



# HP Dual Output USB Graphics Adapter

User Guide

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## About This Guide

This guide provides information on setting up the graphics adapter, installing drivers, using the graphics adapter, troubleshooting and technical specifications.

 **WARNING!** Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

 **CAUTION:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

 **NOTE:** Text set off in this manner provides important supplemental information.

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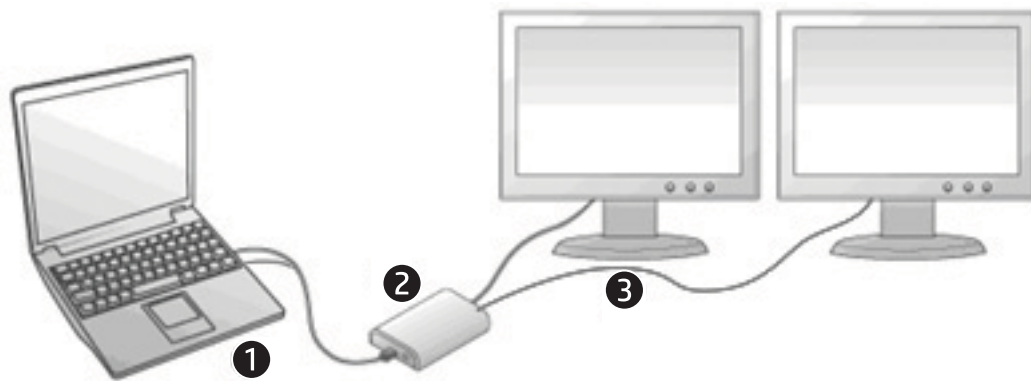
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# 1 Introduction

The HP Dual Output USB Graphics Adapter enables you to connect one or two LCD monitors to a computer with a USB 3.0 (or USB 2.0) port. For desktop users, adding an extra monitor through a USB connection is much easier than opening the computer chassis and installing an internal video card.

The HP adapter provides several benefits with an add-on monitor. One benefit is that you get more desktop area so that you can have more applications visible at one time. For example, you can work on one monitor while performing a separate task on the other. Other benefits include no more need for stacking windows within the confines of a single display, or you can span an application, such as spreadsheets, across two displays. The adapter is also hot pluggable. If you are not using the extra monitor, just unplug the adapter at any time; no reboot is needed.

System performance is an important issue when using multiple monitors. Another benefit of this adapter is that it uses minimal computer resources, ensuring you get quality display without compromising computer performance.



- 
- (1) USB-enabled computer
  - (2) HP Dual Output USB Graphics Adapter
  - (3) DisplayPort, and DVI or VGA monitor
- 

## Safety Instructions

Always read the safety instructions carefully.

- Keep this User Guide for future reference.
- Keep the equipment away from humidity.
- Have the equipment checked by a regional authorized HP service provider if any of the following situations occur:
  - The equipment has been exposed to moisture.
  - The equipment has been dropped and damaged.

- The equipment has obvious signs of breakage.
- The equipment has not been working correctly or you cannot get it to work according to the User Guide.

## Applications

### Office workstation

- View large spreadsheets across two screens with display continuity
- Multitask more effectively without overlapping windows
- Edit on one screen while surfing for Internet information on the other

### On the road

- Do multiple screen presentations without the need for another computer
- Easily provide multiple screen exhibitions in a trade show

### Graphics workstation

- Use a second display for palettes or tools
- Get a panoramic view of large documents

### Editing workstation

- Type documents on one screen while viewing reference material on the other
- Compare two documents simultaneously across two screens

### Financial analysis

- Have one monitor per data stream
- View charts and live data at the same time



## Features

- Supports DisplayPort and DVI or VGA graphics output
- Supports USB 3.0 and USB 2.0 input
- DisplayPort output supports resolutions up to 2560 x 1600; DVI and VGA output supports resolutions up to 1920 x 1200 or 2048 x 1152
- Up to 6 monitors can be supported with 3 adapters on a computer
- Plug & Play after one-time driver installation
- Hot-plug; add or remove monitor without system reboot
- Microsoft Windows XP, Windows Vista, and Windows 7 compatible
- Resumes from hibernation and suspend modes



**NOTE:** In certain modes, when trying to display full screen movies from a DVD, it may not display on the add-on monitor.

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## Package Contents

Before installation, check the items in the package. The package should contain the following items:

- HP Dual Output USB Graphics Adapter
- USB 3.0 Y Cable
- DVI to VGA Adapter
- Driver and Documentation CD
- Quick Installation Guide

## System Requirements

The software for the HP Dual Output USB Graphics Adapter can be installed on any system running one of the following operating systems:

- Windows XP SP3 (32-bit edition only)
- Windows Vista SP1 (32-bit or 64-bit editions)
- Windows Vista SP2 (32-bit or 64-bit editions)
- Microsoft Windows 7 SP1 (32-bit or 64-bit)

Refer to the following sections for typical system requirements for your operating system.

### Windows 7 and Windows Vista Systems

For Windows 7 and Windows Vista, the Windows Experience Index (WEI) is a useful measure of hardware level. The WEI is accessible from **Computer > Properties** or from **Control Panel > System**.

The recommended typical hardware requirements for the computer are:

- WEI score of at least 3 in the “Graphics; Desktop performance for Windows Aero” category
- WEI score of at least 3 as recommended by Microsoft

- At least one USB 2.0 port
- 30 megabytes (MB) of free disk space
- Computer screen for use with the DisplayLink device, if it is not integrated
- Network access for software downloads, or access to a CD-ROM drive


If the PC specification is below this, performance will be lower (or CPU loading higher).

## Windows XP Systems

- For 1-2 monitors, business usage, productivity target. This may not provide full frame rate DVD playback at full screen.
  - 1.2GHz Single Core CPU
  - 512MB memory
- For 3 monitors where 1 could run DVD video while also targeting productivity and business applications. Will support only 1 video of DVD resolution at full screen:
  - 1.8GHz CPU
  - 1GB memory
- For 6 screens where 1 screen can run full screen DVD video:
  - 1.6GHz Core Duo
  - 1GB memory
- At least one USB 2.0 port
- 30 megabytes (MB) of free disk space.
- Computer screen for use with the DisplayLink device, if it is not integrated
- Network access for software downloads, or access to a CD-ROM drive

## 2 Installing the Adapter and Driver

Follow the procedures below to install the driver and then connect the adapter:

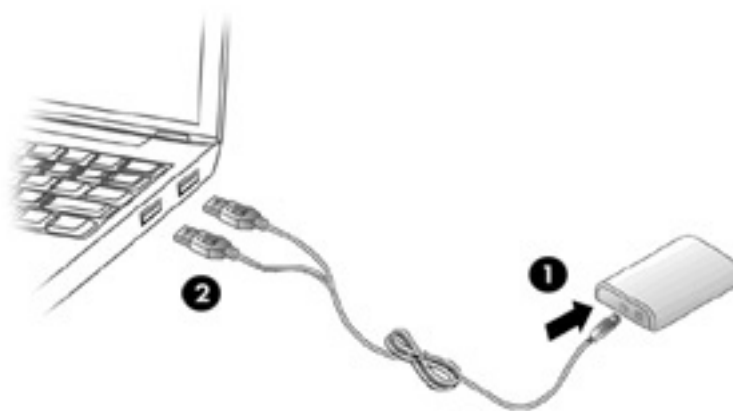
 **NOTE:** For Windows operating systems, be sure you are installing the HP Dual Output USB Graphics Adapter Driver software version R6.3M1 or higher. Refer to USB Dual Output Graphics Adapter Release Notes on the CD provided with the adapter to confirm the software version. To download the latest USB Graphics Adapter Driver, go to <http://www.hp.com/support> click **Support & Drivers > Drivers & Software**, and then enter the product name.

1. Insert the provided driver CD into your optical drive. The CD will open automatically. If not, go to the following directory on the CD, X:\Software\HP Graphics Adapter (where X is the drive letter designator for the optical drive) and double-click the **Setup.exe** file.

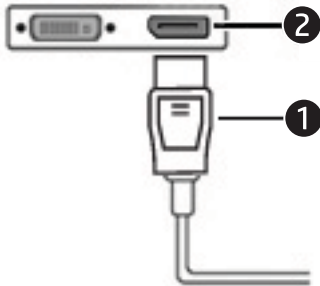


2. Select the language.
3. Click **Install USB Graphics Adapter Driver**.
4. Select **I accept** in the License Agreement. The software will automatically install.
5. If prompted to restart your computer, click **Yes** to restart. In most cases, a reboot is not required.
6. After the drivers are installed, connect the adapter to your computer and monitor.

Connect the smaller end of the USB cable to the adapter (1). Then connect the two "Y" ends of the USB cable to two USB ports on your computer (2).

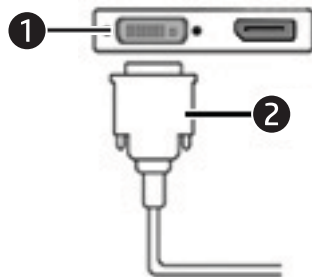


The DisplayPort connector on the HP Dual Output USB Graphics Adapter transmits a digital signal. The adapter (2) can be connected to a DisplayPort connector on the monitor using a DisplayPort cable (1) (not provided).

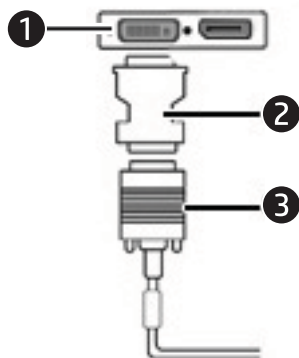


The DVI-I (DVI-Integrated) connector on the HP Dual Output USB Graphics Adapter transmits both the digital and analog signals. This means it supports either of these two connection types:

- The adapter (1) can be connected to a DVI-D (digital) connector on the monitor using a DVI cable (2) (not provided).



- Or, the adapter (1) can be connected to an analog VGA connector on the monitor using the provided DVI-I to VGA adapter (2) and a VGA cable (3) (not provided).




7. The computer will automatically detect the new USB device and start the Found New Hardware wizard. Follow the instructions on the screen to complete the installation.

8. When the adapter is attached to the computer and a monitor is attached to the adapter, an HP Dual Output USB Graphics Adapter icon appears in the system tray.



Click on the icon to open the menu to select your display mode and control any attached devices.

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 **NOTE:** You can also select your display mode through the Windows display properties settings. Check the HP support Web site to ensure the adapter has the most up-to-date drivers and software for your operating system.

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The adapter can be connected or disconnected at any time.

To change or select the display mode, see [Using the Adapter on page 8](#) for instructions.

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 **NOTE:** During the installation, it is normal for the screen to flicker black a couple of times.

Sometimes it takes time for the add-on monitor to show the video.

 **NOTE:** Two displays with resolutions up to 1920 x 1200 or 2048 x 1152 can operate on both outputs simultaneously; however connecting a display with resolution higher than 1920 x 1200 or 2048 x 1152 to the DisplayPort output will disable the DVI output.

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## 3 Using the Adapter

### Display Modes

There are several ways you can utilize the monitor attached to the adapter. The add-on monitor can be configured to use either extend mode or mirror mode, or it can be the primary display.

#### Extend Mode (Default)

In extend mode (the default mode), your Windows desktop display will be spread over to the add-on monitor(s). This mode allows you to perform multiple tasks more effectively without overlapping windows.



To set up the add-on monitor in extend mode, click on the HP Dual Output USB Graphics Adapter icon in the system tray on the Windows taskbar and select **Extend**. The device will now be extending in the direction it was the last time the monitor was in this mode. Select **Extend to** for more control of where to place it to the **Left**, **Right**, **Above**, or **Below** the main (primary) monitor.

You can also set up the add-on monitor in extend mode through the Windows display settings. To use this method:

1. Position the cursor anywhere on your Windows desktop, right-click and select **Personalize > Display Settings** on Windows Vista and Windows 7 or **Properties > Settings** on Windows XP.
2. In the **Display** drop-down menu, select the option that ends with **HP Dual Output USB Graphics Adapter**.
3. Check the **Extend the desktop onto this monitor** box on Windows Vista and Windows 7 or **Extend my Windows desktop onto this monitor** box on Windows XP.
4. Drag the icons in the window at the top of the screen to match the physical arrangement of your primary monitor and add-on monitor.

The add-on monitor connected to the adapter may be identified as either "2" or "3," depending on your computer, although there may not be a total of 3 screens connected.

5. Click **OK** to close the settings screen.

Once the setting is done, to use your extended desktop simply drag and drop your open windows over to your second monitor. However, note that some applications may not support display on the extended desktop.

## Mirror Mode

In mirror mode, your original screen (the primary display) will be mirrored to the add-on monitor. This mode is referred to as mirror or clone mode.



To set up the add-on monitor in mirror mode, click on the HP Dual Output USB Graphics Adapter icon in the system tray on the Windows taskbar and select **Mirror**.

You can also set up the add-on monitor in mirror mode through the Windows display settings. To use this method:

1. Position the cursor anywhere on your Windows desktop, right-click and select **Personalize > Display Settings** on Windows Vista and Windows 7 or **Properties > Settings** on Windows XP.
2. In the **Display** drop-down menu, select the option that ends with **HP Dual Output USB Graphics Adapter**.
3. Uncheck the **Extend the desktop onto this monitor** box on Windows Vista and Windows 7 or **Extend my Windows desktop onto this monitor** box on Windows XP.
4. Click **OK** to close the settings screen.

In mirror mode, the settings on the primary monitor (screen resolution, color depth, and refresh rate) are replicated on the add-on monitor. But you can manually adjust the settings as required. However, the settings of the add-on monitor are limited by that of the primary monitor. For example, even though your add-on monitor supports a resolution of up to 1920 x 1200, you can only configure it to use 1920 x 1200 if the primary monitor supports a resolution of up to 1920 x 1200.

## Primary Display

To set up the add-on monitor as the primary display, click on the HP Dual Output USB Graphics Adapter icon in the system tray on the Windows taskbar and select **Set as Main Monitor**.

You can also set up the add-on monitor as the primary display through the Windows display settings. To use this method:

1. Position the cursor anywhere on your Windows desktop, right-click and select **Personalize > Display Settings** on Windows Vista and Windows 7 or **Properties > Settings** on Windows XP.
2. In the **Display** drop-down menu, select the option that ends with **HP Dual Output USB Graphics Adapter**.

3. Check the **This is my main monitor** box on Windows Vista and Windows 7 or **Use this device as the primary monitor** box on Windows XP.

On some PCs and notebooks it is necessary to disable the main display (uncheck the **Extend the desktop onto this monitor** box for the main display) as part of the same settings change.

4. Click **OK** to close the settings screen.

The add-on monitor stays primary if the PC enters hibernate or suspend mode or is rebooted. If the add-on monitor is unplugged, the main display becomes primary again.

## Adjusting Resolution, Color Depth and Refresh Rate

There are three components that make up the screen mode:

**Resolution:** In common usage, this refers to the number of pixels displayed on screen horizontally and vertically.

**Color Depth:** This defines the number of different colors that can be shown on the screen at the same time.

**Refresh Rate:** Measures the speed that the entire screen is rescanned. Higher frequencies reduce flicker.

Most monitors advertise the supported modes through the video connector. If this is the case, the adapter identifies the supported modes from the monitor. If the monitor does not advertise the supported modes, the adapter software chooses a set of common screen modes for the monitor.

The software supports resolution modes up to 1920 x 1200 or 2048 x 1152 on DVI monitors and 2560 x 1600 on DisplayPort monitors.



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**NOTE:** The resolutions and refresh rates available through Windows are a combination of the support from the following elements:

- The USB display adapter
- The primary monitor and the add-on monitor
- The primary video card on your computer and installed drivers

Therefore, for example, if your monitor does not support a resolution of 1920 x 1200, then 1920 x 1200 is not possible even if you are using a USB display adapter with 1920 x 1200 support. This ensures that the monitor cannot be put into an unsupported mode, which might damage it.

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If cloning the primary display, the video component will try to use the preferred monitor mode. In some cases, this may not be the most appropriate mode for the cloned desktop. It is recommended that the primary display resolution be changed to closer match the default resolution of the add-on monitor.

To configure the three components (resolution, color depth, and refresh rate) of a screen mode, follow these steps:

1. Position the cursor anywhere on your Windows desktop, right-click and select **Personalize > Display Settings** on Windows Vista and Windows 7 or **Properties > Settings** on Windows XP.
2. In the **Display** drop-down menu, select the option that ends with **HP Dual Output USB Graphics Adapter**.
3. To change the screen resolution or color quality, select those options on the screen. Be sure to select one of the supported resolutions and color quality numbers. For an add-on monitor, you can also select any resolution or color quality supported by that monitor.



4. To change the refresh rate, click the **Advanced** button and then click the **Monitor** tab.
5. Select a refresh rate from the **Screen refresh rate** drop-down list and then click **Apply**.
6. Click **OK** to close the settings screen.

## Using Multiple Adapters

Up to three adapters can be simultaneously attached to one computer. To use multiple adapters:

1. Install the driver as described in [Installing the Adapter and Driver on page 5](#) and connect the first adapter to your computer.
2. Then connect the second adapter to your computer. The system will automatically complete the installation.

When multiple adapters are connected to a computer, each can be used in either extend or mirror mode.

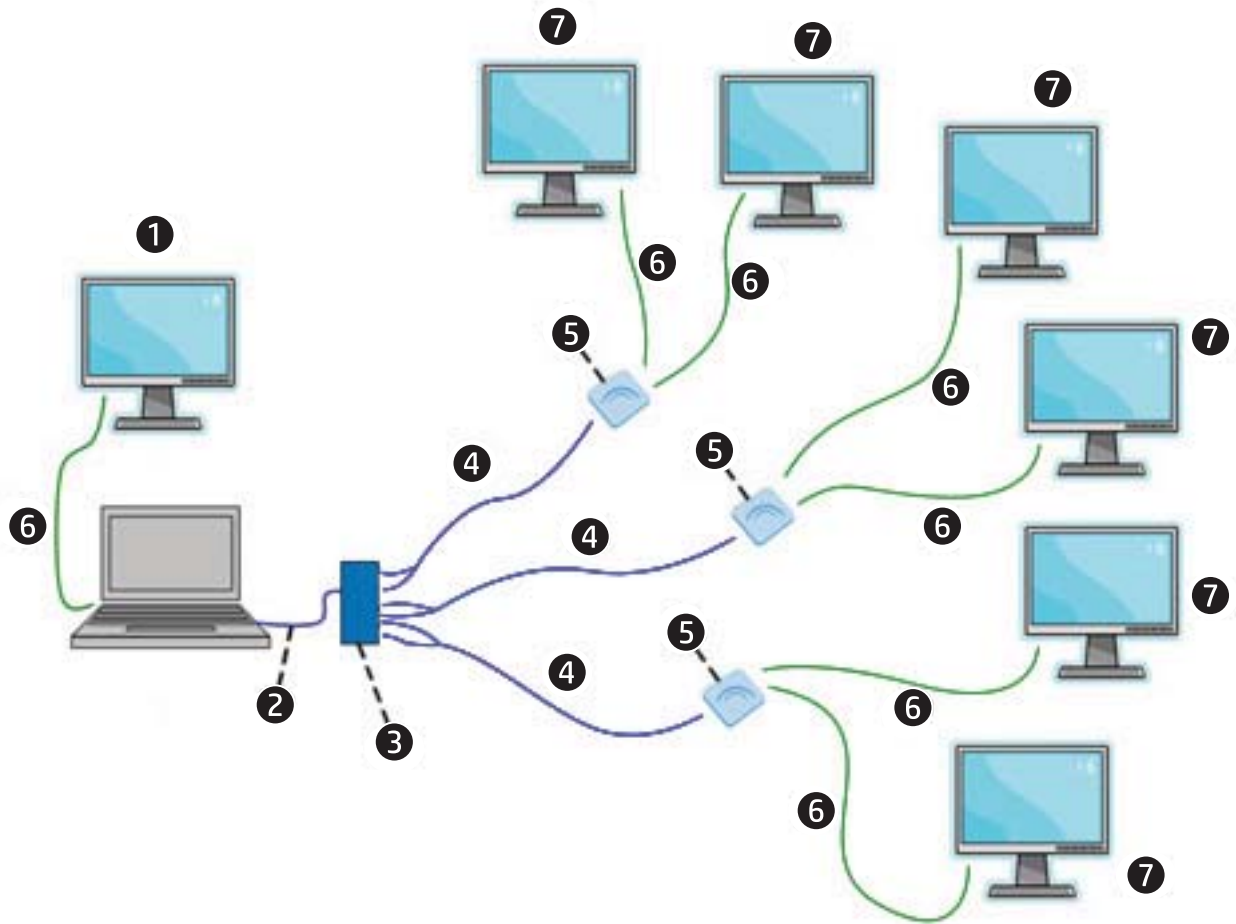


You can connect up to six add-on monitors to one computer using a powered USB hub and three HP Dual Output USB Graphics Adapters as shown in the following diagram.



**NOTE:** An additional HP Dual Output USB Graphics Adapter is required for each additional pair of monitors.

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- (1) Primary Display
  - (2) USB Cable (standard host type both ends)
  - (3) Powered USB Hub
  - (4) USB Y-Cables
  - (5) HP Dual Output USB Graphics Adapters
  - (6) Video Signal Cables
  - (7) Secondary Displays
- 

## Standby and Hibernate, Shut Down and Restart

When the adapter is connected to a computer and an external monitor, if the computer goes into standby or hibernate mode, the external monitor display goes blank.

When the computer returns to an active state, the external monitor display keeps the same settings it had before the computer went into standby or hibernate mode. However, if the add-on monitor was set for extend mode, windows that were previously on the external monitor will not move back to that secondary monitor. Also, if the add-on monitor is in extend mode and the computer requires a login after standby or hibernate mode, the login screen appears on the primary computer monitor, not the external monitor.

If the computer is shut down, restarted, and logged in, the add-on monitor returns to the same mode as it was before shutdown.

## Disconnecting the Adapter

If the adapter is unplugged from the computer, the add-on monitor goes blank. All windows and icons move to the primary screen.

If the adapter is reconnected, the adapter returns to the same mode as it was before disconnection. However, windows and icons that were previously on the screen will not be moved back.

## Uninstalling the Adapter and Driver

If you want to uninstall the graphics adapter and its driver, follow these steps:

1. Open the **Control Panel** and double-click **Programs and Features** on Windows Vista and Windows 7 or **Add or Remove Programs** on Windows XP.
2. Select **HP Dual Output USB Graphics Adapter** and click **Uninstall** or **Remove**.
3. Click **Yes** to confirm the removal.
4. Click **Yes** to restart your computer and then unplug the adapter.

## Automatic Driver and Software Updates

The HP Dual Output USB Graphics Adapter includes an automatic update mechanism that ensures that the adapter has the most up-to-date drivers and software.

By default, automatic updates is configured to check for updated software when the adapter is plugged in, or at the resume or start of your computer every seven days. If newer software is available, the Updates Wizard will pop up. Follow the instructions in the wizard to complete the update.

You can also manually check for updates by clicking the HP Dual Output USB Graphics Adapter icon in the system tray and selecting **Updates > Check Now**. Updates are also available on the HP support Web site at <http://www.hp.com/support>.

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# A Troubleshooting

## Solving Common Problems

The following table lists possible problems, the possible cause of each problem, and the recommended solutions.



**NOTE:** Make sure that you have the latest driver version for the graphics adapter and the latest updates for your computer system. The latest graphics adapter driver can be downloaded from <http://www.hp.com/support>.

Problem	Possible Cause	Solution
The display on the add-on monitor is blank.	The Add-on monitor takes time before showing video or is in standby or hibernation mode.	Wait a moment for the monitor to show the video as sometimes it takes time for the add-on monitor to show the video. Make sure the computer is not in standby or hibernation mode, which will lead the add-on monitor to be blank. If the monitor does not show the video, unplug then replug the USB cable from the computer and make sure the video signal cable between the computer and adapter is properly connected.
	The Add-on monitor is not connected properly.	Unplug then replug the USB cable between the computer and adapter.
The add-on monitor is flickering.	The monitor refresh rate is too low.	In mirror mode, increase the refresh rate of the primary monitor. This will in turn increase the refresh rate of the add-on monitor.
		In extend mode, increase the refresh rate of the add-on monitor.
When playing an MPEG file by Windows Media Player on the extended monitor, the display becomes abnormal when switching it to full screen mode.	Windows XP SP2 is not installed.	If your system is Windows XP SP1, upgrade it to SP2 to solve this problem.

Problem	Possible Cause	Solution
When playing the video in full screen mode, the motion is not smooth.	The resolution is set too high or the monitor is not in the correct mode or other applications are using too much of the computer's resources.	<p>Try the following tips to improve the smoothness of the movie playback:</p> <ul style="list-style-type: none"> <li>• Reduce the resolution of the display to 640 x 480 or 800 x 600.</li> <li>• Use the adapter in extend mode.</li> <li>• Terminate any other CPU intensive applications running on the computer.</li> </ul> <p>If you still have issues playing media content on the adapter, try the following:</p> <ul style="list-style-type: none"> <li>• As some media players require DirectX hardware support to correctly operate, try a different media player which requires less DirectX support.</li> <li>• Drag the media player to the add-on screen and close the player. Restart the player and it should open on the add-on monitor. Now try playing the media file again.</li> <li>• Try reducing the hardware acceleration level of the primary display (NOT the add-on monitor) to levels 1, 2 or 3 and restarting the media player. The hardware acceleration can be found by right-clicking on your desktop and clicking <b>Properties &gt; Settings &gt; Advanced &gt; Troubleshoot</b>. Some players use this setting even when playing on a different display.</li> <li>• The video playback may be unusual when the add-on monitor is mirroring the primary display and there is another extended screen connected to the computer. The extended screen must be disabled before the content will be correctly cloned to the add-on monitor.</li> </ul>
In extend mode, the add-on monitor appears to have a black border around the desktop.	The resolution used by the add-on monitor is larger than the resolution used by the primary monitor.	Configure the add-on monitor to use the same resolution as the primary monitor.
Message "Insufficient system resources exist to complete the requested service" is displayed.	This can occur when entering extend mode with low system resources.	The computer does not have enough memory to start an extend display. Close down any unused applications. The situation may also be improved by rebooting the PC.
Message "The requested allocation size was too large" is displayed.	This can occur if trying to mirror a primary display larger than 4 MegaPixels. These are modes above 2300 x 1700 (4:3) or 2600 x 1500 (16:9).	Reset the resolution mode to a maximum of 1920 x 1200.

# Product Support



**NOTE:** The user guide and latest drivers are available at <http://www.hp.com/support>.

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If the information provided in the guide does not address your questions, you can contact support. For U.S. support, go to <http://www.hp.com/go/contactHP>.

For worldwide support, go to [http://welcome.hp.com/country/us/en/wwcontact\\_us.html](http://welcome.hp.com/country/us/en/wwcontact_us.html). Here you can:

- Chat online with an HP technician



**NOTE:** When support chat is not available in a particular language, it is available in English.

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- E-mail support
- Find support telephone numbers
- Locate an HP service center

## Preparing to Call Technical Support

If you cannot solve a problem using the troubleshooting tips in this section, you may need to call technical support. Have the following information available when you call:

- The graphics adapter
- HP Monitor model numbers
- HP Monitor serial numbers
- Purchase date on graphics adapter invoice
- Conditions under which the problem occurred
- Error messages received
- Hardware configuration
- Hardware and software you are using

# B Technical Specifications

 **NOTE:** All performance specifications are provided by the component manufacturers. Performance specifications represent the highest specification of all HP's component manufacturers' typical level specifications for performance and actual performance may vary either higher or lower.

## HP Dual Output USB Graphics Adapter

<b>Host Interface</b>	USB 3.0 (backward compatible to USB 2.0); USB cable included	
<b>Video Interface</b>	DisplayPort; DVI-I or VGA	
<b>Connectors</b>	<b>Video output:</b> 1) DisplayPort and 2) DVI-I 24pin + 5pin Female Connector or VGA HDDE 15pin Female Connector <b>Host upstream link:</b> USB 3.0 Micro B Connector	
<b>Connectivity</b>	Up to 6 monitors can be supported with 3 adapters on a computer	
<b>RAM</b>	8M x 16 DDR Synchronous DRAM (SDRAM)	
<b>Power Mode</b>	Bus-powered	
<b>Operating System Support</b>	Refer to <a href="#">System Requirements on page 3</a>	
<b>Supported Modes</b>	Extend (Default), Mirror, Primary Display	
<b>Resolutions, Refresh Rate, and Color Depth</b>	Refer to <a href="#">Adjusting Resolution, Color Depth and Refresh Rate on page 10</a>	
<b>Housing</b>	Plastic	
<b>Dimensions</b>	9.45 (L) x 8.14 (W) x 2.01 (H) cm	3.72 (L) x 3.2 (W) x .79 (H) inches
<b>USB Cable</b>	USB 3.0 Y cable, 1.8m (6 ft)	
<b>Operating Temperature</b>	0-40°C	32-104°F
<b>Storage Temperature</b>	-10~+70°C	14~+158°F
<b>Operating Humidity</b>	20% to 80%	
<b>Non-Operating Humidity</b>	5% to 95%	
<b>EMC</b>	<ul style="list-style-type: none"><li>FCC Part 15 Class B, IC ICES-003</li><li>CE (EN55022, EN61000, EN55024)</li></ul>	
<b>Agency Approvals</b>	FCC, CE, VCCI, KC, C-Tick, UL	
<b>RoHS</b>	RoHS compliant	

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# C Agency Regulatory Notices

## Federal Communications Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

## Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Hewlett Packard Company may void the user's authority to operate the equipment.

## Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods to maintain compliance with FCC Rules and Regulations.

## Declaration of Conformity for Products Marked with the FCC Logo (United States Only)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

For questions regarding the product, contact:

Hewlett Packard Company

P. O. Box 692000, Mail Stop 530113

Houston, Texas 77269-2000

Or, call 1-800-HP-INVENT (1-800 474-6836)



For questions regarding this FCC declaration, contact:

Hewlett Packard Company

P. O. Box 692000, Mail Stop 510101

Houston, Texas 77269-2000

Or, call (281) 514-3333

To identify this product, refer to the Part, Series, or Model number found on the product.

## Canadian Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

## Avis Canadien

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

## European Union Regulatory Notice

Products bearing the CE marking comply with the following EU Directives:

- Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- Ecodesign Directive 2009/125/EC, where applicable
- RoHS Directive 2011/65/EU

CE compliance of this product is valid if powered with the correct CE-marked AC adapter provided by HP.

Compliance with these directives implies conformity to applicable harmonized European standards (European Norms) that are listed in the EU Declaration of Conformity issued by HP for this product or product family and available (in English only) either within the product documentation or at the following web site: <http://www.hp.eu/certificates> (type the product number in the search field).

The compliance is indicated the following conformity marking placed on the product:



Please refer to the regulatory label provided on the product.

The point of contact for regulatory matters is: Hewlett-Packard GmbH, Dept./MS: HQ-TRE, Herrenberger Strasse 140, 71034 Boeblingen, GERMANY.

## German Ergonomics Notice

HP products which bear the "GS" approval mark, when forming part of a system comprising HP brand computers, keyboards and monitors that bear the "GS" approval mark, meet the applicable ergonomic requirements. The installation guides included with the products provide configuration information.

## Japanese Notice

この装置は、クラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。取扱説明書に従って正しい取り扱いをして下さい。

VCCI-B

## Korean Notice

B급 기기  
(가정용 방송통신기기)

이 기기는 가정용(B급)으로 전자파적합등록을 한 기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

## Product Environmental Notices

### Disposal of Waste Equipment by Users in Private Household in the European Union



This symbol on the product or on its packaging indicates that this product must not be disposed of with your household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling or waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact the local city office, the household waste disposal service or the shop where you purchased the product.

### HP Recycling Program

HP encourages customers to recycle used electronic hardware, HP original print cartridges, and rechargeable batteries. For more information about recycling programs, go to <http://www.hp.com/recycle>.

### Chemical Substances

HP is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and Council). A chemical information report for this product can be found at <http://www.hp.com/go/reach>.

## Restriction of Hazardous Substances (RoHS)

A Japanese regulatory requirement, defined by specification JIS C 0950, 2005, mandates that manufacturers provide Material Content Declarations for certain categories of electronic products offered for sale after July 1, 2006. To view the JIS C 0950 material declaration for this product, visit <http://www.hp.com/go/jisc0950>.

2008年、日本における製品含有表示方法、JISC0950が公示されました。製造事業者は、2006年7月1日以降に販売される電気・電子機器の特定化学物質の含有につきまして情報提供を義務付けられました。製品の部材表示につきましては、[www.hp.com/go/jisc0950](http://www.hp.com/go/jisc0950)を参照してください。

## 有毒有害物质/元素名称及含量表

根据中国  
《电子信息产品污染控制管理办法》

### 液晶显示器

部件名称	有毒有害物质和元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
液晶显示器显示面板	X	X	○	○	○	○
机箱/其它	X	○	○	○	○	○

### CRT 显示器

部件名称	有毒有害物质和元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
阴极射线管	X	○	○	○	○	○
机箱/其它	X	○	○	○	○	○

○：表示该有毒或有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。

X：表示该有毒或有害物质至少在该部件所用的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。

表中标有“X”的所有部件都符合欧盟 RoHS 法规 — “欧洲议会和欧盟理事会 2003 年 1 月 27 日关于电子电器设备中限制使用某些有害物质的 2002/95/EC 号指令”。

注：环保使用期限的参考标识取决于产品正常工作的温度和湿度等条件。

## Turkey EEE Regulation

In Conformity with the EEE Regulation

EEE Yönetmeliğine Uygundur