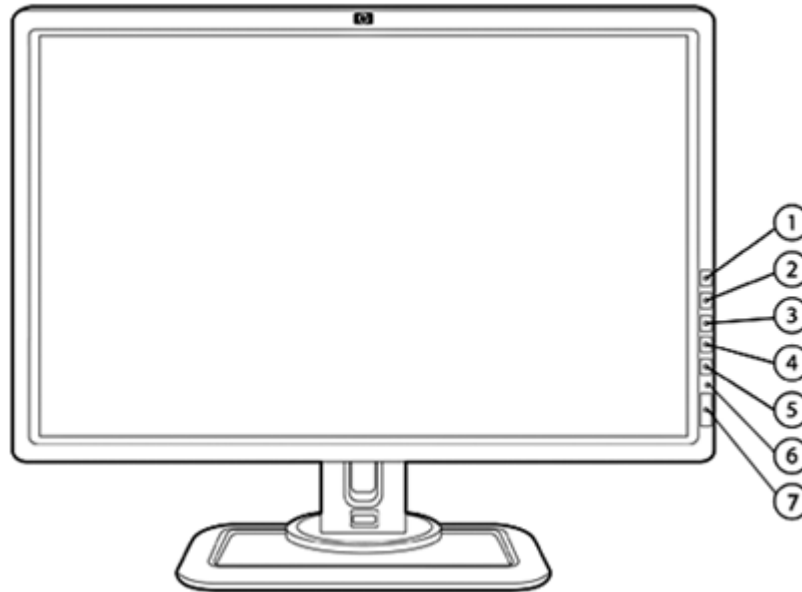


### Overview



1. Function: Performs the function set in the OSD menu (OSD Control > Function Control).
2. Input: Selects the video input (DVI-1, DVI-2, HDMI, DisplayPort, Component, S-Video, or Composite).
3. Plus: Navigates forward through the OSD menu and increases adjustment levels.
4. Minus: Navigates backward through the OSD menu and decreases adjustment levels; when the OSD menu is inactive, activates the auto-adjustment feature to optimize the screen image.
5. Menu/Select: Opens, selects or exits the OSD menu.
6. Power LED: Green = Fully powered.  
Amber = Sleep mode.  
Flashing Amber = Sleep Timer mode.

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### Model

GV546A4

### Technical Specifications

<b>Panel</b>	<b>Type</b>	IPS 24-in (60.96-cm) wide-aspect screen
	<b>Viewable Image Area (diagonal)</b>	24 in (60.96 cm) wide-aspect screen
	<b>Screen Opening (W x H)</b>	20.54 x 12.80 in (52.16 x 32.52 cm)
	<b>Panel Type</b>	IPS
	<b>Aspect Ratio</b>	16:10
	<b>Viewing Angle (typical)<sup>1</sup></b>	178 degrees (to CR of 10:1 min.)
	<b>Maximum White Luminance<sup>1</sup></b>	250 cd/m <sup>2</sup> (typ.)
	<b>Minimum White Luminance</b>	50 cd/m <sup>2</sup> (typ.)
	<b>Black Luminance</b>	0.05 cd/m <sup>2</sup> (typ. black level at minimum white level)
	<b>Contrast Ratio (typical)<sup>1</sup></b>	1000:1
	<b>Response Rate (typical)<sup>1,2</sup></b>	12 ms (rise+fall, full black-to-white-to-black); 6 ms (gray to gray)
	<b>Pixel Pitch</b>	0.270 mm
	<b>Backlight Life (to half brightness)</b>	50K hours
	<b>Backlight Type</b>	RGB LEDs
	<b>Gamma/Tone Response</b>	Programmable from "gamma" value of 1.0 to 3.0.
	<b>Color Gamut</b>	Native gamut approx. 133% NTSC (typ. in CIE 1976 u'v' space)
	<b>Adobe RGB Coverage</b>	100% (typ.)
	<b>sRGB Coverage</b>	100% (typ.)
	<b>Display Colors</b>	Over 1 billion colors in native mode
	<b>Lookup Table</b>	12 bits per entry, 1024 entries per table.
<b>Internal Processing</b>	Min. 10 bits/color throughout video processing pipeline.	
<b>Bezel Width</b>	0.71 in (1.8 cm)	
<b>On Screen Display (OSD) &amp; Controls</b>	<b>Buttons or Switches</b>	Function Select, Input Select/Exit OSD, Plus (+), Minus (-), Menu/Select, Power
	<b>OSD Languages</b>	Chinese (simplified), Dutch, English, Spanish, French, Italian, Japanese
	<b>OSD Functions (partial list)</b>	Color Space, Luminance, Whitepoint, Primaries and Gamma Information, Reset to Factory Calibration, Reset to Last Calibration, Black Level, Overdrive, Custom Scaling, PIP Controls, Language, Power Saver, Power on Recall, Bezel Button LED, Auto EDID Update, Sleep Timer, Function (button) Control, Monitor Status Message, Warning Messages, Calibration Limit, OSD Button Labels, Mode Display, Video Input Control, Input Auto-Switching, Information (menu), Factory Reset., Intuitive OSD supporting key features of monitor
<b>Signal Interface/ Performance</b>	<b>Horizontal Frequency</b>	24 – 80 kHz
	<b>Vertical Frequency</b>	47 – 61 Hz. No internal frame rate conversion at 48, 50, and 59.94/60 Hz
	<b>Native Resolution</b>	1920 x 1200 pixels
	<b>Preset Graphic Timing</b>	640 x 480 @ 60 Hz

### Technical Specifications

<b>Modes</b> (non-interlaced) (Per VESA DMT or CVT standards unless otherwise noted)	720 x 400 @ 70 Hz 800 x 600 @ 60 Hz 1024 x 768 @ 60 Hz 1280 x 768 @ 60 Hz 1280 x 960 @ 60 Hz 1280 x 1024 @ 60 Hz 1600 x 1000 @ 60 Hz 1600 x 1200 @ 60 Hz 1680 x 1050 @ 60 Hz 1920 x 1080 @ 60 Hz 1920 x 1200 @ 24 Hz ; 48 Hz, and @ 60 Hz (CVT and CVT-R timings) 2048 x 1080 @ 48 Hz and 60 Hz 2048 x 1200 @ 48 Hz and 60 Hz
<b>SDTV/HDTV Timing Modes</b> (per CEA standards unless otherwise noted)	720 x 480 @ 60 Hz (interlaced) 720 x 480 @ 60 Hz (progressive) 720 x 576 @ 50 Hz (interlaced) 720 x 576 @ 50 Hz (progressive) 1280 x 720 @ 50 Hz (progressive) 1280 x 720 @ 60 Hz (progressive) 1920 x 1080 @ 50 Hz (interlaced) 1920 x 1080 @ 60 Hz (interlaced) 1920 x 1080 @ 50 Hz (progressive) 1920 x 1080 @ 60 Hz (progressive)
<b>Maximum Pixel Clock Speed</b>	200 MHz on DVI-I (analog), HDMI, and DisplayPort inputs; 165 MHz max on DVI-I digital inputs.
<b>User Programmable Timing Modes</b>	20 additional user-programmable timings may be stored.
<b>Color Space Presets</b>	7 color space presets; all user-programmable six factory programmed: sRGB, Rec. 709, Rec. 601, Adobe® RGB, DCI-P3 emulation (97%), full gamut <sup>3</sup>
<b>Anti-Glare</b>	Yes
<b>Anti-Static</b>	Yes
<b>Default Color Temperature</b>	6500K
<b>Video and Other Inputs</b>	
<b>Video Inputs Provided</b>	DVI-I (2), DisplayPort 1.1, and HDMI 1.3 with HDCP support; Component (YPbPr), S-Video, Composite
<b>Self Powered USB 2.0 Hub</b>	1 upstream, 4 downstream USB 2.0 ports.
<b>Analog Input Signal Std.</b>	VESA VSIS (0.7V black-to-white, nom.) on DVI-I inputs.
<b>Analog Input Impedance</b>	75 ohms, all analog inputs
<b>Sync Input</b>	TTL (analog input section of DVI-I inputs)
<b>Cables</b>	1 VGA to DVI-I, 1 DVI-D to DVI-ID 1 DisplayPort, 1 HDMI, 1 USB
<b>Video Cable Length</b>	6.6 ft (2.0 m) (all)

### Technical Specifications

<b>Power</b>	<b>AC Line Voltage</b>	100 – 240 VAC
	<b>Frequency</b>	50/60 Hz
	<b>Typical Power Consumption</b>	42 W (120 VAC, no USB devices connected, and sRGB Color Space preset).
	<b>Maximum</b>	90 W
	<b>Power Saving</b>	10 W in "sleep" mode; 3W in "off" mode
	<b>Power Cable Length</b>	6.2 ft (1.9 m)
	<b>Mechanical</b>	<b>Dimensions (H x W x D)</b>
<b>Unpacked w/o stand</b> (head only) 14.76 x 22.24 x 3.86 in (37.5 x 56.5 x 9.8 cm)		
<b>Packaged</b> 18.43 x 26.85 x 14.6 in (46.8 x 68.2 x 37.1 cm)		
<b>Weight</b>		
		<b>Unpacked</b> 27.5 lb (12.5 kg)
		<b>Unpacked w/o stand</b> (head only) 18.7 lb (8.5 kg)
		<b>Packaged</b> 33 lbs (15 kg)
		<b>Tilt Range</b> –5 to +35 degrees
		<b>Swivel Range</b> –45 to +45 degrees
		<b>Height Adjustable</b> 3.94 in (10.0 cm) range
		<b>Pivot Rotation</b> Yes, 90 degrees
		<b>Options</b> Optional glare-reduction hood available.
<b>Environmental</b>		<b>Temperature – Operating</b>
	<b>Temperature – 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 95% (38.7 deg. C max. wet-bulb temperature)
	<b>Altitude – Operating</b>	0 to 12,000 ft (3650 m)
	<b>Altitude – Non-operating</b>	0 to 40,000 ft (12,000 m)
	<b>Other</b>	<b>Accessories Included</b>
<b>Software</b>		HP Display Assistant is a software utility that allows monitor adjustment, color calibration, and security/asset management using the Display Data Channel Command Interface (DDC/CI) protocol of the connected desktop PC. 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.
<b>User Guide Languages</b>		English, Arabic, Bahasa Indonesian, S. Chinese, T. Chinese, Czech, Danish, Dutch, Finnish, French, German, Greek, Korean, Italian, Japanese, Norwegian, Polish, Brazilian Portuguese, Russian, Slovenian, LA Spanish, Swedish, Turkish

### Technical Specifications

	<b>Warranty Languages</b>	English, French, Spanish, Brazilian Portuguese, Danish, Dutch, Finnish, German, Italian, Norwegian, Swedish, Turkish, Bahasa, Korean, S. Chinese, and T Chinese.		
	<b>Color</b>	Carbonite/silver		
	<b>VESA External Mounting</b>	Yes (Standard 4 hole pattern, 100 mm)		
	<b>Security Lock-Ready</b>	Yes		
<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>● IT ECO declaration</li> </ul>		
	<b>Energy Consumption</b> (in accordance with ENERGY STAR® test method)	AC Input Voltage at 100 VAC +/- 5 VAC, 50 Hz +/- 3 Hz	AC Input Voltage at 115 VAC +/- 5 VAC, 60 Hz +/- 3 Hz	AC Input Voltage at 230 VAC +/- 5 VAC, 50 Hz +/- 3 Hz
	<b>Normal Operation</b>	65 watts	65 watts	65 watts
	<b>Sleep</b>	1.4 watts	2.2 watts	1.3 watts
	<b>Off</b>	1.3 watts	2.2 watts	1.2 watts
	<b>Heat Dissipation*</b>	AC Input Voltage at 100 VAC +/- 5 VAC, 50 Hz +/- 3 Hz	AC Input Voltage at 115 VAC +/- 5 VAC, 60 Hz +/- 3 Hz	AC Input Voltage at 230 VAC +/- 5 VAC, 50 Hz +/- 3 Hz
	<b>Normal Operation</b>	222 BTU/hr	222 BTU/hr	222 BTU/hr
	<b>Sleep</b>	5 BTU/hr	8 BTU/hr	4 BTU/hr
	<b>Off</b>	4 BTU/hr	8 BTU/hr	8 BTU/hr
	* Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.			
	<b>Longevity and Upgrading</b>	Upgradeability features contained in the product include: 1 upstream, 4 downstream USB 2.0 ports.		
	<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 Silver 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.		

### Technical Specifications

This product contains 0% recycled materials (by wt.)

This product is 94.0% recyclable when properly disposed of at end of life.

#### Packaging Materials

##### External:

- Polyethylene – 46.6 g
- Plastic/aluminum – 80.4 g
- Corrugated carton – 1878.2 g

##### Internal

- EPS (Expanded Polystyrene) – 632.4 g

#### 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 [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.

### 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: [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.

#### 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 monitor or PC, the Speaker Bar seamlessly attaches to the monitor's lower bezel to bring full audio support to the monitor. Features include dual speakers with full sound range and an external jack for headphones. Sold separately. For more information, refer to the HP LCD Speaker Bar QuickSpec.

#### HP USB Graphics Adapter-Part number NLS71AA

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.

#### HP DreamColor Advanced Profiling Solution-Part number KZ300AA

LCD monitor option designed for those professional users who require the precision color accuracy in their work output; quickly and accurately allows the user to calibrate his monitor front of screen setting to prevent any drift of critical monitor color or whitepoint settings.

#### HP LCD-Hood Kit-Part number KZ301AA

Monitor option designed for critical use applications where shielding from contrasting open back light sources are required; enables an improved visible monitor resolution by providing a darkened fore space from which to view the monitor's panel.

### Certification and Compliance

TCO'99, ISO 13406-2 VDT Guidelines Approval, CISPR Requirements, VCCI Approvals, MIC (Korean) Requirements, CSA, Australian ACA Approval, "GS" Mark, TUV Approvals, CE Marking, FCC Approval, CCC, Microsoft® Windows® Certification (Microsoft® Windows® 98, Microsoft Windows 2000, Microsoft Windows XP, and Windows Vista® Premium)

### Compatibility

Compatible with platforms using the VESA standard video modes. Recommended for use with HP products.

### Technical Specifications

**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.<sup>4</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.

<sup>1</sup> All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.

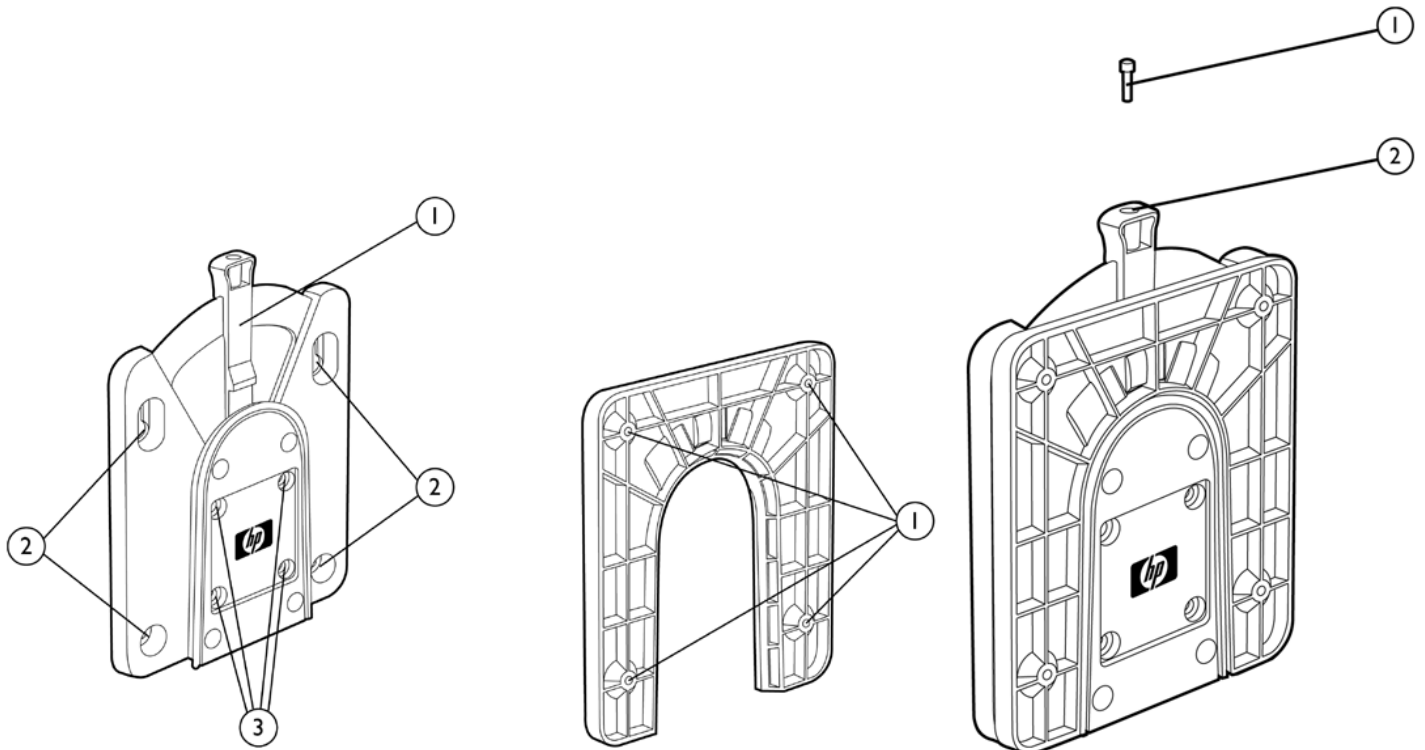
<sup>2</sup> OSD OverDrive (in the Image Control menu) control set to Enabled.

<sup>3</sup> Programming color space presets requires use of optional calibration accessory and software

<sup>4</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 [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.



### Overview - HP LCD Monitor Quick Release



1. Release/locking
2. Four 100 mm VESA mount screw holes
3. Mounting holes for attachment to back of monitor stands

1. Four 100 mm VESA mount screw holes

1. Locking pin screw
2. Locking pin hole on release/locking arm

## Introduction

The HP Quick Release, which ships standard with the HP DreamColor LP2480zx Professional Display, is an easy to use, 100 mm VESA-compliant, flat panel 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. HP Quick Release can also be used for mounting any combination of devices that are compatible with the 100 mm VESA Flat Display Mounting Interface Standard. The failsafe "Sure-Lock" mechanism snaps the monitor (or mounted device) securely in place, and can be further secured with a theft-deterrent security screw.

## Uniquely flexible product configurations

HP Quick Release enables uniquely flexible product configuration alternatives in a variety of settings, such as:

- Storefronts/kiosks: Mount flat panel monitors for easy viewing and add touchscreens for interactivity.
- Trade shows: Securely mount LCD TVs or monitors in common areas and quickly remove them for safekeeping at the end of the day.
- Front office environments: Minimize desk space requirements with wall or swing-arm mounting of monitors in reception areas.
- Training labs: Mount a monitor directly on a 100 mm VESA-compatible PC or an HP Thin Client for all-in-one convenience.
- Medical/institutional settings: Securely mount monitors in nursing stations and public areas.
- Conference rooms: Mount projectors (with 100 mm VESA-compliant pre-drilled holes) on ceilings, and monitors on walls or tables.

### Technical Specifications - HP LCD Monitor Quick Release

<b>Mechanical</b>	<b>Dimensions</b> (H x W x D)	<b>Packaged</b>	7.8 x 6.25 x 1.5 in (19.8 x 15.9 x 3.8 cm)
		<b>Unpackaged</b>	6.3 x 5.2 x 0.65 in (16 x 13.2 x 1.65 cm)
	<b>Weight</b>	<b>Packaged</b>	1.1 lb (0.49 kg)
		<b>Unpackaged</b>	0.82 lb (0.37 kg)
<b>Additional components</b>	<ul style="list-style-type: none"><li>• Eight 10 mm mounting screws (for attachment to VESA compliant monitor mounts)</li><li>• Eight 15.5 mm mounting screws (for attachment to HP Thin Client products)</li><li>• Four 20 mm mounting screws (for attachment to back of select HP flat panel monitor stands)</li><li>• One Quick Release "locking" screw</li></ul>		
<b>Color</b>	Carbonite		
<b>Notes</b>	<ol style="list-style-type: none"><li>1. No HP monitors allow positioning of a thin client product between a monitor screen and its stand.</li><li>2. The Quick Release device is not to be used between a monitor screen and its stand unless provided that way from the factory.</li><li>3. Under no circumstances is the Quick Release device intended to be used in an orientation where the Release/Lock lever is oriented downward.</li></ol>		
<b>Supported weight capacity</b>	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.		

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