Overview

1.	**Microphones**	Dual microphones	6.	**OK/auto**	If the OSD menu is on, press to select the highlighted menu item. If the OSD menu is inactive, press to activate the auto adjustment feature to optimize the screen image.
2.	**Webcam**	720p HD Webcam, LED lights up when webcam is in use.			
3.	**Menu**	Opens, selects or exits the OSD menu.	7.	**Power**	Turns the monitor on or off.
4.	**Minus**	If the OSD menu is on, press to navigate backward through the OSD menu and decrease adjustment levels.	8.	**Power LED**	Blue = Fully powered. Amber = Sleep mode. Flashing Amber = Sleep Timer mode.
5.	**Plus/source**	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 the source button that chooses the video signal input.	9.	**HP Business Notebook** (notebook sold separately)	Compatible with HP Commercial Notebooks*
			10.	**USB 3.0 cable**	A single connection from notebook to monitor provides video and port replicator functions.

QuickSpecs

Overview

1. DC Power in
2. DC power out
3. Audio in
4. Audio out

5. VGA connector
6. RJ-45 (network) jack
7. USB 2.0 (2)
8. USB 3.0 upstream

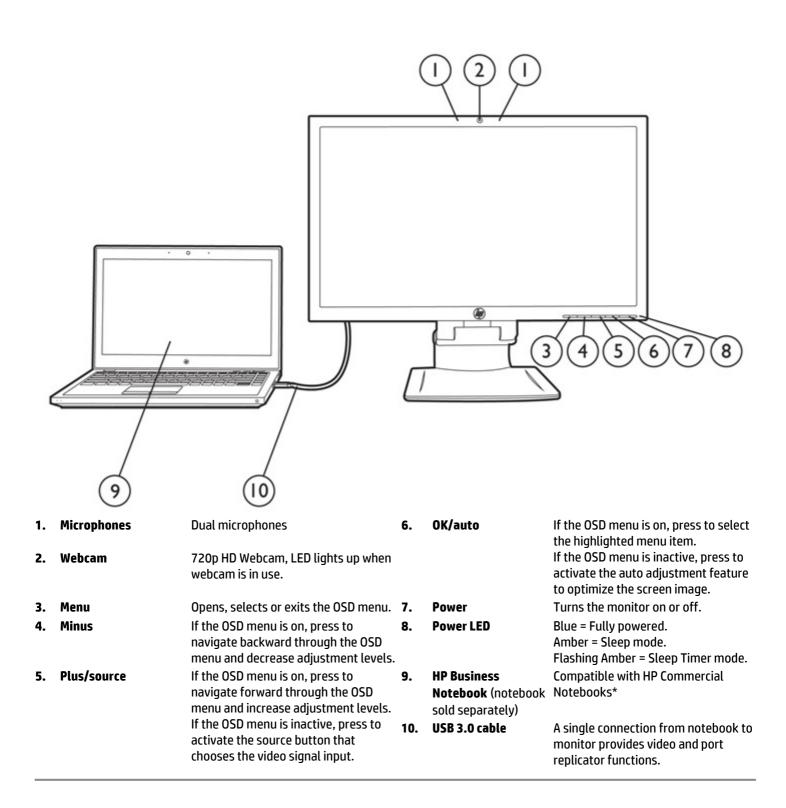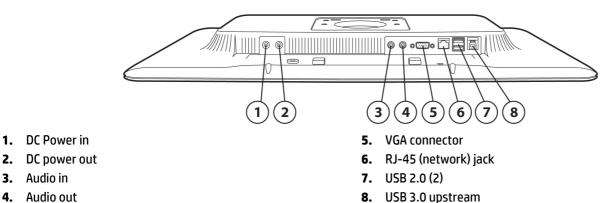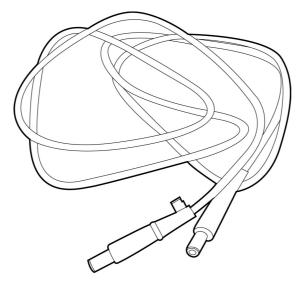**DC to DC cable (included)**

Key Features:

- 23" (16:9) LED Backlit LCD panel
- A single High Speed USB 3.0 connection to a notebook provides video and port replicator functions (USB and network)
- Connect to a variety of peripherals with four USB port and, one network connector
- HP Smart AC Adapter cable for power pass-through3 charging6 in one innovative and stylish monitor*
- 4 axis adjustable stand (height, tilt, swivel, and pivot)
- 720p Webcam w/ dual microphones
- Audio in/out

*Battery charging capability for HP Commercial Notebooks up to 90W, EliteBook Mobile Workstations will have pass through power capability only.

Overview

Model

A1W80AA

Technical Specifications

Panel		
	Type	TN (Twisted Nematic) LED Backlit LCD
	Viewable Image Area (diagonal)	**58,42 cm** (23.0 in.) widescreen; diagonally measured
	Screen Opening (W x H)	**53,32 x 28,68 cm** (20.05 x 11.29 in.)
	Aspect Ratio	16:9
	Viewing Angle (typical)	Up to 170° horizontal/160° vertical (10:1 minimum contrast ratio)
	Brightness (typical)*	250 nits (cd/m^2)
	Contrast Ratio (typical)*	1000:1
	Dynamic Contrast Ratio (typical)*	1,000,000:1
	Response Time (typical)*	5 ms (on/off)
	Pixel Pitch	0.265 mm
	Backlight Lamp Life (to half brightness)	30,000 hours
	Color Gamut (typical)	72%
	Color Support**	Can display up to 16.7 million colors

*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.

On Screen Display (OSD) **Controls**		
	Buttons or Switches	"Menu" "-" "+" "OK" "Power"
	Languages	English, French, German, Italian, Dutch, Spanish, Japanese, Portuguese, Traditional Chinese, and Simplified Chinese
	User Controls	Switch Video Input, Brightness, Contrast, Image Control, Color, OSD Control, Language, Management, Information, Factory Reset, Exit

Signal Interface/ Performance		
	Horizontal Frequency	24 to 94 kHz
	Vertical Frequency	50 to 76 Hz
	Native Resolution	1920 x 1080 @ 60 Hz
	Preset VESA Graphic Modes (non-interlaced)	1920 x 1080 @ 60 Hz
		1680 x 1050 @ 60 Hz
		1440 x 900 @ 60 Hz
		1280 x 1024 @ 60 Hz
		1280 x 720 @ 60 Hz
		1024 x 768 @ 60 Hz
		800 x 600 @ 60 Hz
		720 x 400 @ 70 Hz
		640 x 480 @ 60 Hz
	Text Mode	720 x 400 @ 70 Hz
	Maximum Pixel Clock Speed	200MHz (VGA)

Technical Specifications

	User Programmable Modes	Yes (27)	
	Anti-Glare	Yes	
	Default Color Temperature	Standard (6500K)	
Video/Other Inputs	**Plug and Play**	Yes	
	Input Connectors (Video)	(1) USB 3.0 upstream (interface to notebook); (1) VGA (analog)	
	Input Impedance	75 Ohms (VGA)	
	Sync Input	TTL separate synch	
	Video Cable	(1) USB 3.0	
	Video Cable Length	**1,8 m** (5.9 ft.)	
	Audio	(1) Audio in/microphone; (1) Headphone/line out	
	USB	4 total USB ports: (2) USB 3.0 ports; (2) USB 2.0 downstream ports	
	Network	(1) RJ-45 Network in	
	Webcam	Built-in 720p HD Webcam w/ dual mic and LED	
Power	**Type**	External	
	Input Power	100 – 240 VAC, 50 – 60 Hz	
	Typical Power Consumption	38W	
	Maximum	55W	
	Power Saving	< 1W	
	Power Cable Length	**1.8 m** (5.9 ft.)	
	Notebook charging	Built-in HP Business Notebook charger with HP Smart AC Technology6 to power and charge HP notebooks (up to 90W)* *Pass through power only for HP Commercial Notebooks above 90W*	
	Charging Power cable length	**1.8 m** (5.9 ft.)	
Mechanical	**Dimensions** (W x D x H)	**Unpacked w/stand**	**55,15 x 24,94 x 35,1 to 46,7 cm.** (21.71 x 9.82 x 13.82 to 18.39 in.)
		Unpacked w/o stand (head only)	**55,51 x 4,95 x 33,42 cm.** (21.69 x 1.95 x 13.16 in.)
		Packaged	**62,4 x 50,2 x 16,9 cm.** (24.57 x 19.76 x 6.65 in.)
	Weight	**Head Only**	**4,1 kg** (9.02 lb.)
		Unpacked	**6,55 kg** (14.41 lb.)
		Packaged	**9,49 kg** (20.89 lb.)
	Tilt Range	-5° to +30°	
	Swivel Range	Yes (+/- 180°)	
	Height Adjustable	Yes, from **0 to 13,0 cm.** (0 to 5.1 in.)	
	Pivot Rotation	Yes	
	Base	Detachable, ships attached	

Technical Specifications

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 3049 m.** (10,000 ft.)
	Altitude – Non-operating	**0 to 12192 m.** (40,000 ft.)
	White LED Backlights	Yes
	CCFL Panel	No
	Arsenic-Free Display Glass (100% free)[4]	Yes
	Low Halogen3	Plastics and Finishes or Paint (excludes external 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
- TCO 05

Energy Consumption	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 60Hz**
Normal Operation	23.2 W	23.3 W	23.3 W
Sleep	0.4 W	0.4 W	0.4 W
Off	0.3 W	0.3 W	0.3 W

Heat Dissipation*	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 60Hz**
Normal Operation	79 BTU/hr	80 BTU/hr	80 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 28% post-consumer recycled plastic (by wt.)
- This product is 99% recycle-able when properly disposed of at end of life.

QuickSpecs

Technical Specifications

Packaging Materials	**External:**	PAPER/Paper	1579 g
	Internal:	PLASTIC/EPS (Expanded Polystyrene)	320 g
		PLASTIC/EPE-Expanded Polyethylene	26.7 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 at: 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.

Technical Specifications

- 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.
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	**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 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.
	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 Integrated Work Center Stand—Part number GN783AA — Allows mounting of a 17 - 23 inch diagonal HP LCD monitor and an HP Compaq dc8000 series Ultra-slim Desktop PC as well as select HP Thin Clients on a single stand for the convenience of an "all-in-one" form factor. For more information, refer to this product's QuickSpecs document.

Technical Specifications

	HP Single Monitor Arm—Part number BT861AA	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.
	HP Adjustable Dual Display Stand—Part Number AW664AA	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.
Other	**Accessories Included**	USB 3.0 cable, AC Power cable, Notebook Charging cable, Webcam security cover
	Featured Software	Yes, CyberLink YouCam, HP Display Assistant and HP MyRoom software included
	User Guide Languages	English, Danish, Dutch, Finnish, French, German, Italian, Norwegian, Spanish (International), Swedish, Czech, Greek, Hungarian, Polish, Russian, Slovenian, Turkish, Arabic, Portuguese (Brazilian), Bahasa Indonesia, T. Chinese, S. Chinese, Japanese
	Warranty Languages	English, German, French, Italian, Turkish, Greek, Arabic, Hungarian, Czech, Russian, Polish, Japanese, Dutch, Danish, Finnish, Portuguese, Norwegian, Swedish, T. Chinese, Korean, Slovenian, Bahasa, Spanish
	Color	Black
	VESA External Mounting	Yes (one set of standard 4-hole pattern, 100 mm).
	Security Lock-Ready	Yes
Certification and Compliance		CB, CE, TUV, TUV-GS, TCO 5.2, ETL, FCC, CES, S-Mark, VCCI, CCC, CECP, C-Tick, TGM , BSMI, KCC&KC, E-standby, NOM, SEPA, PSB, HRN N N0.201, GOST, SASO, SABS IEC 60950-1, WEEE, ROHS, REACH, EDS.
Operating System Support		Genuine Microsoft Windows® 7 32-bit Professional
		Genuine Microsoft Windows® 7 64-bit Professional
		Genuine Microsoft Windows® Vista Business (32-bit)
		Genuine Microsoft Windows® XP Professional (32-bit)
Compatibility – USB		Compatible with notebook platforms configured with either USB 2.0 or USB 3.0 ports
		NOTE: Not compatible with devices that use the Intel® Atom™ processor.
Compatibility – Power Charging		Compatible with any HP Commercial Notebook configured with Smart AC 3-Pin connector4
		NOTE: Not compatible with devices that use the Intel® Atom™ processor.
Service and Warranty		Protected by HP, including a 3 year standard limited warranty. Optional Care Pack Services are extended service contracts which go beyond your standard warranties.2

Technical Specifications

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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.

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

3External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.

4HP Smart AC Technology will charge HP notebooks up to 90W and only allow power pass through for HP Notebooks above 90W.

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.