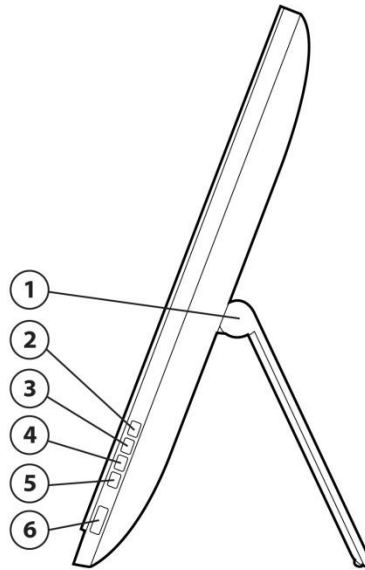
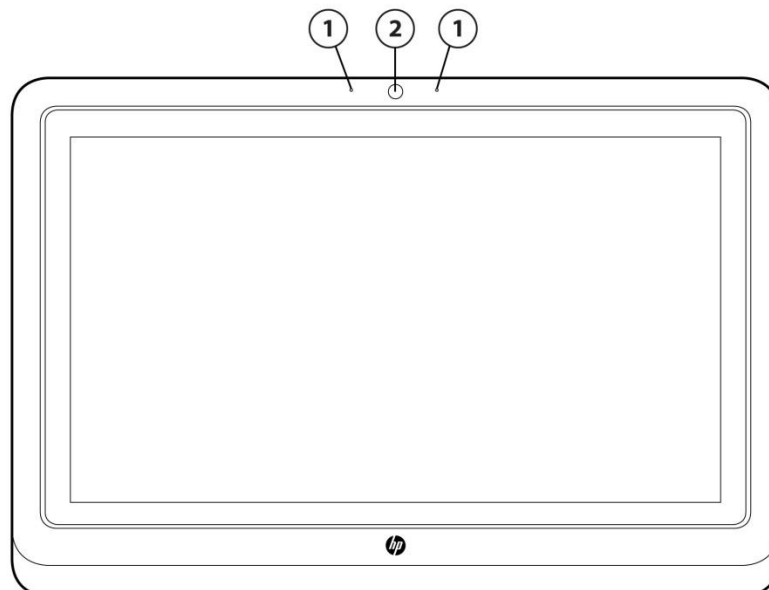


### Technical Specifications

### HP EliteDisplay S230tm 23-inch Touch Monitor



- |   |  |
|---|--|
| <p><b>1. Stand</b> Folding easel stand provides +15 to +70° of tilt.</p>  | <p><b>4. Plus”+”</b> If the OSD menu is on, press to navigate forward through the OSD menu and increase adjustment levels.</p>                                   |
| <p><b>2. Menu</b> Opens, selects or exits the OSD menu.</p>   | <p><b>5. OK</b> If the OSD menu is on, press to select the highlighted menu item.</p>  |
| <p><b>3. Minus “-”</b> If the OSD menu is on, press to navigate backward through the OSD menu and decrease adjustment levels.</p> | <p><b>6. Power/Power LED</b> Turns the monitor on or off.<br/>LED:<br/>fully powered = white;<br/>sleep mode = amber;<br/>sleep timer mode = flashing amber.</p> |



- |  |   |
|--|---|
| <p><b>1. Microphones</b> Dual microphones.</p> | <p><b>2. Webcam</b> Integrated 720p webcam.</p> |
|--|---|

### Technical Specifications

**Models:** E4503AA

#### Introduction

Experience a fully-reclining, multi-touch IPS display that puts productivity at your fingertips and keeps you comfortable throughout the day.

#### Key Benefits

- Tap, slide, and swipe your way to greater productivity.
- Get a great visual experience even in high ambient light with IPS, Full HD<sup>1</sup>, and anti-glare glass.
- Enjoy an ideal communication experience with a display optimized for business-class collaboration.

### Technical Specifications

<b>Panel</b>	<b>Type</b> <b>Viewable Image Area (diagonal)</b> <b>Active Area (W x H)</b> <b>Aspect Ratio</b> <b>Viewing Angle (typical)*</b> <b>Brightness (typical)*</b> <b>Static Contrast Ratio (typical)*</b> <b>Dynamic Contrast Ratio (typical)*</b> <b>Response Time (typical)*</b> <b>Pixel Pitch</b> <b>Backlight Lamp Life (to half brightness)*</b> <b>Color Gamut (typical)*</b> <b>Color Support**</b>	Touch enabled IPS panel with LED backlighting <b>58,42 cm</b> (23 in) widescreen, diagonally measured  <b>50,91 x 28,64 cm</b> (20.05 x 11.28 in) 16:9 Up to 178° horizontal/178° vertical (10:1 minimum contrast ratio) 220 cd/m <sup>2</sup> (Adjusted for touchscreen cover glass) 1000:1 10,000,000:1 7 ms (gray to gray with overdrive) 0.265 mm 30,000 hours minimum 72% Can display up to 16.7 million colors
<b>On Screen Display (OSD) Controls</b>	<b>Buttons or Switches</b> <b>Languages</b>  <b>User Controls</b>	Menu; Minus ("-"); Plus ("+"); OK; Power English, French, Spanish, Italian, German, Netherlands, Japanese, Traditional Chinese, Simplified Chinese, Brazilian Portuguese  Brightness, Contrast, Color, Image Control, OSD Control, Management features, Language, Input Select, Information and Factory Reset.
<b>Signal Interface/ Performance</b>	<b>Horizontal Frequency</b> <b>Vertical Frequency</b> <b>Native Resolution</b> <b>Preset VESA Graphic Modes (non-interlaced)</b>	*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.  24 to 94 kHz 50 to 76 Hz 1920 x 1080 @ 60Hz 640 x 480 @ 60Hz 720 x 400 @ 70Hz 800 x 600 @ 60Hz 1024 x 768 @ 60Hz 1280 x 720 @ 60Hz 1280 x 1024 @ 60Hz 1440 x 900 @ 60Hz 1600 x 900 @ 60Hz 1680 x 1050 @ 60Hz

### Technical Specifications

	<b>Maximum Pixel Clock Speed</b>	1920 x 1080 @ 60Hz		
	<b>User Programmable Modes</b>	170 MHz		
	<b>Anti-Glare</b>	Yes (10)		
	<b>Default Color Temperature</b>	Yes		
		6500 K		
<b>Touchscreen Specifications</b>	<b>Touch Panel Type</b>	Optical 5-point		
	<b>Positional Accuracy</b>	±1.0 mm for all areas of touchable active area		
	<b>Resolution Accuracy</b>	32767 x 32767		
	<b>Touch Activation Force</b>	n/a		
	<b>Optical Light Transmission (per ASTM D1003)</b>	Normal Glass: ≥88%		
	<b>Electrostatic Projection (per EN6100-4-2, 1955)</b>	Air +/- 8KV		
<b>Video/Other Inputs</b>	<b>Plug and Play</b>	Yes		
	<b>Input Connectors</b>	DVI-D, DisplayPort 1.2 (HDCP support)		
	<b>USB</b>	USB connection for touch and webcam functions only		
	<b>Included Cables</b>	(1) DVI-D, (1) DisplayPort, (1) Audio. (1) USB		
	<b>Cable Lengths</b>	<b>1,8 m</b> (5.9 ft)		
	<b>Audio</b>	Internal 2W per channel speakers; headphone jack and dual microphones		
	<b>Webcam</b>	Integrated 720p webcam		
<b>Power</b>	<b>Power Supply</b>	External		
	<b>Input Power</b>	90 - 265 VAC at 45 - 63 Hz		
	<b>Typical Power Consumption</b>	25 W		
	<b>Maximum</b>	33 W		
	<b>Power Saving</b>	0.5 W		
	<b>Power Cable Length</b>	<b>1,9 m</b> (6.2 ft)		
<b>Mechanical</b>	<b>Dimensions (W x D x H)</b>	<b>Unpacked w/stand</b>	<b>59.93 x 6.95 x 40.92 cm</b> (23.6 x 2.7 x 16.1 in)	
		<b>Unpacked w/o stand</b>	<b>59.93 x 4.05 x 40.92 cm</b> (23.6 x 1.6 x 16.1 in)	
		<b>Packaged</b>	<b>68 x 13,9 x 50.7 cm</b> (26.8 x 5.5 x 20 in)	
		<b>Head Only</b>	<b>5,5 kg</b> (12.1 lb)	
		<b>Unpacked with stand</b>	<b>6,5 kg</b> (14.3 lb)	
		<b>Packaged</b>	<b>8,5 kg</b> (18.7 lb)	
	<b>Weight</b>	<b>Tilt Range</b>	+15 to +70°	
		<b>Swivel Range</b>	N/A	
		<b>Height Adjustable</b>	N/A	
		<b>Pivot Rotation</b>	N/A	
		<b>Stand</b>	Yes; removable easel stand	
<b>Environmental</b>	<b>Temperature - Operating</b>	<b>5° to 35° C</b> (41° to 95° F)		
	<b>Temperature - Non-operating</b>	<b>-20° to 60° C</b> (-4° to 140° F)		
	<b>Humidity - Operating</b>	20% to 80% non-condensing		
	<b>Humidity - Non-operating</b>	5% to 95%, 38.7° C max wet-bulb		
	<b>Altitude - Operating</b>	<b>0 to 5,000 m</b> (16,404 ft)		
	<b>Altitude - Non-operating</b>	<b>0 to 12,192 m</b> (0 to 40,000 ft)		
	<b>White LED Backlights</b>	Yes		
	<b>CCFL Panel</b>	No		
	<b>Arsenic-Free Display Glass</b>	Yes		
	<b>Low Halogen<sup>4</sup></b>	Yes		
	<b>Mercury-Free Display Backlighting</b>	Yes		

### Technical Specifications

#### 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	19.42 W	19.49 W	19.46 W
Sleep	0.39 W	0.4 W	0.39 W
Off	0.26 W	0.27 W	0.25 W

#### Heat Dissipation\*

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation	66 BTU/hr	67 BTU/hr	67 BTU/hr
Sleep	1 BTU/hr	1 BTU/hr	1 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).
- Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.
- This product contains 14.4 % post-consumer recycled plastic (by wt.)
- This product is 98.4 % recycle-able when properly disposed of at end of life.

#### Packaging Materials

<b>External:</b>	PAPER/Cardboard & misc	750 g
<b>Internal:</b>	PLASTIC/Polyethylene low density	30 g
	PLASTIC/EPS (Expanded Polystyrene)	300 g
	PLASTIC/EPE-Expanded Polyethylene	120 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

### Technical Specifications

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

### Technical Specifications

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.

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>

	<p><b>Hewlett-Packard Corporate Environmental Information</b></p>	
<p><b>Options</b> (sold separately)</p>	<p><b>HP LCD Monitor Quick Release – Part number EM870AA<sup>1</sup></b></p>	<p>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.</p>
	<p><b>HP USB Graphics Adapter – Part number NL571AA</b></p>	<p>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.</p>
	<p><b>HP Business PC Security Lock Kit – Part number PV606AA</b></p>	<p>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.</p>
	<p><b>HP Single Monitor Arm – Part number BT861AA</b></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><b>HP Adjustable Stand for Touch Monitors – Part Number A1X81AA</b></p>	<p>A height adjustable stand supporting touch monitors.</p> <ul style="list-style-type: none"> <li>• Allows the monitor to be set on a counter or cash drawer</li> <li>• Ruggedized, small footprint maximizes counter space for employees and customers</li> <li>• Height and tilt adjustments help you customize positioning to best meet your environment's needs</li> </ul>
<p><b>What's in the box?</b></p>	<p><b>Monitor and Accessories</b></p>	<p>HP S 230tm Touch Monitor; DVI-D cable; DisplayPort cable; USB cable; Audio cable; AC Power cable</p>
	<p><b>Documentation</b></p>	<p>Documentation kit with CD</p>
<p><b>Other</b></p>	<p><b>Featured Software</b></p>	<p>HP Display Assistant software; HP YouCam software</p>
	<p><b>User Guide Languages</b></p>	<p>English, Arabic, Bahasa Indonesia, S. Chinese, T. Chinese, Czech, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Kazakh, Korean, Norwegian, Polish, Brazilian Portuguese, Russian, Slovenian, Spanish, Swedish, Turkish.</p>
	<p><b>Warranty Languages</b></p>	<p>English, Arabic, Bahasa Indonesia, S. Chinese, T. Chinese, Czech, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Kazakh, Korean, Norwegian, Polish, Brazilian Portuguese, Russian, Slovenian, Spanish, Swedish, Turkish.</p>
	<p><b>Color</b></p>	<p>Black and Silver</p>
	<p><b>VESA External Mounting</b></p>	<p>Yes (one set of standard 4-hole pattern, 100 mm)</p>

### Technical Specifications

	<b>Security Lock-Ready</b>	Yes
	<b>Country of Origin</b>	China
<b>Certification and Compliance</b>	CB, CE, TUV-S, EAC, CUL, FCC, CSA, NOM, S-Mark, VCCI, PSB, ISC, CCC, BSMI, C-Tick, E-Standby, eK, CECP, CEL Grade 1, SmartWay Transport Partnership (NA).	
<b>Compatibility</b>	Compatible with platforms using the VESA standard video modes. Recommended for use with HP products.	
<b>Service and Warranty</b>	Protected by HP, including a 3 year standard limited warranty. Optional Care Pack Services are extended service contracts which go beyond your standard warranties. <sup>2</sup>	

1. High-definition (HD) content is required to view high-definition images. Full HD panel has 1920 x 1080 resolution.
2. Sold separately. 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](http://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.
3. External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.

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### Summary of changes

<b>Date of change:</b>	<b>Version History:</b>		<b>Description of change:</b>
	From v1 to v2		
January 22, 2015	From v2 to v3	Change	Change the value Power section
November 17, 2015	From v3 to v4	Change	Updating to Windows 10 certification.
May 23, 2016	From v4 to v5	update	Removed EPEAT and ENERGY STAR references
June 06, 2016	From v5 to v6	Update	Removed TCO references
October 5, 2016	From v6 to v7	Update	Removed Microsoft WHQL Certification reference
November 14, 2016	From v7 to v8	Update	Messaging and disclaimers have been updated