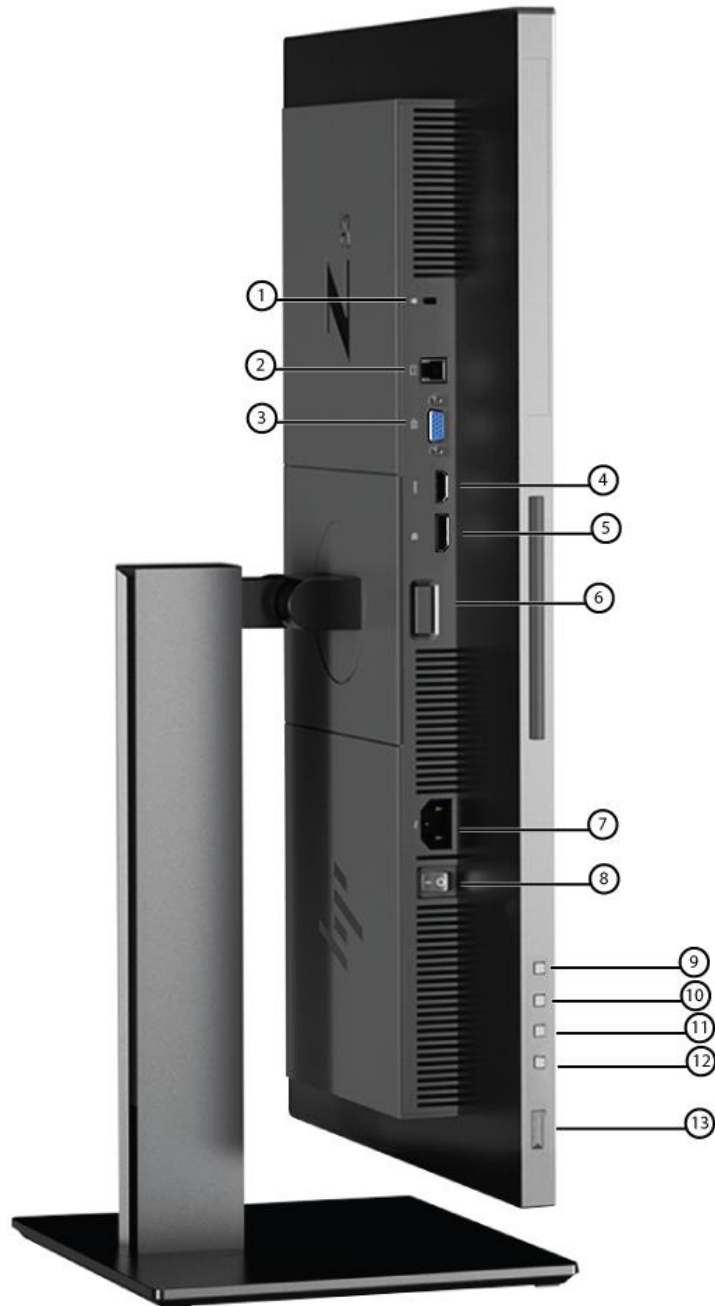
HP Z23n G2 23-inch Display



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|----|--|---|
| 1. | Menu/OK | Press to open the OSD menu, select a menu item from the OSD, or close the OSD menu. |
| 2. | Minus ("−")/Down/Color Control | If the OSD menu is on, press to navigate backward through the OSD menu and decrease adjustment levels. |
| 3. | Plus ("+")/Up/Viewing Mode Menu | 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 Color control selection |
| 4. | Exit/Back/Next Active Input | If the OSD menu is on, press to exit menu
if the OSD menu is inactive, press to activate the source button that chooses the video signal input (VGA, HDMI, or DisplayPort) |
| 5. | Power/Power LED | Turns the monitor on or off.
LED:
fully powered = white;
sleep mode = amber;
sleep timer mode = flashing amber. |

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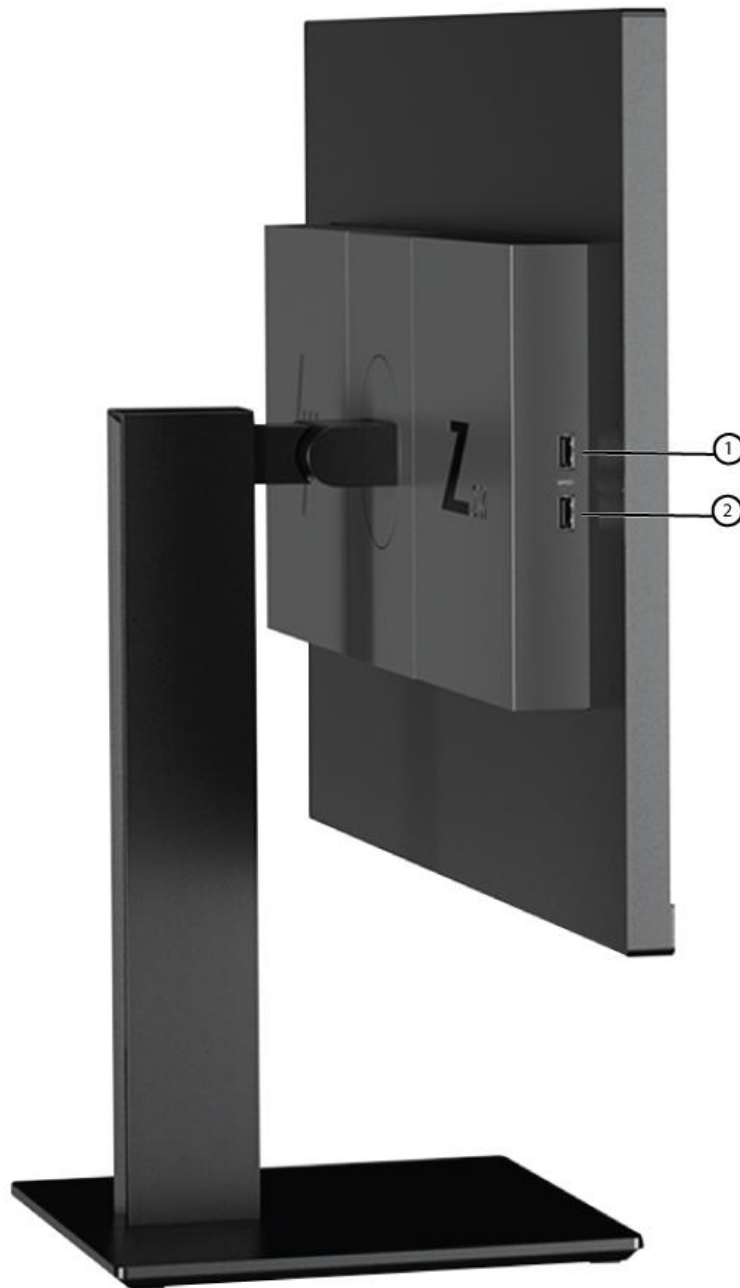
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- | | | |
|------------------------------|--|---|
| 1. Security Lock Slot | 6. Stand Quick Release Button | 11. Minus ("-")/Down/Viewing Models Menu |
| 2. USB 3.0 Upstream | 7. Power Connector Port | 12. Exit/Back/Information |
| 3. VGA Input | 8. Power Switch | 13. Power/Power LED |
| 4. HDMI 1.4 | 9. Menu/OK | |
| 5. DisplayPort™ 1.2 | 10. Plus ("+")/Up/Next Input Port | |

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1. USB 3.0 Type-A
2. USB 3.0 Type-A

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Models: 1JS06A4, 1JS06A8

Panel Specifications	Display Size (Diagonal)	23-inch	
	Viewable Image Area (diagonal)	58,4cm (23 in) widescreen; diagonally measured	
	Display Panel Type	IPS, LED Backlight	
	Micro-Edge Bezel	Yes, 3 sided	
	Panel Hardness	3H	
	Native Resolution/Timing	1920 x 1080 @ 60 Hz	
		Note: The Display can support up to 75Hz refresh for some video modes. The video card of the connected PC must be capable of supporting 75Hz. The preferred Mode is 1920 x 1080 @ 60 Hz.	
	Panel Bit Depth	8 Bit (6 +2 FRC) 16.7 Million colors	
	Aspect Ratio	16:9	
	Brightness* - Typical	250 cd/m ²	
	Static Contrast Ratio* - Typical	1,000:1	
	Dynamic Contrast Ratio* - Typical	10,000,000:1	
	Flicker Free	Yes	
	Pixel Pitch	0.2652 mm	
	Pixels Per Inch (PPI)	96	
	Backlight Lamp Life (to half brightness - in hours)	30,000 hours minimum	
	Low Blue Light Capable	Yes, user selectable in OSD Menu	
	Anti-Glare Panel	Yes, Haze 25%	
	Response Time* – Typical	5ms Gray to Gray	
		* Product default is 14.0ms response time and can be adjusted to as low as 5.4ms in the display menu. See user guide for more information.	
		Horizontal Viewing Angle (typical CR>10)	Up to 178° horizontal (10:1 minimum contrast ratio)
		Vertical Viewing Angle (typical CR>10)	Up to 178° vertical (10:1 minimum contrast ratio)
		Panel Active Area (w x h)	50,92 x 28,64 cm (20.04 x 11.27 in)
	Preset Graphic Modes/Supported Resolutions	640 x 480 @ 60Hz, 75Hz 720 x 400 @ 70 Hz 800 x 600 @ 60 Hz, 75Hz 1024 x 768 @ 60 Hz, 75Hz 1280 x 720 @ 60 Hz 1280 x 800 @ 60 Hz 1280 x 1024 @ 60 Hz, 75Hz 1440 x 900 @ 60 Hz 1600 x 900 @ 60 Hz 1680 x 1050 @ 60 Hz 1920 x 1080 @ 60 Hz, 75Hz	
	Maximum Resolution	1920 x 1080 @ 60 Hz	
	Recommended Resolution	1920 x 1080 @ 60 Hz	
	Vertical Scan Range	50-75 Hz	
	Horizontal Scan Range	30-84 kHz	
	Maximum Pixel Clock Speed	180 MHz	
Color Gamut Coverage	sRGB*	>94% sRGB	
Color Management	Factory Color Calibrated	Yes	
	Default Color Temperature	SRGB (D65)	
Monitor Specifications	Exterior Color of Monitor Bezel & Stand	Black Pearl Head, Chin, and Base (Die-Cast Aluminum)	
	Plug & Play	Yes	
	Tilt	-5° to +22° vertical	
	Swivel	Swivel +/- 45	
	Pivot	Yes, Pivot (CW & counter CW). Detent at 0 degrees	

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	Height Adjustment Range 4-Way Comfort Adjust	Yes, 0 to 150 mm Easily adjust the display in height, tilt, swivel and pivot for maximum comfort.
	Integrated Quick Release⁵	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.
	Cable Management	Enhanced cable management for easy concealment of power, video and USB cables. Effortless routing of cables through the cable management tunnel at the base of the column.
	VESA Mounting	Yes (one set of standard 4-hole pattern, 100 mm).
	Security Lock Ready	Yes
	Detachable Base	Yes
	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. ⁷
	Zero Bright Dot Guarantee	Yes
	Note: The HP Pixel Policy allows no bright sub-pixel defects for this display. For complete details, see http://support.hp.com/us-en/document/c00288895 .	
On Screen Display (OSD)	On Screen Display User Controls	Brightness, Contrast, Color Control, Input Control, Image Control, Power Control, Menu Control, Management, Language, Information, Exit
	Monitor Control Buttons or Switches	Menu/OK, Minus button/Down/Color Control, Plus button/Up/Viewing Mode Menu, Exit/Back/Next Active Input, Power
	User-Assignable Function Buttons	Yes, 10
	Languages	10 (English, Spanish, German, French, Italian, Netherlands, Portuguese, Japanese, T-Chinese and S-Chinese)
Connector Types	DisplayPort™ HDMI VGA HDCP Support	(1) DisplayPort™ 1.2 (1) HDMI 1.4 (1) VGA Yes, DisplayPort™ and HDMI
USB Port Specifications	USB Version USB Hub Downstream Ports Upstream Ports	3.0 Yes, 2 downstream ports 2 Ports 1 Port
Power & Operating Specs	Power Supply Input Power Power Consumption – Maximum² Energy Saving/Standby Mode Power Consumption – Typical¹ Power cable length	Internal 100 - 240 VAC 50/60 Hz 32 W 0.5 W 18 W 1,9 m (6.2 ft)
ENERGY STAR® Data	Operational Mode at 100 VAC Operational Mode at 115 VAC Operational Mode at 230 VAC	50.82 KWH/year 50.82 KWH/year 50.82 KWH/year

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EU Energy Efficiency Class (EC1062)	On-mode Power Consumption (EC 1062/2010)	21W			
	Annual Power Consumption (EC 1062/2010)	31 kWh			
	Energy Efficiency Class (EC 1062/2010)	A			
Operating Conditions	Operating Temperature - Celsius	5° to 35° C			
	Operating Temperature - Fahrenheit	41° to 95° F			
	Non-operating Temperature - Celsius	-20° to 60° C			
	Non-operating Temperature - Fahrenheit	-4° to 140°			
	Operating Humidity	20% to 80% non-condensing			
	Non-operating Humidity	5% to 95%, 38.7° C max wet-bulb			
Environmental Features and Certifications	Operating Altitude	0 to 5,000 m (16,404 ft)			
	Non-operating Altitude	0 to 12,192 m (0 to 40,000 ft)			
	Mercury-free LED display backlighting	Yes			
	Arsenic-Free Display Glass	Yes			
	Low Halogen³	Yes			
	ENERGY STAR[®] Qualified	Yes			
Environmental Features and Certifications	EPEAT[®] 2019 Registered⁶	Yes			
	China Energy Label	CEL Grade 1			
	TCO Certified Edge	Yes			
	TCO Certified	Yes			
	SmartWay Transport Partnership - NA only	Yes			
	Certification & Compliance	CE, CB, MSIP, Mexico COC, ICES, ISO 9241-307, CU, cTUVus, ISC, CCC, CEL Grade 1, VCCI, FCC, BSMI, WEEE, RCM, ErP, KC/E-Standby, SEPA, GS, TUV-S, TCO, TCO Edge, Australian-New Zealand MEPS, PSB, Vietnam MEPS, ENERGY STAR [®] Qualified, EPEAT [®] 2019 Registered ⁶ , SmartWay Transport Partnership - NA only			
	Country of Origin	China			
	Recycled Plastics	Back Cover	85%		
		Base/Stand	85%		
		Other Parts	85% (Deco, Middle Frame)		
Recyclable Plastics		All			
Recyclable Packaging (Box, packing materials)		All			
Unit Product/Package Specifications	Unpacked with stand (highest setting) Product Dimensions (W x D x H)	Metric	52,1 x 20,5 x 45,8 cm	Imperial	20.5 x 8.07 x 18 in
	Head Only Product Dimensions (W x D x H)	Metric	52,1 x 4,33 x 31,17 cm	Imperial	21.5 X 1.7 X 12.27 in
	Base Area Footprint Product Dimensions (W x D x H)	Metric	23,7 x 1,1 x 2,05 cm	Imperial	9.33 x .43 x 8.07 in
	Packaged Packaged Dimensions (W x D x H)	Metric	60,2 x 39 x 26,5 cm	Imperial	23.7 x 15.4 x 10.4 in
	Bezel Measurements	Metric	Top: 0,135 cm	Imperial	Top: 0.053 in
			Side: 0,135 cm		Side: 0.053 in
		Bottom: 1,84 cm		Bottom: 0.724 in	
Product Weight, Packed	Metric	8,4 kg	Imperial	18.5 lbs	
Product Weight, Unpacked	Metric	5,9 kg	Imperial	13 lbs	
Product Weight, Head Only	Metric	3,3 kg	Imperial	7.3 lbs	

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Pallet Information	Pallet Dimensions (L x W x H mm)	Pallet A: 1214 x 1078 x 2100 mm Pallet B: 1078 x 612 x 2100 mm	
	Pallet Dimensions (L x W x H inch)	Pallet A: 47.8 x 42.44 x 82.68 (inch) Pallet B: 42.44 x 24.1 x 82.68 (inch)	
	Pallet Total Weight (including units) kg	Pallet A: 364kg Pallet B: 186kg	
	Pallet Total Weight (including units) lbs	Pallet A: 800.8lbs Pallet B: 409.2lbs	
	Pallet Layers	Pallet A: 5 layers Pallet B: 5 layers	
	Pallet Product per Layer	Pallet A: 8 units Pallet B: 4 units	
	Total Products per Pallet	Pallet A: 40 units Pallet B: 20 units	
What's in the box?	Monitor	HP Z23n G2 23-inch Display	
	AC Power Cord	Metric 1,9 m	Imperial 6.2 ft
	DisplayPort™ 1.2 Cable	2 m	6.56 ft
	USB 3.0, b-a Cable	1,8 m	5.9 ft
	Documentation CD	HP Display Assistant software, User Guide, warranty and drivers. 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.	
User Guide and Warranty Languages	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.	
Options⁴ (Each sold separately)	HP S100 Speaker Bar — Part number 2LC49AA	Add rich stereo audio to select 2017 and 2018 HP Commercial Displays ⁴ without crowding your desk with the USB-powered HP S100 Speaker Bar, which fits neatly underneath the display head.	

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<p>HP B300 PC Mounting Bracket— Part number 2DW53AA</p>	<p>Attach your HP Workstation, HP Desktop Mini, HP Chromebox or select HP Thin Client directly behind select 2017 and 2018 HP EliteDisplays and HP Z Displays with the HP B300 PC Mounting Bracket.</p>
<p>HP UHD USB Graphics Adapter — Part number N2U81AA</p>	<p>Just plug the adapter into any USB 2.0 or 3.0 port on your PC and connect the DisplayPort™ connector on the other end to your UHD display.</p>
<p>HP Single Monitor Arm — Part number BT861AA</p>	<p>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.</p>
<p>HP Adjustable Dual Display Stand — Part Number AW664AA</p>	<p>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.</p>
<p>HP Business PC Security Lock v2 Kit — Part Number N3R93AA</p>	<p>Help prevent chassis tampering and secure your PC and display in workspaces and public areas with the HP Business PC Security Lock v2 Kit.</p>

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 Certified Edge
- Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. Status varies by country. Visit <http://www.epeat.net> for more information.

Energy Consumption

(in accordance with US

ENERGY STAR® test method)

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation	15.28 W	16 W	15.28 W
Sleep	0.28 W	0.3 W	0.28 W
Off	0.29 W	0.3 W	0.29 W

Heat Dissipation*

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation	52 BTU/hr	55 BTU/hr	52 BTU/hr
Sleep	1 BTU/hr	1 BTU/hr	1 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.

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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 47% post-consumer recycled plastic (by wt.)
- This product is 98.1% recycle-able when properly disposed of at end of life.

Packaging Materials

External:	PAPER/Corrugated	1255 g
	PAPER/Paperboard	20 g
Internal:	PLASTIC/Polystyrene Expanded – EPS	436 g
	PLASTIC/Polyethylene high density – HDPE	49 g

RoHS Compliance

HP, Inc. 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)

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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.

HP, Inc. 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://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842>

and

<http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf>

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

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

DisplayPort™ and the DisplayPort™ logo are trademarks owned by the Video Electronics Standards Association (VESA®) in the United States and other countries.

ENERGY STAR is a registered trademark owned by the U.S. Environmental Protection Agency.

1. Default Power is measured with factory defaults, including factory default brightness and USB ports loaded at 25% of maximum.
2. Maximum Power is measured with monitor at maximum brightness and with USB ports loaded at 100% of maximum.
3. External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.
4. Sold separately. See product QuickSpecs for exact device and display compatibility.
5. 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.
6. Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. Status varies by country. Visit <http://www.epeat.net> for more information.
7. 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.

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Change Log	
8/10/2017	Corrected HDMI version to 1.4
8/10/2017	Corrected Product Color
8/10/2017	Resolution changed version 2 to version 3
10/10/2017	Environmental Data table added
1/4/2018	Clarified 8-bit (6+2 FRC)
	Removed Factory Color Calibration Section
	Updated document version to 5
5/23/2019	Updated EPEAT
01/13/2020	Updated Environmental Section