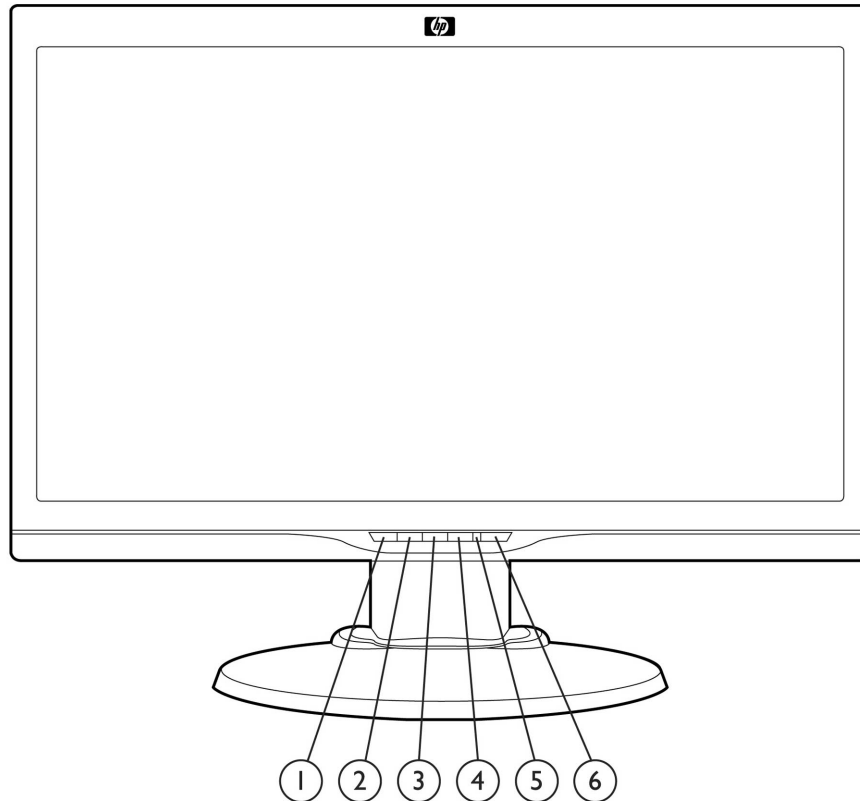


## Overview



1. **Menu/select:** Opens, selects or exits the OSD menu.
2. **"<" Left/decrease:** If the OSD menu is on, press to navigate backward through the OSD menu and decrease adjustment levels. If the OSD menu is off, press this button directly to serve as the shortcut for input.
3. **">" Right/increase:** If the OSD menu is on, press to navigate forward through the OSD menu and increase adjustment levels.
4. **Auto:** If the OSD menu is on, press to exit the OSD function menu. If the OSD menu is off, press to activate the auto adjustment feature to optimize the screen image.
5. **Power LED:** Power "on" mode = blue; Power "saving" mode = orange.
6. **Power:** Turns the monitor on or off.

---

### Part Number

Model: EM891AA#ABA



## Technical Specifications

Panel	Type	21.5-inch Wide-Aspect Active Matrix TFT (thin film transistor)	
	Viewable Image Area	21.5 in (54.9 cm) widescreen; diagonally measured	
	Screen Opening (W x H)	18.8 x 10.6 in (47.6 x 26.8 cm)	
	Panel Type	TN	
	Aspect Ratio	16:9	
	Viewing Angle (typical)	Up to 170° horizontal/160° vertical (10:1 minimum contrast ratio)	
	Brightness (typical)*	250 nits (cd/m <sup>2</sup> )	
	Contrast Ratio (typical)*	1000:1	
	Response Time (typical)*	5 ms (on/off)	
	Pixel Pitch	0.248 mm	
	Backlight Lamp Life (to half brightness)	50K hours typical	
	Color Gamut	72% color gamut (NTSC,TYP)	
<i>*All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.</i>			
On Screen Display (OSD) Controls	Buttons or Switches	OSD menu/Select, Volume/OSD left, brightness/OSD right, Auto Adjust/Exit, Power. (From Left to Right).	
	Languages	English, French, German, Spanish, Italian, Polish, Dutch, and Russian	
	User Controls	Brightness, contrast, positioning, color temperature (6500k, 9300k, custom), individual color control, serial number, clock, clock phase, input, volume, factory reset	
Signal Interface/Performance	Horizontal Frequency	24 to 83 kHz	
	Vertical Frequency	50 to 76 Hz	
	Native Resolution	1920 x 1080 @ 60 Hz (Full HD), 1.76 Million pixels	
	Preset VESA Graphic Modes (non-interlaced)	1920 x 1080 @ 60 Hz	
		1680 x 1050 @ 60 Hz	
		1600 x 1200 @ 60 Hz	
		1600 x 1000 @ 60 Hz	
		1440 x 900 @ 60 Hz	
		1280 x 1024 @ 60 Hz	
		1280 x 960 @ 60 Hz	
		1280 x 720 @ 60 Hz	
		1024 x 768 @ 60 Hz	
		800 x 600 @ 60 Hz	
640 x 480 @ 60 Hz			
Text Mode	720 x 400 @ 70 Hz		
Maximum Pixel Clock Speed	180 MHz (analog input); 180- MHz (DVI input)		
User Programmable Modes	Yes, 15		
Anti-Glare	Yes		



### Technical Specifications

Touchscreen specifications	Anti-Static	Yes		
	Default Color Temperature	6500 K		
	Refresh rate	120 point/ sec (single-and multi-touch)		
	Resolution	640 x 640 (Real Pixel)		
	Accuracy	<< ± 2mm @ 95% area for 21.5 inches (16:9) LCD		
	Activation	Finger and stylus > 3mm (diameter)		
	Power for optical module	<3 watts, including LED		
	Multi-touch	2 points plus gesture		
	Interface	USB 2.0		
<b>NOTE:</b> Full touch functionality supported with Windows® 7. Limited touch functionality supported with Windows® XP when L2105tm monitor is used as primary monitor.				
Video/Other Inputs	Plug and Play	Yes		
	Input Connectors	VGA, DVI-D, HDCP support		
	Input Impedance	75 ohms ± 10%		
	Sync Input	TTL separate synch		
	Video Cable	One DVI-D to DVI-D and one 15-pin D-sub (VGA)		
	Video Cable Lengths	VGA 5.9 ft (1.8 m), DVI-D 5.9 ft (1.8 m)		
Audio	Speakers	Internal		
	Output power	1 watt per channel		
	Controls	Volume, OSD selectable		
	Audio cable	Included, length: 5.9 ft. (1.8 m)		
Power	Input Power	Auto-Sensing, (100 to 240 VAC)+/-10%, 50 +/-3 Hz to 60 +/-3 Hz		
	Frequency	47 to 63 Hz		
	Typical Power Consumption	35 watts		
	Maximum	< 48 watts		
	Power Saving	< 2 watts standby; <1 watt off		
	Power Cable Length	6.2 ft (1.9 m)		
	Mechanical	Dimensions (H x W x D)	Unpacked w/stand	16.5 x 20.2 x 9.1 in (41.86 x 51.3 x 23.05 cm)
Unpacked w/o stand (head only)			13.1 x 20.2 x 3.0 in (33.52 x 51.30 x 7.505 cm)	
Packaged			19.7 x 22.6 x 8.8 in (50.0 x 57.55 x 22.4 cm)	
Weight		Head Only	10.6 lb (4.8 kg)	
		Unpacked	14.1 lb (6.4 kg)	
		Packaged	18.1 lb (8.2 kg)	
Tilt Range		-5° to + 20° vertical		
Swivel Range		30° either side of center (-30° to +30°)		
Height Adjustable		No		
Pivot Rotation		No		



## Technical Specifications

Environmental	Base	Attachable, ships detached		
	Temperature – Operating	41° to 95° F (5° to 35° C)		
	Temperature – Non-operating	-29° to 140° F (-20° to 60° C)		
	Humidity – Operating	20% to 80% non-condensing		
	Humidity – Non-operating	5% to 95%, 38.7° C max wet-bulb		
	Altitude – Operating	0 to 10,000 ft (0 to 3,048 m)		
	Altitude – Non-operating	0 to 30,000 ft (0 to 9,144 m)		
Environmental Data	Eco-Label Certifications and 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:		
		<ul style="list-style-type: none"> <li>● IT ECO declaration</li> <li>● TCO 5.0</li> </ul>		
	Energy Consumption (in accordance with ENERGY STAR® test method)	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
	Normal Operation	31W	30.5W	31.2W
	Sleep	0.53W	0.62W	0.54W
	Off	0.38W	0.44W	0.37W
	Heat Dissipation*	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
	Normal Operation	106 BTU/hr	104 BTU/hr	107 BTU/hr
	Sleep	2 BTU/hr	2 BTU/hr	2 BTU/hr
	Off	1 BTU/hr	2 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	<p>This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive – 2002/95/EC.</p> <p>This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.</p> <p>This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).</p> <p>Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.</p> <p>This product contains 0% post-consumer recycled plastic (by wt.)</p> <p>This product is 91.6% recycle-able when properly disposed of at end of life.</p> <p>Packaging Materials</p> <ul style="list-style-type: none"> <li>● External: <ul style="list-style-type: none"> <li>○ Polyethylene low density – 50 g</li> </ul> </li> </ul>		



### Technical Specifications

	<ul style="list-style-type: none"><li>● Internal:<ul style="list-style-type: none"><li>○ EPS (Expanded Polystyrene) – 400 g</li></ul></li></ul>
<b>RoHS Compliance</b>	<p>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).</p>
<b>Material Usage</b>	<p>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 <a href="http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html">www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html</a>)</p> <ul style="list-style-type: none"><li>● Asbestos</li><li>● Certain Azo Colorants</li><li>● Certain Brominated Flame Retardants – may not be used as flame retardants in plastics</li><li>● Cadmium</li><li>● Chlorinated Hydrocarbons</li><li>● Chlorinated Paraffins</li><li>● Formaldehyde</li><li>● Halogenated Diphenyl Methanes</li><li>● Lead carbonates and sulfates</li><li>● Lead and Lead compounds</li><li>● Mercuric Oxide Batteries</li><li>● Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user.</li><li>● Ozone Depleting Substances</li><li>● Polybrominated Biphenyls (PBBs)</li><li>● Polybrominated Biphenyl Ethers (PBBEs)</li><li>● Polybrominated Biphenyl Oxides (PBBOs)</li><li>● Polychlorinated Biphenyl (PCB)</li><li>● Polychlorinated Terphenyls (PCT)</li><li>● Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.</li><li>● Radioactive Substances</li><li>● Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)</li></ul>
<b>Packaging</b>	<p>HP follows these guidelines to decrease the environmental impact of product packaging:</p> <ul style="list-style-type: none"><li>● Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.</li><li>● Eliminate the use of ozone-depleting substances (ODS) in packaging materials.</li><li>● Design packaging materials for ease of disassembly.</li><li>● Maximize the use of post-consumer recycled content materials in packaging materials.</li></ul>



### Technical Specifications

- 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

[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/environment/productdesign/ecolabels.html](http://www.hp.com/hpinfo/globalcitizenship/environment/productdesign/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 Monitor Quick Release—Part number EM870AA\*

An easy-to-use, VESA-compliant, LCD monitor mounting solution that allows you to quickly and securely attach a flat panel 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 a 17-, 19-, or 22-inch diagonal HP LCD monitor and an HP Compaq dc7800 or dc7900 Ultra-slim Desktop PC or HP t5000 series 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 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 Compaq 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

VGA cable; DVI-D to DVI-D cable; USB cable, audio cable, power cable,



### Technical Specifications

	user CD-ROM
<b>Software</b>	HP Display LiteSaver 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.
<b>User Guide Languages</b>	English, French, LA Spanish, Korean, S. Chinese, T. Chinese, Bahasa, Japanese
<b>Warranty Languages</b>	English, Canadian French, LA Spanish, Brazilian Portuguese, Danish, German, Castilian Spanish, French, Italian, Dutch, Norwegian, Finnish, Swedish, Bahasa Indonesian, Korean, T. Chinese, S. Chinese
<b>Color</b>	Black
<b>VESA External Mounting</b>	Yes, standard 4 hole pattern, 100 mm
<b>Security Lock-Ready</b>	Yes, one slot available
<b>Certification and Compliance</b>	TCO Displays 5.0 (Low Emissions), CISPR Requirements, VCCI Approvals, KC and KCC (Korean) Requirements, KEMCO e-Standby, CSA 60950-1, UL 60950-1, EN55022 Class B, CNS 13438 Class B, IEC 60950-1, China Energy Label (CEL), EUP Lot 6 Tier 1, CE Marking, FCC Part 15 class B Approval, EN55024 Class B, EN60950 -1, CUL, CCC, IT ECO (EDS), Microsoft® Windows® XP, Windows Vista®, Windows® 7*
<b>Compatibility</b>	Compatible with platforms using the VESA standard video modes. Recommended for use with HP products.
<b>Service and Warranty</b>	<p>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<sup>1</sup>. 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.</p> <p><sup>1</sup> 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 <a href="http://www.hp.com/go/lookuptool">www.hp.com/go/lookuptool</a>. Additional HP Care Pack Services information by product is available at <a href="http://www.hp.com/hps/carepack">www.hp.com/hps/carepack</a>. Service levels and response times for HP Care Packs may vary depending on your geographic location.</p>

© Copyright 2010 Hewlett-Packard Development Company, L.P.

\*Full touch functionality supported with Windows® 7. Limited touch functionality supported with Windows® XP when L2105tm monitor is used as primary monitor.

Microsoft and Windows are U. S. registered trademarks of Microsoft Corporation. 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.

