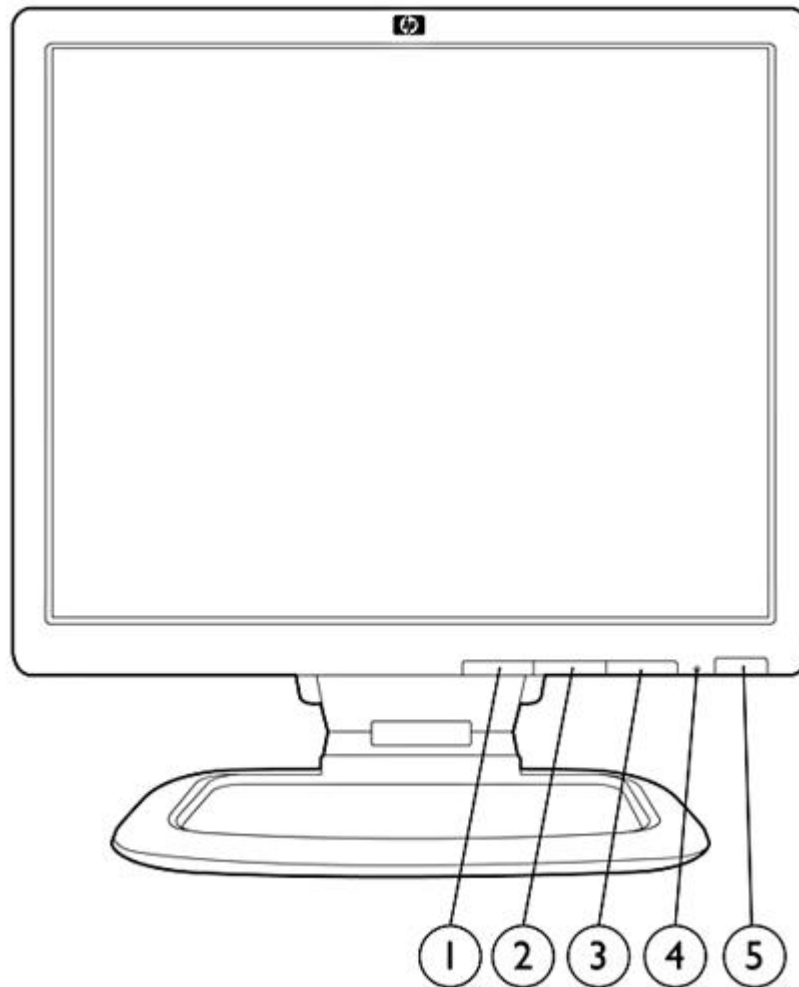


## Overview



1. Menu/Select
2. "-" OSD Navigation/Auto Adjust
3. "+" OSD Navigation/Input Select

4. Power LED
5. Power

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## Models

Part Number: EM890AA

### Technical Specifications

Panel	Type	Active matrix, thin film transistor (TFT)
	Viewable Image Area (diagonal)	19 in (48.25 cm)
	Screen Opening (WxH)	14.9 x 11.9 in (37.8 x 30.3 cm)
	Panel Type	TN
	Aspect Ratio	5:4
	Viewing Angle (typical)*	Up to 160° horizontal/160° vertical (10:1 contrast ratio)
	Brightness (typical)*	250 nits (cd/m <sup>2</sup> )
	Contrast Ratio (typical)*	1000:1
	Response Time (typical)*	5 ms (rise + fall)
	Pixel Pitch	0.294 mm
	Backlight Lamp Life (to half brightness)	40K hours
<i>* All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.</i>		
Video/Other Inputs	Plug and Play	Yes (supports VESA DDC2B and DDC/C1; PC2001 compliant)
	USB 2.0 Hub	Self-powered; two ports (cable included)
	Input Connectors	Two connectors: one 15-pin mini D-sub analog VGA and one DVI-D
	Input Impedance	75 ohms ± 2%
	Sync Input	Separate sync (HSYNC/VSYNC)
	Video Cable	15-pin D-sub mini connector; detached
	Video Cable Length	70.9 in/1.8 m; detached
Signal Interface/ Performance	Horizontal Frequency	24 to 83 kHz
	Vertical Frequency	50 to 77 Hz
	Native Resolution	1280 x 1024 @ 60 Hz (analog) 1280 x 1024 @ 60 Hz (digital)
	Max Resolution (Analog)	1280 x 1024 @ 75 Hz
	Max Resolution (Digital)	1280 x 1024 @ 75 Hz
	Preset VESA Modes (non-interlaced)	640 x 480 @ 60 Hz, 72 Hz, 75 Hz
		720 x 400 @ 70 Hz
		800 x 600 @ 60 Hz, 72 Hz, 75 Hz
		1024 x 768 @ 60 Hz, 70 Hz, 75 Hz
		1280 x 1024 @ 60 Hz, 75 Hz
	Fail Safe Mode	Yes (limits out of range signal messages)
	Max Pixel Clock Speed	140 MHz
	User Programmable Modes	Yes, 15
Anti-Glare	Yes	
Anti-Static	Yes	

### Technical Specifications

	<b>AssetControl</b>	Yes (accessible on HP Compaq Business Desktops featuring HP Client Manager)	
	<b>Default Color Temperature</b>	6500° Kelvin	
<b>On Screen Display (OSD) Controls</b>	<b>Buttons and Switches</b>	3-button OSD (menu, minus, plus); power on/off; second level OSD buttons include dual-input switch, auto-adjust	
	<b>Languages</b>	English, Spanish, French, German, Dutch, Italian, Simplified Chinese, Japanese	
	<b>User Controls</b>	Size and positioning, contrast, brightness, clock, clock phase, selectable color temperature, serial number, mode displayed, sleep timer, input selection, factory reset, individual color contrast, full-screen resolution	
<b>Power</b>	<b>Power Supply</b>	Auto-ranging, 90 to 265 VAC; internal power supply	
	<b>Input Power</b>	100 ~ 240 VAC	
	<b>Nominal Current</b>	1.5 A maximum	
	<b>Frequency</b>	50 ~ 60 Hz	
	<b>Maximum</b>	44 watts	
	<b>Average</b>	32 watts	
	<b>Power Saving Mode</b>	< 2 watts	
	<b>Off Mode</b>	< 1 watts	
	<b>Power Cable Length</b>	74.8 in (1.9 m); detached	
<b>Mechanical</b>	<b>Dimensions (H x W x D)</b>	<b>Packaged</b>	22.2 x 16.5 x 9.0 in (56.5 x 42.0 x 22.6 cm)
		<b>Unpacked with stand (minimum)</b>	14.9 x 16.30 x 11.9 in (37.8 x 41.4 x 30.1 cm)
		<b>Unpacked with stand (maximum height)</b>	20.0 x 16.3 x 11.9 in (50.8 x 41.4 x 30.1 cm)
		<b>Base area (footprint)</b>	11.85 x 11.5 in (30.1 x 29.3 cm)
		<b>Panel only (without stand)</b>	16.3 x 13.7 x 2.3 in (41.4 x 34.7 x 5.8 cm)
		<b>Weight</b>	<b>Packaged</b> 20 lb (9.1 kg)
		<b>Unpacked with stand</b> 16 lb (7.3 kg)	
		<b>Panel Only (without stand)</b> 10 lb (4.5 kg)	
		<b>Bezel Width</b>	18 mm left and right, 18 mm top, and 27 mm bottom
		<b>Tilt Range</b>	-5° to +35°
	<b>Swivel Range</b>	± 45° horizontal swivel	
	<b>Height Adjustable</b>	Yes (5.1 in/13.0 cm adjustment range)	
	<b>Pivot Rotation</b>	Yes, 90° into portrait orientation	
	<b>Base</b>	Ships attached and is removable (four screws)	
<b>Environmental</b>	<b>Temp. – Operating</b>	41° to 95° F (5° to 35° C)	
	<b>Temp. – Non-operating</b>	-4° to 140° F (-20° to 60° C)	
	<b>Humidity – Operating</b>	20% to 80%, non-condensing	
	<b>Humidity – Non-operating</b>	5% to 90%	
	<b>Altitude – Operating</b>	0 to 16,404 ft (0 to 5,000 m)	
	<b>Altitude – Non-operating</b>	0 to 40,000 ft (0 to 12,192 m)	

### Technical Specifications

<b>Environmental Data</b>	<b>Eco-Label Certifications and Declarations</b>	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:		
		<ul style="list-style-type: none"><li>● ENERGY STAR®</li><li>● IT ECO declaration</li><li>● EPEAT™ Gold</li></ul>		
	<b>Energy Consumption (in accordance with ENERGY STAR® test method)</b>	115VAC, 60 Hz	230VAC, 50 Hz	100VAC, 60 Hz
	Normal Operation	15.8 W	15.6 W	15.8 W
	Sleep	0.46 W	0.62 W	0.45 W
	Off	0.34 W	0.49 W	0.33 W
	<b>Heat Dissipation*</b>	115VAC, 60 Hz	230VAC, 50 Hz	100VAC, 60 Hz
	Normal Operation	54 BTU/hr	53 BTU/hr	54 BTU/hr
	Sleep	2 BTU/hr	2 BTU/hr	2 BTU/hr
	Off	1 BTU/hr	2 BTU/hr	1 BTU/hr
		<p>* Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.</p>		
	<b>Ergonomics</b>	The monitor meets the ergonomic requirement of EN-ISO 13406-2 for flat panel displays.		
	<b>Additional Information</b>	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 <a href="http://www.epeat.net">www.epeat.net</a> .		
		Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.		
		Display meets the requirement for low frequency electromagnetic fields per TCO and prEN50279 A/B/C.		
		This product contains 0% recycled materials (by wt.)		
		This product is 98.2% recyclable when properly disposed of at end of life.		
		<b>Packaging Materials</b>		
		<ul style="list-style-type: none"><li>● External:<ul style="list-style-type: none"><li>○ Corrugated carton – 865 g</li><li>○ Polyethylene low density – 18 g</li></ul></li><li>● Internal:</li></ul>		

### Technical Specifications

#### Material Usage

- EPS (Expanded Polystyrene) – 235 g

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 [www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen\\_specifications.html](http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html))

- 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: [www.hp.com/recycle](http://www.hp.com/recycle) or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

### Technical Specifications

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

[www.hp.com/hpinfo/globalcitizenship/gcreport/index.html](http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html)

Eco-label certifications

[www.hp.com/hpinfo/globalcitizenship/environmentproductdesign/ecolabels.html](http://www.hp.com/hpinfo/globalcitizenship/environmentproductdesign/ecolabels.html)

ISO 14001 certificates:

[www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html](http://www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html)

#### 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 LCD Monitor Quick Release—Part number EM870AA\*

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 Integrated Work Center Stand—Part number GN783AA

Allows mounting of select 17- to 22-inch diagonal HP LCD monitors and an HP Compaq dc7900 Ultra-slim Desktop PC or HP thin client on a single stand for the convenience of an "all-in-one" form factor. Sold separately. For more information, refer to this product's QuickSpecs document.

##### 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 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.

\* The HP Quick Release has been designed to support a maximum of up to 24 lbs (10.9 kg) depending upon the mounting configuration used. Please note this is a total weight limit for all devices mounted, i.e. the combined weight of the monitor and a second device such as an HP Thin Client cannot exceed 24 pounds. 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.

#### Other

##### Accessories Included Software

VGA cable, DVI cable, AC power cord, USB cable, user CD-ROM

HP Display LiteSaver feature allows you to schedule Sleep mode at preset times to help protect the monitor against image retention, drastically lower power consumption and energy costs, and extend the lifespan of the monitor.

### Technical Specifications

HP Display Assistant is a software utility that allows monitor adjustment and color calibration using the Display Data Channel Command Interface (DDC/CI) protocol of the connected PC.

**User Guide Languages** English, French, German, Spanish, Italian, Dutch, Brazilian Portuguese, Danish, Finnish, Greek, Japanese, Korean, Latin American Spanish, Norwegian, Polish, Russian, Slovenian, Turkish, Swedish, Traditional Chinese, Simplified Chinese

**Warranty Languages** English, Canadian French, LA Spanish, Brazilian Portuguese, Danish, German, Castilian Spanish, French, Italian, Dutch, Norwegian, Finnish, Swedish, Bahasa Indonesian, Korean, T. Chinese, Simplified Chinese

**Bezel Color** Silver

**VESA Mounting Support** Yes (standard 4 hole pattern, 100 mm); base must first be removed

**Security Lock Compatible** Yes

#### Certification and Compliance

TCO 5.0 Displays, ISO 9241-307, CISPR Requirements, VCCI Approvals, KC and KCC (Korean) Requirements, CSA 60950-1, UL 60950-1, EN55022 Class B, CNS 13438 Class B, IEC 60950-1, China Energy Label (CEL), China MEPS, Korea MEPS (pending, Energy Boy), SmartWay - NA only - Energy logistics, EUP Lot 6 Tier 1 AS/NZS 3548 Class B Approval, "GS" Mark, TUV Approvals, GEEA, CE Marking, FCC Part 15 class B Approval, ENERGY STAR® qualified, EN55024 Class B, EN60950 - 1, CUL, CCIB, CCEE, IT ECO (EDS), EPEAT® Gold (select regions)

#### Compatibility

VESA Video Signal Standard (VSIS) Compliant video cards have been tested and proven compatible for use with this monitor. Recommended for use with HP products.

#### Service and Warranty

Three years parts, labor, and on-site service. 24-hour, 90-day, toll-free technical support. Replacement options may include second business day on-site service, or next business day direct replacement, at HP's sole discretion.\* With direct replacement, HP will ship a replacement display product directly to you. Using the prepaid shipping labels provided, return your failed display to HP in the same packaging as the replacement. Certain restrictions and exclusions apply. For details see your product warranty or contact HP Customer Support.

\* HP Care Pack Services extend service contracts beyond the standard warranties. 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: [www.hp.com/go/lookuptool](http://www.hp.com/go/lookuptool). Additional HP Care Pack Services information by product is available at: [www.hp.com/hps/carepack](http://www.hp.com/hps/carepack). Service levels and response times for HP Care Packs may vary depending on your geographic location.

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