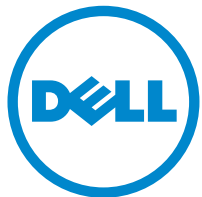


Dell P2416D Monitor User's Guide

Model: P2416D
Regulatory model: P2416Db



Notes, Cautions, and Warnings



NOTE: A NOTE indicates important information that helps you make better use of your computer.



CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.



WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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About Your Monitor

Package Contents

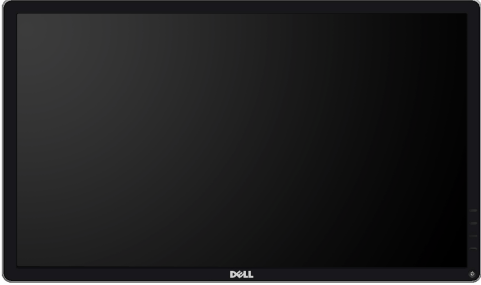


Your monitor ships with the components shown below. Ensure that you have received all the components and [Contact Dell](#) if something is missing.







NOTE: Some items may be optional and may not ship with your monitor. Some features or media may not be available in certain countries.



NOTE: To set up with any other stand, please refer to the respective stand setup guide for setup instructions.

	Monitor
	Stand
	Cable Cover

	<p>Power Cable (Varies by Countries)</p>
	<p>DP Cable</p>
	<p>USB 2.0 Upstream Cable (Enables the USB Ports on the Monitor)</p>
	<ul style="list-style-type: none"> • Drivers and Documentation Media • Quick Setup Guide • Safety and Regulatory Information

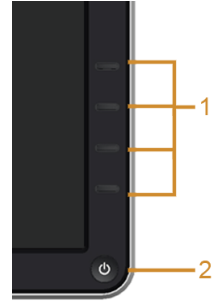
Product Features

The **Dell P2416D** flat panel display has an active matrix, Thin-Film Transistor (TFT), Liquid Crystal Display (LCD) and LED backlight. The monitor features include:

- 60.33 cm (23.75-inch) viewable area display (measured diagonally). 2560 x 1440 resolution, via HDMI/DisplayPort, plus full-screen support for lower resolutions.
- Wide viewing angle to allow viewing from a sitting or standing position, or while moving from side-to-side.
- Color gamut of 99% sRGB.
- High Dynamic Contrast Ratio (2,000,000:1).
- Tilt, swivel, height, and rotate adjustment capabilities.
- Removable stand and Video Electronics Standards Association (VESA™) 100 mm mounting holes for flexible mounting solutions.
- Digital connectivity with DisplayPort and HDMI.
- Equipped with 1 USB upstream port and 4 USB downstream ports.
- Plug and play capability if supported by your system.
- On-Screen Display (OSD) adjustments for ease of set-up and screen optimization.
- Software and documentation media includes an Information File (INF), Image Color Matching File (ICM), and product documentation.
- Dell Display Manager Software included (comes in the CD shipped with the monitor).
- Energy Star compliance.
- Security lock slot.
- Stand lock.
- Capability to switch from wide aspect to standard aspect ratio while maintaining the image quality.
- EPEAT Gold Rating.
- BFR/PVC-free (Halogen-free) excluding external cables.
- TCO-Certified Displays.
- Meets NFPA 99 leakage current requirements.
- Arsenic-Free glass and Mercury-Free for the panel only.
- 0.3 W standby power when in the sleep mode.
- Energy Gauge shows the energy level being consumed by the monitor in real time.
- Analog backlight dimming control for flicker free display.

Identifying Parts and Controls

Front View



Front panel controls

Label	Description
1	Function buttons (For more information, see Operating the Monitor)
2	Power On/Off button (with LED indicator)

Back View



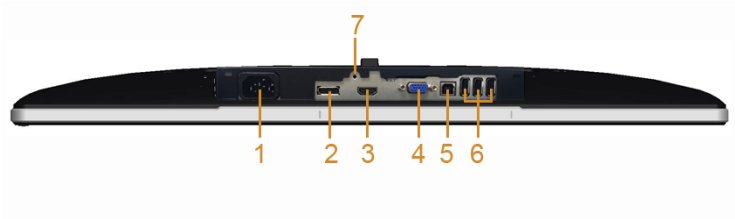
Back view with monitor stand

Label	Description	Use
1	VESA mounting holes (100 mm x 100 mm - behind attached VESA Cover)	Wall mount monitor using VESA-compatible wall mount kit (100 mm x 100 mm).
2	Regulatory label	Lists the regulatory approvals.
3	Stand release button	Releases stand from monitor.
4	Security lock slot	Secures monitor with security lock (security lock not included).
5	Barcode serial number label	Refer to this label if you need to contact Dell for technical support.
6	Dell Soundbar mounting slots	Attaches the optional Dell Soundbar.
7	Cable management slot	Use to organize cables by placing them through the slot.
8	USB downstream port	Connect your USB device. You can only use this connector after you have connected the USB cable to the computer and USB upstream connector on the monitor.

Side View



Bottom View



Bottom view without monitor stand

Label	Description	Use
1	AC power cord connector	Connect the power cable.
2	DisplayPort in connector	Connect your computer with DP cable.
3	HDMI port connector	Connect your computer with HDMI cable.
4	VGA connector	Connect your computer with VGA cable.
5	USB upstream port	Connect the USB cable that came with your monitor to the monitor and the computer. Once this cable is connected, you can use the USB connectors on the monitor.

6	USB downstream port	Connect your USB device. You can only use this connector after you have connected the USB cable to the computer and USB upstream connector on the monitor.
7	Stand lock feature	To lock the stand to the monitor using a M3 x 6 mm screw (screw not included).

Monitor Specifications

Flat Panel Specifications

Model	P2416D
Screen type	Active matrix - TFT LCD
Panel type	In-Plane Switching type
Viewable image	
Diagonal	603.3 mm (23.75 inches)
Horizontal, Active Area	526.85 +/- 1.15 mm (20.74 +/- 0.05 inches)
Vertical, Active Area	296.35 +/- 0.65 mm (11.67 +/- 0.03 inches)
Area	156131.9975 mm ² (242.03 inch ²)
Pixel pitch	0.205 mm x 0.205 mm
Viewing angle	178° (vertical) typical 178° (horizontal) typical
Luminance output	300 cd/m ² (typical)
Contrast ratio	1000 to 1 (typical) 2M to 1 (typical Dynamic Contrast On)
Faceplate coating	Anti-Glare with 3H hardness
Backlight	LED edgelight system
Response time	8 ms (typical) for NORMAL mode 6 ms (typical) for FAST mode
Color depth	16.78 million colors
Color gamut	99% sRGB

Resolution Specifications

Model	P2416D
Horizontal scan range	29 kHz to 113 kHz (automatic)
Vertical scan range	49 Hz to 86 Hz (automatic)
Maximum preset resolution (VGA)	2048 x 1152 at 60 Hz
Maximum preset resolution (HDMI/DP)	2560 x 1440 at 60 Hz

Supported Video Modes

Model	P2416D
Video display capabilities (HDMI & DP playback)	480p, 480i, 576p, 720p, 1080p, 576i, 1080i

Preset Display Modes

VGA Display Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (Horizontal/Vertical)
VESA, 720 x 400	31.5	70.1	28.3	-/+
VESA, 640 x 480	31.5	60.0	25.2	-/-
VESA, 640 x 480	37.5	75.0	31.5	-/-
VESA, 800 x 600	46.9	75.0	49.5	+/+
VESA, 1024 x 768	48.4	60.0	65.0	-/-
VESA, 1024 x 768	60.0	75.0	78.8	+/+
VESA, 1152 x 864	67.5	75.0	108.0	+/+
VESA, 1280 x 800	49.7	59.8	83.5	-/+
VESA, 1280 x 1024	64.0	60.0	108.0	+/+
VESA, 1280 x 1024	80.0	75.0	135.0	+/+
VESA, 1600 x 1200	75.0	60.0	162.0	+/+
VESA, 1680 x 1050	65.3	60.0	146.3	-/+
VESA, 1920 x 1080	67.5	60.0	148.5	+/+

VESA, 1920 x 1200	74.6	59.9	193.3	-/+
VESA, 2048 x 1152	71.6	59.9	197.0	-/+

HDMI/DP Display Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (Horizontal/Vertical)
VESA, 720 x 400	31.5	70.1	28.3	-/+
VESA, 640 x 480	31.5	60.0	25.2	-/-
VESA, 640 x 480	37.5	75.0	31.5	-/-
VESA, 800 x 600	46.9	75.0	49.5	+/+
VESA, 1024 x 768	48.4	60.0	65.0	-/-
VESA, 1024 x 768	60.0	75.0	78.8	+/+
VESA, 1152 x 864	67.5	75.0	108.0	+/+
VESA, 1280 x 800	49.7	59.8	83.5	-/+
VESA, 1280 x 1024	64.0	60.0	108.0	+/+
VESA, 1280 x 1024	80.0	75.0	135.0	+/+
VESA, 1600 x 1200	75.0	60.0	162.0	+/+
VESA, 1680 x 1050	65.3	60.0	146.3	-/+
VESA, 1920 x 1080	67.5	60.0	148.5	+/+
VESA, 1920 x 1200	74.6	59.9	193.3	-/+
VESA, 2048 x 1152	71.6	59.9	197.0	-/+
VESA, 2560 x 1440	88.8	60.0	241.5	+/-

Electrical Specifications

Model	P2416D
Video input signals	<ul style="list-style-type: none"> • Analog RGB, 0.7 Volts +/- 5%, positive polarity at 75 ohm input impedance • HDMI 1.4*, 600mV for each differential line, 100 ohm input impedance per differential pair • DisplayPort 1.2**, 600mV for each differential line, 100 ohm input impedance per differential pair
Synchronization input signals	Separate horizontal and vertical synchronizations, polarity-free TTL level, SOG (Composite SYNC on green)
AC input voltage/frequency/ current	100 VAC to 240 VAC / 50 Hz or 60 Hz \pm 3 Hz / 1.5 A (typical)
Inrush current	<ul style="list-style-type: none"> • 120 V: 30 A (Max.) at 0 °C (cold start) • 220 V: 60 A (Max.) at 0 °C (cold start)

* Support HDMI 1.4 specification, Excludes HDMI Ethernet Channel (HEC), Audio Return Channel (ARC), standard for 3D format and resolutions, standard for 4K x 2K resolution.

** Support DP1.2 (CORE) specification, Excludes High Bit Rate 2 (HBR2), Fast AUX transaction, Multi-stream transport (MST), 3D stereo transport, HBR Audio (or high data rate audio).

Physical Characteristics

Model	P2416D
Connector type	15-pin D-subminiature, blue connector; DP, black connector; HDMI; USB 2.0
Signal cable type	<ul style="list-style-type: none"> • Digital: DisplayPort, 20 pins • Digital: HDMI, 19 pins (cable not included) • Analog: D-Sub, 15 pins (cable not included) • Universal Serial Bus: USB, 4 pins
Dimensions (with stand)	
Height (extended)	499.0 mm (19.65 inches)
Height (compressed)	369.0 mm (14.53 inches)
Width	565.6 mm (22.27 inches)
Depth	205.0 mm (8.07 inches)
Dimensions (without stand)	
Height	335.1 mm (13.19 inches)

Width	565.6 mm (22.27 inches)
Depth	47.0 mm (1.85 inches)
Stand dimensions	
Height (extended)	399.7 mm (15.74 inches)
Height (compressed)	354.2 mm (13.94 inches)
Width	245.0 mm (9.65 inches)
Depth	205.0 mm (8.07 inches)
Weight	
Weight with packaging	8.82 kg (19.40 lb)
Weight with stand assembly and cables	5.95 kg (13.09 lb)
Weight without stand assembly (For wall mount or VESA mount considerations - no cables)	3.58 kg (7.88 lb)
Weight of stand assembly	2.00 kg (4.40 lb)
Front frame gloss	Black Frame - 5%-8% gloss unit

Environmental Characteristics

Model	P2416D
Temperature	
Operating	0 °C to 40 °C (32 °F to 104 °F)
Non-operating	<ul style="list-style-type: none"> Storage: -20 °C to 60 °C (-4 °F to 140 °F) Shipping: -20 °C to 60 °C (-4 °F to 140 °F)
Humidity	
Operating	10% to 80% (non-condensing)
Non-operating	<ul style="list-style-type: none"> Storage: 5% to 90% (non-condensing) Shipping: 5% to 90% (non-condensing)
Altitude	
Operating	5,000 m (16,404 ft) (maximum)
Non-operating	12,192 m (40,000 ft) (maximum)
Thermal dissipation	<ul style="list-style-type: none"> 187.67 BTU/hour (maximum) 119.43 BTU/hour (typical)

Power Management Modes

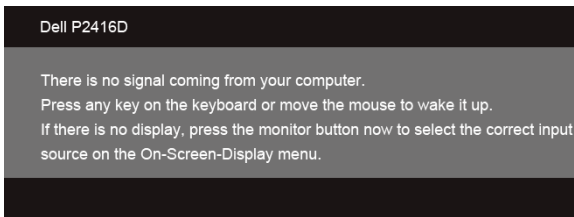
If you have VESA's DPMT™ compliance display card or software installed in your PC, the monitor can automatically reduce its power consumption when not in use. This is referred to as *Power Save Mode**. If the computer detects input from the keyboard, mouse, or other input devices, the monitor automatically resumes functioning. The following table shows the power consumption and signaling of this automatic power saving feature.

VESA Modes	Horizontal Sync	Vertical Sync	Video	Power Indicator	Power Consumption
Normal operation	Active	Active	Active	White	55 W (maximum)** 35 W (typical)
Active-off mode	Inactive	Inactive	Blanked	White (Breathing)	Less than 0.3 W
Switch off	-	-	-	Off	Less than 0.3 W

* Zero power consumption in OFF mode can only be achieved by disconnecting the main cable from the monitor.

** Maximum power consumption with max luminance, and USB active.

The OSD functions only in the normal operation mode. When any button is pressed in the Active-off mode, the following message will be displayed:



Activate the computer and the monitor to gain access to the OSD.

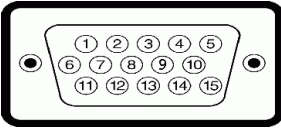


NOTE: This monitor is **ENERGY STAR®**-compliant.



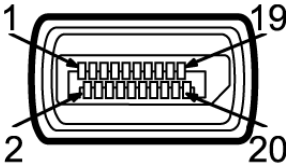
Pin Assignments

VGA Connector



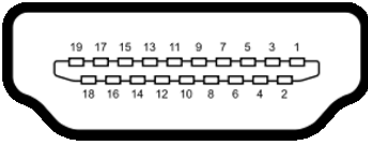
Pin Number	15-pin Side of the Connected Signal Cable
1	Video-Red
2	Video-Green
3	Video-Blue
4	GND
5	Self-test
6	GND-R
7	GND-G
8	GND-B
9	Computer 5 V/3.3 V
10	GND-sync
11	GND
12	DDC data
13	H-sync
14	V-sync
15	DDC clock

DisplayPort Connector



Pin Number	20-pin Side of the Connected Signal Cable
1	ML0(p)
2	GND
3	ML0(n)
4	ML1(p)
5	GND
6	ML1(n)
7	ML2(p)
8	GND
9	ML2(n)
10	ML3(p)
11	GND
12	ML3(n)
13	GND
14	GND
15	AUX(p)
16	GND
17	AUX(n)
18	GND
19	Re-PWR
20	+3.3 V DP_PWR

HDMI Connector



Pin Number	19-pin Side of the Connected Signal Cable
1	TMDS DATA 2+
2	TMDS DATA 2 SHIELD
3	TMDS DATA 2-
4	TMDS DATA 1+
5	TMDS DATA 1 SHIELD
6	TMDS DATA 1-
7	TMDS DATA 0+
8	TMDS DATA 0 SHIELD
9	TMDS DATA 0-
10	TMDS CLOCK+
11	TMDS CLOCK SHIELD
12	TMDS CLOCK-
13	CEC
14	Reserved (N.C. on device)
15	DDC CLOCK (SCL)
16	DDC DATA (SDA)
17	DDC/CEC Ground
18	+5V POWER
19	HOT PLUG DETECT

Plug and Play Capability

You can install the monitor in any Plug and Play-compatible system. The monitor automatically provides the computer system with its Extended Display Identification Data (EDID) using Display Data Channel (DDC) protocols so the system can configure itself and optimize the monitor settings. Most monitor installations are automatic; you can select different settings if desired. For more information about changing the monitor settings, see [Operating the Monitor](#).

Universal Serial Bus (USB) Interface

This section gives you information about the USB ports that are available on the monitor.



NOTE: This monitor is High-Speed USB 2.0 compatible.

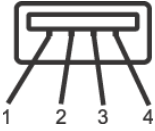
Transfer Speed	Data Rate	Power Consumption*
High speed	480 Mbps	2.5 W (Max, each port)
Full speed	12 Mbps	2.5 W (Max, each port)
Low speed	1.5 Mbps	2.5 W (Max, each port)

USB Upstream Connector



Pin Number	4-pin Side of the Connector
1	DMU
2	VCC
3	DPU
4	GND

USB Downstream Connector



Pin Number	4-pin Side of the Connector
1	VCC
2	DMD
3	DPD
4	GND

USB Ports

- 1 upstream - bottom
- 1 downstream - back
- 3 downstream - bottom



NOTE: USB 2.0 functionality requires a USB 2.0-capable computer.



NOTE: The monitor's USB interface works only when the monitor is On or in the power save mode. If you turn Off the monitor and then turn it On, the attached peripherals may take a few seconds to resume normal functionality.

LCD Monitor Quality and Pixel Policy

During the LCD Monitor manufacturing process, it is not uncommon for one or more pixels to become fixed in an unchanging state which are hard to see and do not affect the display quality or usability. For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: <http://www.dell.com/support/monitors>.

Maintenance Guidelines

Cleaning Your Monitor



CAUTION: Read and follow the [Safety Instructions](#) before cleaning the monitor.



WARNING: Before cleaning the monitor, unplug the monitor power cable from the electrical outlet.

For best practices, follow the instructions in the list below while unpacking, cleaning, or handling your monitor:

- To clean your anti-static screen, lightly dampen a soft, clean cloth with water. If possible, use a special screen-cleaning tissue or solution suitable for the anti-static coating. Do not use benzene, thinner, ammonia, abrasive cleaners, or compressed air.
- Use a lightly-dampened, warm cloth to clean the monitor. Avoid using detergent of any kind as some detergents leave a milky film on the monitor.
- If you notice white powder when you unpack your monitor, wipe it off with a cloth.
- Handle your monitor with care as a darker-colored monitor may get scratched and show white scuff marks more than a lighter-colored monitor.
- To help maintain the best image quality on your monitor, use a dynamically changing screen saver and turn Off your monitor when not in use.

Setting Up the Monitor

Attaching the Stand



NOTE: The stand is detached when the monitor is shipped from the factory.



NOTE: This is applicable for a monitor with a stand. When any other stand is bought, please refer to the respective stand setup guide for the set up instructions.



To attach the monitor stand:

- 1 Remove the cover and place the monitor on it.
- 2 Fit the two tabs on the upper part of the stand to the groove on the back of the monitor.
- 3 Press the stand till it snaps into place.

Connecting Your Monitor

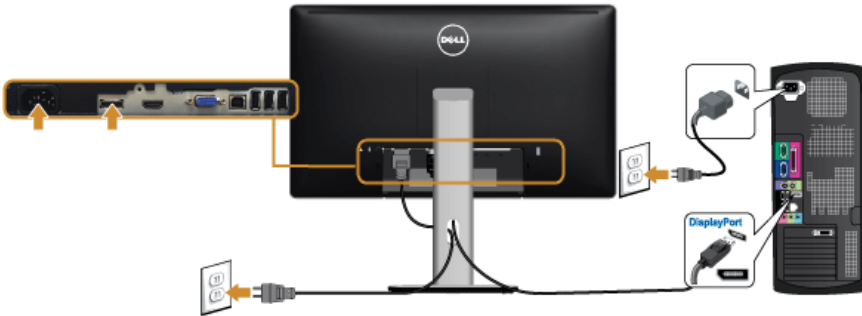
⚠ WARNING: Before you begin any of the procedures in this section, follow the [Safety Instructions](#).

✍ NOTE: Do not connect all cables to the computer at the same time.

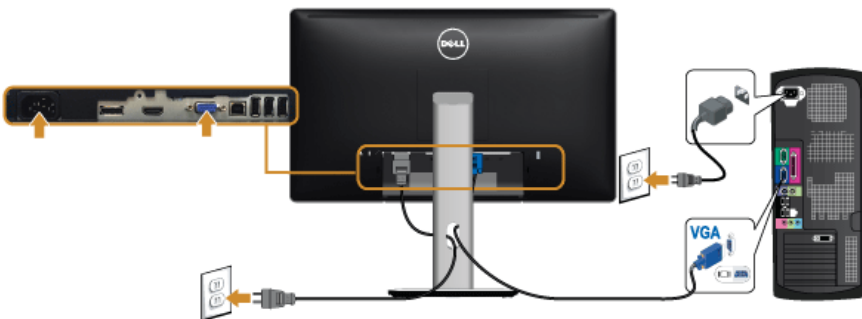
To connect your monitor to the computer:

- 1 Turn Off your computer and disconnect the power cable.
Connect the DP/VGA/HDMI cable from your monitor to the computer.

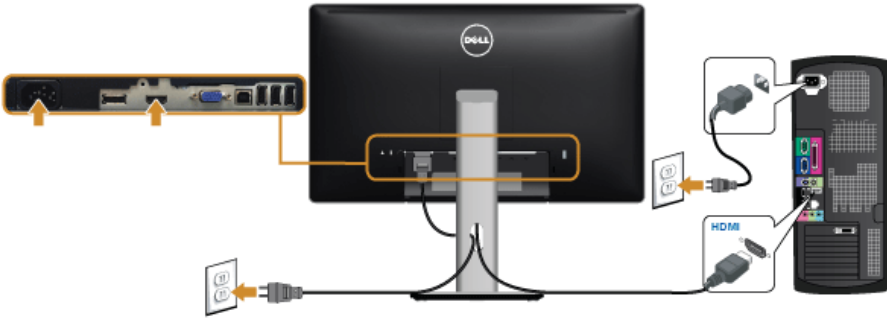
Connecting the black DisplayPort (DP to DP) cable



Connecting the blue VGA cable (optional)



Connecting the HDMI cable (optional)

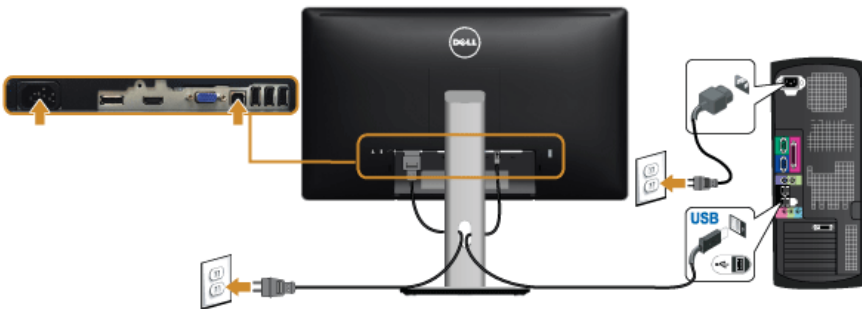


△ CAUTION: The graphics are used for the purpose of illustration only. Appearance of the computer may vary.

Connecting the USB cable

After you have completed connecting the DP/VGA/HDMI cable, follow the procedures below to connect the USB cable to the computer and complete your monitor setup:

- 1 Connect the upstream USB port (cable supplied) to an appropriate USB port on your computer. (See [Bottom View](#) for details.)
- 2 Connect the USB peripherals to the downstream USB ports on the monitor.
- 3 Plug the power cables for your computer and monitor into a nearby outlet.
- 4 Turn On the monitor and the computer.
If your monitor displays an image, installation is complete. If it does not display an image, see [Universal Serial Bus \(USB\) Specific Problems](#).
- 5 Use the cable slot on the monitor stand to organize the cables.



Organizing Your Cables



After attaching all necessary cables to your monitor and computer, (See [Connecting Your Monitor](#) for cable attachment,) organize all cables as shown above.

Attaching the Cable Cover





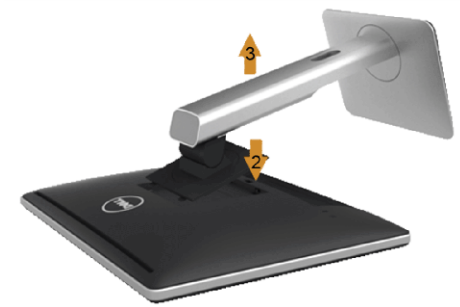
NOTE: The cable cover is detached when the monitor is shipped from the factory.



- 1 Fit the two tabs on the bottom part of the cable cover to the groove on the back of the monitor.
- 2 Press the cable cover till it snaps into place.

Removing the Monitor Stand

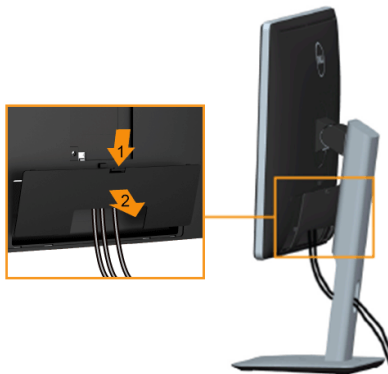
-  **NOTE:** To prevent scratches on the LCD screen while removing the stand, ensure that the monitor is placed on a soft, clean surface.
-  **NOTE:** This is applicable for a monitor with a stand. When any other stand is bought, please refer to the respective stand setup guide for the set-up instructions



To remove the stand:

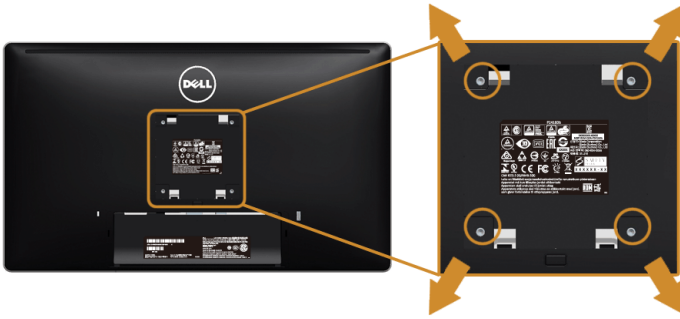
- 1 Place the monitor on a soft cloth or cushion.
- 2 Press and hold the stand release button.
- 3 Lift the stand up and away from the monitor

Removing the Cable Cover



- 1 Press the tab on the cable cover.
- 2 Remove the two tabs on the bottom part of the cable cover from the groove on the back of the monitor.

Wall Mounting (Optional)



(Screw dimension: M4 x 10 mm).

Refer to the instructions that come with the VESA-compatible wall mounting kit.


- 1 Place the monitor panel on a soft cloth or cushion on a stable, flat table.
- 2 Remove the stand.
- 3 Use a Phillips crosshead screwdriver to remove the four screws securing the plastic cover.
- 4 Attach the mounting bracket from the wall mounting kit to the monitor.
- 5 Mount the monitor on the wall by following the instructions that comes with the wall mounting kit.

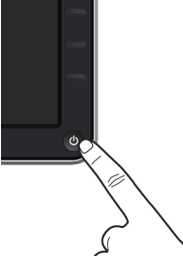


NOTE: For use only with UL-listed wall mount bracket with minimum weight/load bearing capacity of 5.88 kg.

Operating the Monitor

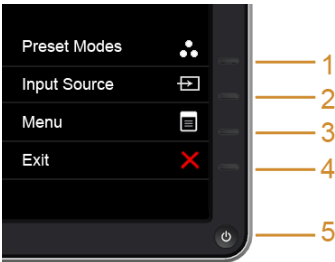
Power On the Monitor

Press the  button to turn On the monitor.








Using the Front Panel Controls

Use the control buttons on the front of the monitor to adjust the characteristics of the image being displayed. As you use these buttons to adjust the controls, an OSD shows the numeric values of the characteristics as they change.



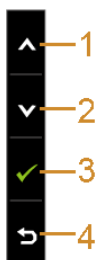
The following table describes the front panel buttons:





Front Panel Button	Description
1  Shortcut key/ Preset Modes	Use this button to choose from a list of preset color modes.
2  Shortcut key/ Input Source	Use this button to directly access the Input Source menu.

3	 Menu	Use the MENU button to launch the On-Screen Display (OSD) and select the OSD Menu. See Accessing the Menu System .
4	 Exit	Use this button to go back to the main menu or exit the OSD main menu.
5	 Power (with power light indicator)	Use the Power button to turn the monitor On and Off . The white light indicates the monitor is On and fully functional. A glowing white light indicates the power save mode.

Front Panel Button


Use the buttons on the front of the monitor to adjust the image settings.




Front Panel Button	Description
1  Up	Use the Up button to adjust (increase ranges) items in the OSD menu.
2  Down	Use the Down button to adjust (decrease ranges) items in the OSD menu.
3  OK	Use the OK button to confirm your selection.
4  Back	Use the Back button to go back to the previous menu.

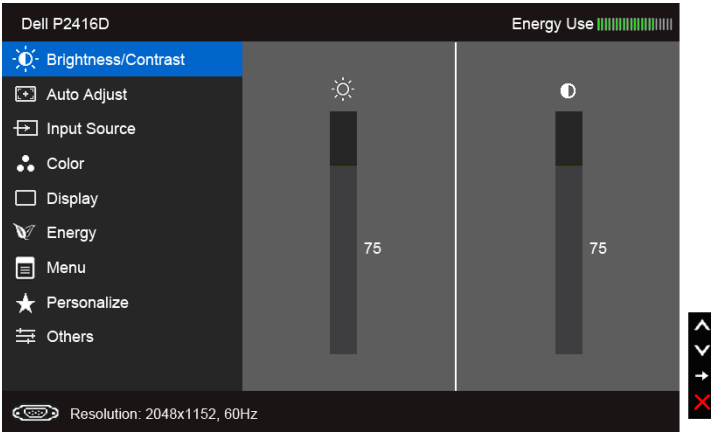
Using the On-Screen Display (OSD) Menu

Accessing the Menu System

 **NOTE:** If you change the settings and then either proceed to another menu or exit the OSD menu, the monitor automatically saves those changes. The changes are also saved if you change the settings and then wait for the OSD menu to disappear.

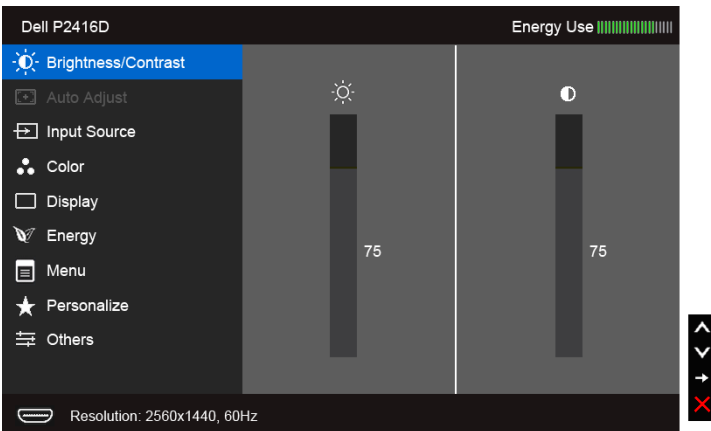
- 1 Press the  button to launch the OSD menu and display the main menu.

Main Menu for analog (VGA) input



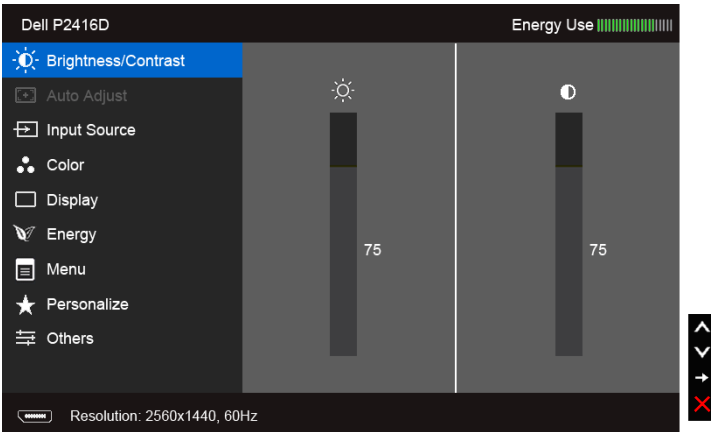
OR

Main Menu for digital (HDMI) input













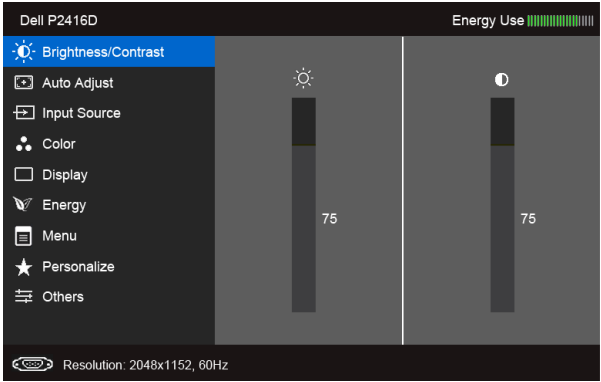





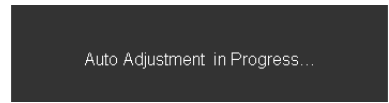
OR

Main Menu for digital (DP) input



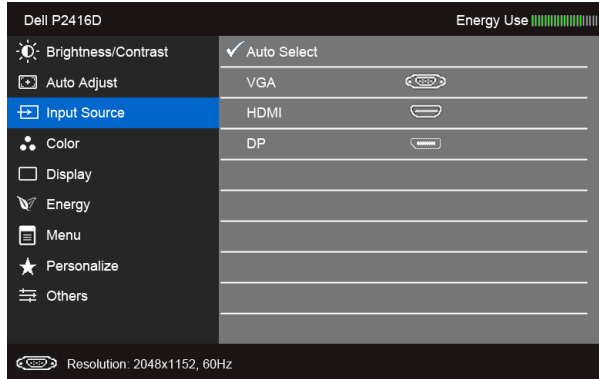
NOTE: Auto Adjust is only available when you use the analog (VGA) connector.

- 2 Press the  and  buttons to move between the setting options. As you move from one icon to another, the option name is highlighted. See the following table for a complete list of all the options available for the monitor.
- 3 Press the  button once to activate the highlighted option.
- 4 Press  and  button to select the desired parameter.
- 5 Press  to enter the slide bar and then use the  and  buttons, according to the indicators on the menu, to make your changes.
- 6 Select the  button to return to the main menu.

Icon	Menu and Submenus	Description
	Brightness/Contrast	Use this menu to activate Brightness/Contrast adjustment.
		
<p>Brightness Brightness adjusts the luminance of the backlight. Press the  button to increase the brightness and press the  button to decrease the brightness (min. 0 / max. 100). NOTE: Manual adjustment of Brightness is disabled when Dynamic Contrast is switched On.</p>		
<p>Contrast Adjust the Brightness first, and then adjust the Contrast only if further adjustment is necessary. Press the  button to increase the contrast and press the  button to decrease the contrast (min. 0 / max. 100). The Contrast function adjusts the degree of difference between darkness and lightness on the monitor screen.</p>		
	Auto Adjust	Even though your computer recognizes your monitor on startup, the Auto Adjustment function optimizes the display settings for use with your particular setup.
<p>Auto Adjustment allows the monitor to self-adjust to the incoming video signal. After using Auto Adjustment, you can further tune your monitor by using the Pixel Clock (Coarse) and Phase (Fine) controls under Display Settings.</p>		
		
<p>NOTE: In most cases, Auto Adjust produces the best image for your configuration.</p> <p>NOTE: Auto Adjust option is only available when you are using the analog (VGA) connector.</p>		



Input Source Use the **Input Source** menu to select between the different video signals that may be connected to your monitor.

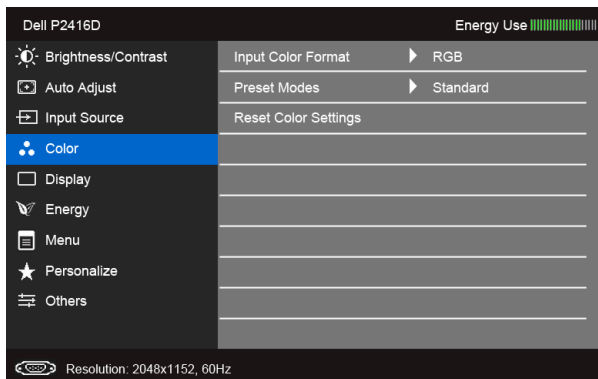


- | | |
|--------------------|--|
| Auto Select | Press → to select Auto Select , the monitor scans for available input sources. |
| VGA | Select the VGA input when you are using the analog (VGA) connector. Press → to select the VGA input source. |
| HDMI | Select the HDMI input when you are using the HDMI connector. Press → to select the HDMI input source. |
| DP | Select the DP input when you are using the DisplayPort (DP) connector. Press → to select the DisplayPort input source. |



Color

Use **Color** to adjust the color setting mode.

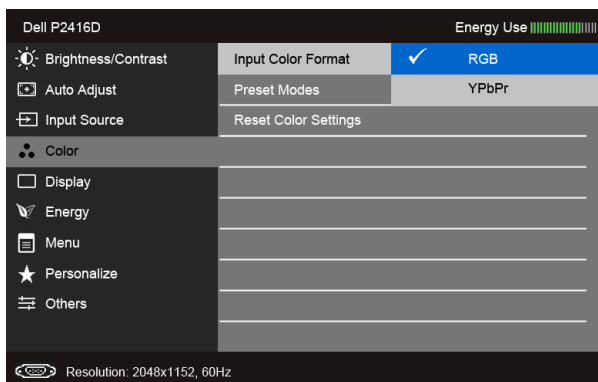


Input Color Format

Allows you to set the video input mode to:



RGB: Select this option if your monitor is connected to a computer (or DVD player) using the DP, HDMI, or VGA cable.

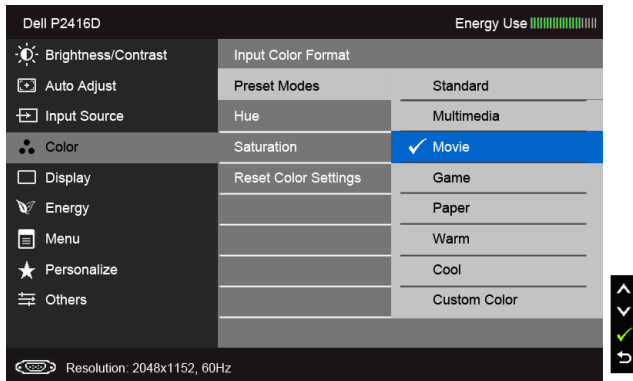
YPbPr: Select this option if your monitor is connected to a DVD player by YPbPr using the DP, HDMI, or VGA cable; or if the DVD color output setting is not RGB.





Preset Modes When you select **Preset Modes**, you can choose **Standard**, **Multimedia**, **Movie**, **Game**, **Paper**, **Warm**, **Cool**, or **Custom Color** from the list.


- **Standard**: Loads the monitor's default color settings. This is the default preset mode.
- **Multimedia**: Loads color settings ideal for multimedia applications.
- **Movie**: Loads color settings ideal for movies.
- **Game**: Loads color settings ideal for most gaming applications.
- **Paper**: Loads brightness and sharpness settings ideal for viewing text. Blend the text background to simulate paper media without affecting color images. Applies to RGB input format only.
- **Warm**: Increases the color temperature. The screen appears warmer with a red/yellow tint.
- **Cool**: Decreases the color temperature. The screen appears cooler with a blue tint.
- **Custom Color**: Allows you to manually adjust the color settings.

Press the  and  buttons to adjust the three colors (R, G, B) values and create your own preset color mode.





Hue This feature can shift the color of the video image to green or purple. This is used to adjust the desired flesh tone color. Use  or  to adjust the hue from '0' to '100'.

Press  to increase the green shade of the video image.

Press  to increase the purple shade of the video image.

NOTE: Hue adjustment is available only when you select **Movie** or **Game** preset mode.

Saturation This feature can adjust the color saturation of the video image. Use  or  to adjust the saturation from '0' to '100'.

Press  to increase the monochrome appearance of the video image.

Press  to increase the colorful appearance of the video image.

NOTE: Saturation adjustment is available only when you select **Movie** or **Game** preset mode.

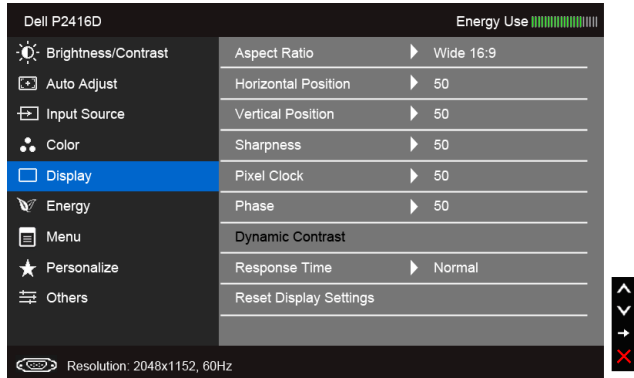
Reset Color Settings

Reset your monitor color settings to the factory settings.



Display



Use **Display** to adjust image.





Aspect Ratio

Adjusts the image ratio to **Wide 16:9**, **4:3**, or **5:4**.

Horizontal Position



Use  or  to adjust the image left or right. Minimum is '0' (-). Maximum is '100' (+).

Vertical Position

Use  or  to adjust the image up or down. Minimum is '0' (-). Maximum is '100' (+).



NOTE: Horizontal Position and **Vertical Position** adjustments are only available for "VGA" input.

Sharpness

This feature can make the image look sharper or softer. Use  or  to adjust the sharpness from '0' to '100'.

Pixel Clock

The **Phase** and **Pixel Clock** adjustments allow you to adjust your monitor to your preference.

Use  or  to adjust for best image quality.

Phase

If satisfactory results are not obtained using the **Phase** adjustment, use the **Pixel Clock** (coarse) adjustment and then use **Phase** (fine), again.

NOTE: Pixel Clock and **Phase** adjustments are only available for "VGA" input.

Dynamic Contrast

Allows you to increase the level of contrast to provide sharper and more detailed image quality.

Press the  button to select the **Dynamic Contrast "On"** or **"Off"**.

NOTE: Dynamic Contrast provides higher contrast if you select **Game** or **Movie** preset mode.

Response Time

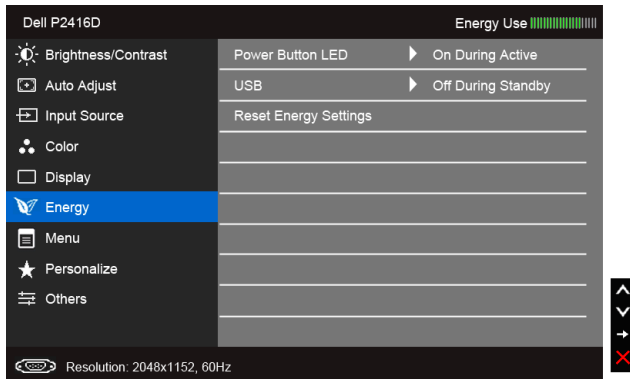
Allows you to set the **Response Time** to **Normal** or **Fast**.

Reset Display Settings

Select this option to restore default display settings.



Energy



Power Button LED Allows you to set the power LED indicator On or Off to save energy.

USB Allows you to enable or disable USB function during monitor standby mode.

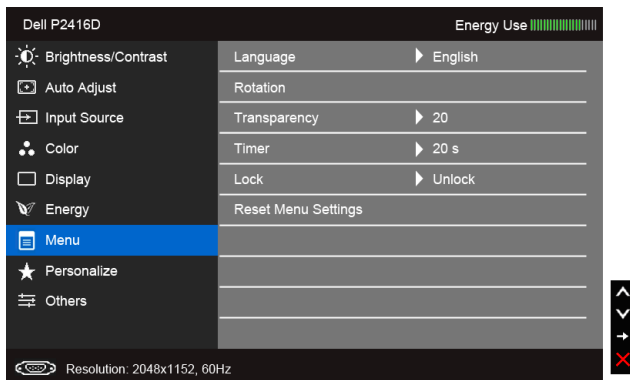
NOTE: USB ON/OFF under standby mode is only available when the USB upstream cable is unplugged. This option will be greyed out when the USB upstream cable plugs in.

Reset Energy Settings Select this option to restore default **Energy** settings.





Menu



Select this option to adjust the settings of the OSD, such as, the languages of the OSD, the amount of time the menu remains on screen, and so on.



Language **Language** options set the OSD display to one of the eight languages (English, Spanish, French, German, Brazilian Portuguese, Russian, Simplified Chinese, or Japanese).

Rotation Rotates the OSD by 90 degrees counter-clockwise. You can adjust the menu according to your [Display Rotation](#).

Transparency Select this option to change the menu transparency by pressing the  and  buttons (min. 0 / max. 100).

Timer **OSD Hold Time:** sets the length of time the OSD will remain active after the last time you pressed a button.
Use  or  to adjust the slider in 1 second increments, from 5 to 60 seconds.

Lock Controls user access to adjustments. When **Lock** is selected, no user adjustments are allowed. All buttons are locked.

NOTE:

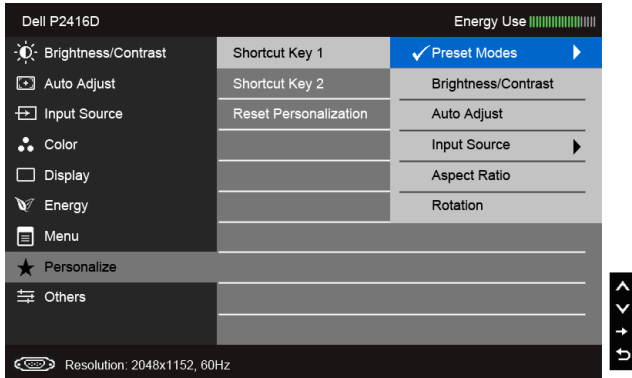
Unlock function– Only hard unlock (press and hold the button above the power button for 10 seconds).

Lock function – Either soft lock (through the OSD menu) or hard lock (press and hold the button above the power button for 10 seconds).

Reset Menu Settings Reset all OSD settings to the factory preset values.



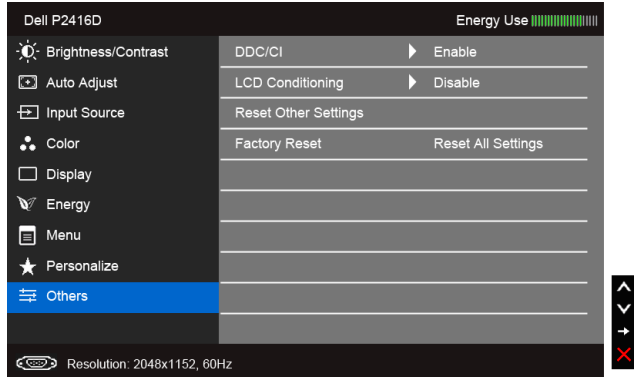
Personalize Users can choose a feature from **Preset Modes**, **Brightness/Contrast**, **Auto Adjust**, **Input Source**, **Aspect Ratio**, or **Rotation** and set it as a shortcut key.





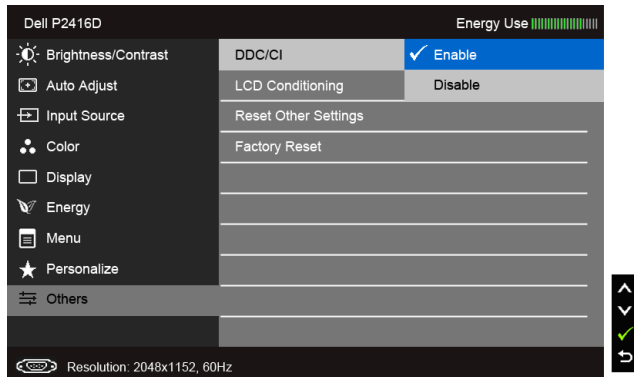
Others

Select this option to adjust the OSD settings, such as the **DDC/CI**, **LCD Conditioning**, and so on.



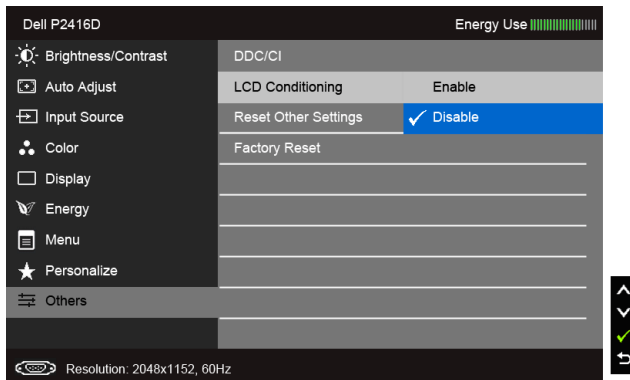
DDC/CI

DDC/CI (Display Data Channel/Command Interface) allows your monitor parameters (brightness, color balance, and etc.) to be adjustable via the software on your computer. You can disable this feature by selecting **Disable**. Enable this feature for best user experience and optimum performance of your monitor.



LCD Conditioning

Helps reduce minor cases of image retention. Depending on the degree of image retention, the program may take some time to run. You can enable this feature by selecting **Enable**.



Reset Other Settings

Reset all settings under the **Others** menu to the factory preset values.

Factory Reset

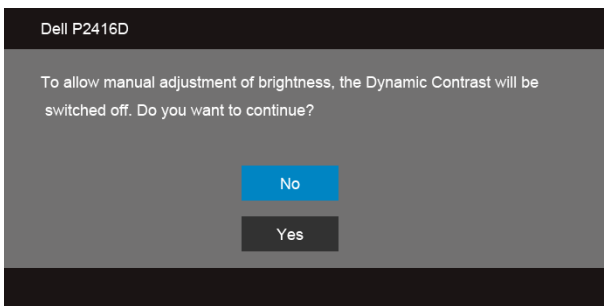
Reset all settings to the factory preset values.



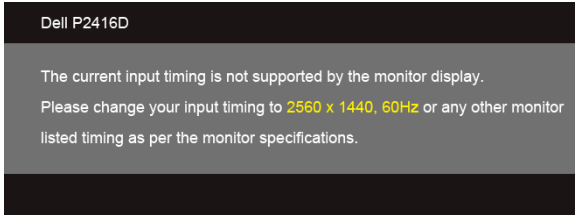
NOTE: This monitor has a built-in feature to automatically calibrate the brightness to compensate for LED aging.

OSD Warning Messages

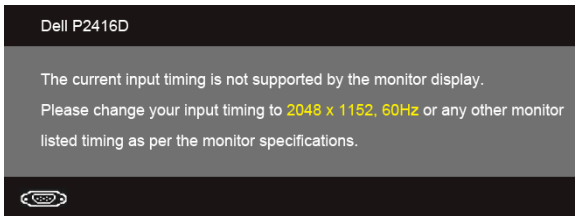
When the **Dynamic Contrast** feature is enabled (in these preset modes: **Game** or **Movie**), manual brightness adjustment is disabled.



When the monitor does not support a particular resolution mode, you will see the following message:

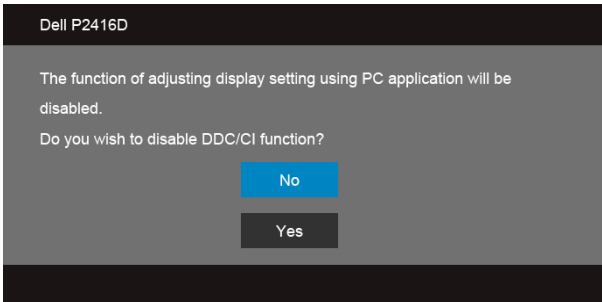


OR

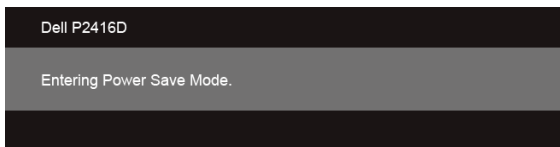


This means that the monitor cannot synchronize with the signal that it is receiving from the computer. See [Monitor Specifications](#) for the Horizontal and Vertical frequency ranges addressable by this monitor. Recommended mode is 2560 x 1440 (for HDMI/DisplayPort) or 2048 x 1152 (for VGA).

You will see the following message before the DDC/CI function is disabled:

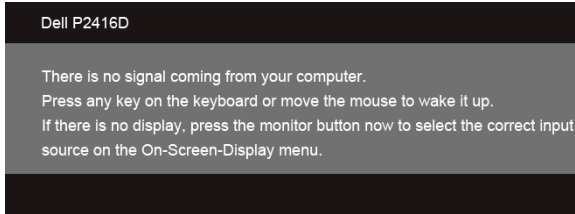


When the monitor enters the **Power Save** mode, the following message appears:

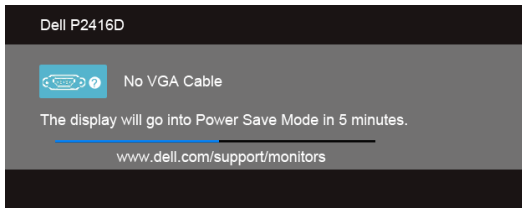


Activate the computer and wake up the monitor to gain access to the [OSD](#).

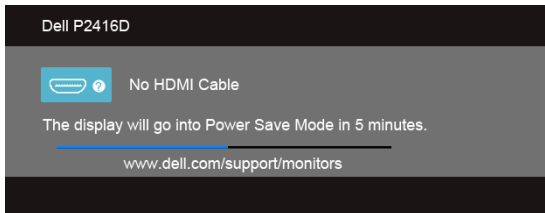
If you press any button other than the power button, the following message will appear depending on the selected input:



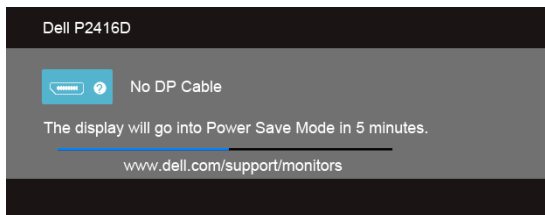
If either VGA, HDMI, or DP input is selected and the corresponding cable is not connected, a floating dialog box as shown below appears.



OR



OR



See [Troubleshooting](#) for more information.

Setting the Maximum Resolution

To set the maximum resolution for the monitor:

In Windows[®] 7, Windows[®] 8, and Windows[®] 8.1:

- 1 For Windows[®] 8 and Windows[®] 8.1 only, select the Desktop tile to switch to classic desktop.
- 2 Right-click on the desktop and click **Screen Resolution**.
- 3 Click the Dropdown list of the Screen Resolution and select **2560 x 1440** (for HDMI or DisplayPort) or **2048 x 1152** (for VGA).
- 4 Click **OK**.

If you do not see 2560 x 1440 (for HDMI or DisplayPort) or 2048 x 1152 (for VGA) as an option, you may need to update your graphics driver. Depending on your computer, complete one of the following procedures:

If you have a Dell desktop or portable computer:

- Go to <http://www.dell.com/support>, enter your service tag, and download the latest driver for your graphics card.

If you are using a non-Dell computer (portable or desktop):

- Go to the support site for your computer and download the latest graphic drivers.
- Go to your graphics card website and download the latest graphic drivers.

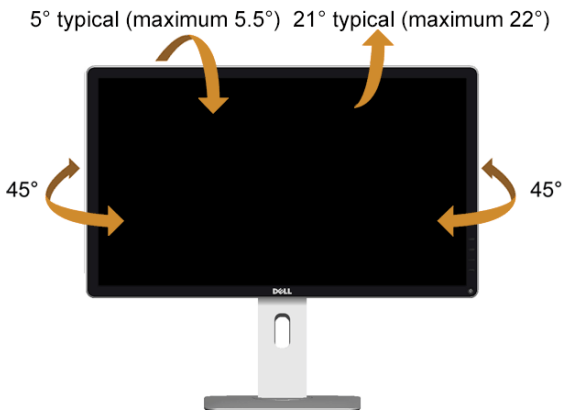
Using the Tilt, Swivel, and Vertical Extension




NOTE: This is applicable for a monitor with a stand. When any other stand is bought, please refer to the respective stand setup guide for set up instructions.


Tilt, Swivel

With the stand attached to the monitor, you can tilt and swivel the monitor for the most comfortable viewing angle.



 **NOTE:** The stand is detached when the monitor is shipped from the factory.

Vertical Extension

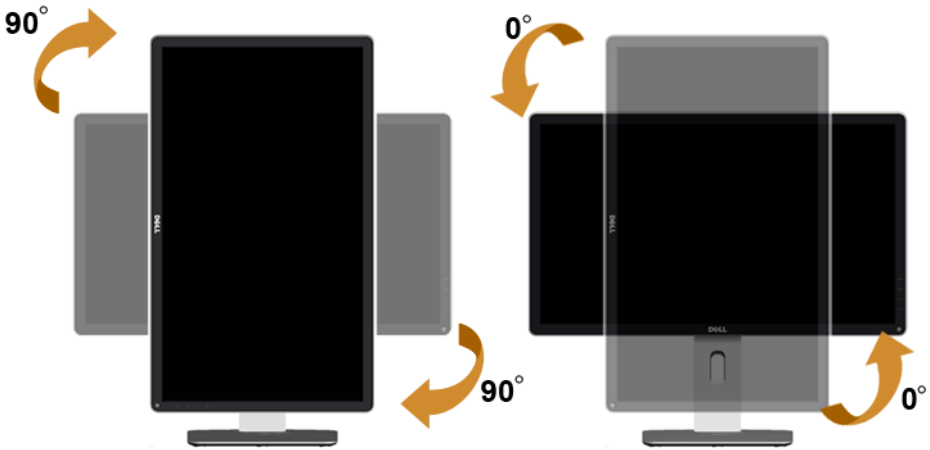
 **NOTE:** The stand extends vertically up to 130 mm. The figure below illustrates how to extend the stand vertically.




Rotating the Monitor

Before you rotate the monitor, your monitor should be fully vertically extended ([Vertical Extension](#)) and fully tilted up to avoid hitting the bottom edge of the monitor.






 **NOTE:** To use the Display Rotation function (Landscape versus Portrait view) with your Dell computer, you require an updated graphics driver that is not included with this monitor. To download the graphics driver, go to www.dell.com/support and see the **Download** section for **Video Drivers** for latest driver updates.

 **NOTE:** When in the *Portrait View Mode*, you may experience performance degradation in graphic-intensive applications (3D Gaming and etc.).


Adjusting the Rotation Display Settings of Your System

After you have rotated your monitor, you need to complete the procedure below to adjust the Rotation Display Settings of your system.


 **NOTE:** If you are using the monitor with a non-Dell computer, you need to go the graphics driver website or your computer manufacturer website for information on rotating the 'contents' on your display.

To adjust the Rotation Display Settings:

- 1 Right-click on the desktop and click **Properties**.
- 2 Select the **Settings** tab and click **Advanced**.
- 3 If you have an ATI graphics card, select the **Rotation** tab and set the preferred rotation.
- 4 If you have an nVidia graphics card, click the **nVidia** tab, in the left-hand column select **NVRotate**, and then select the preferred rotation.
- 5 If you have an Intel® graphics card, select the **Intel** graphics tab, click **Graphic Properties**, select the **Rotation** tab, and then set the preferred rotation.

 **NOTE:** If you do not see the rotation option or it is not working correctly, go to www.dell.com/support and download the latest driver for your graphics card.

Troubleshooting

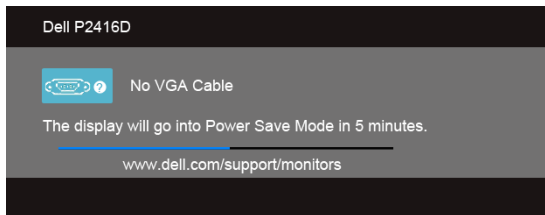
 **WARNING:** Before you begin any of the procedures in this section, follow the [Safety Instructions](#).

Self-Test

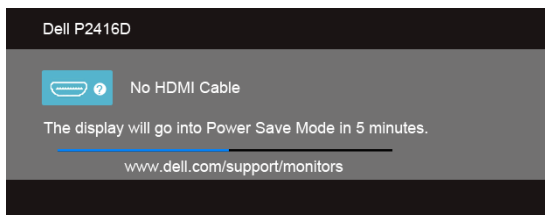
Your monitor provides a self-test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

- 1 Turn off both your computer and the monitor.
- 2 Unplug the video cable from the back of the computer. To ensure proper Self-Test operation, remove all digital cables from the back of computer.
- 3 Turn on the monitor.

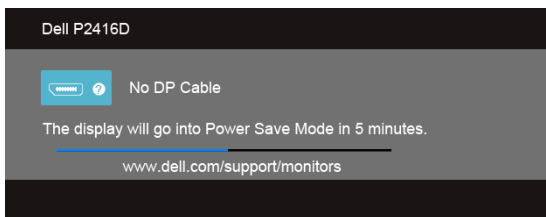
The floating dialog box should appear on-screen (against a black background), if the monitor cannot sense a video signal and is working correctly. While in self-test mode, the power LED remains white. Also, depending upon the selected input, one of the dialogs shown below will continuously scroll through the screen.



OR



OR




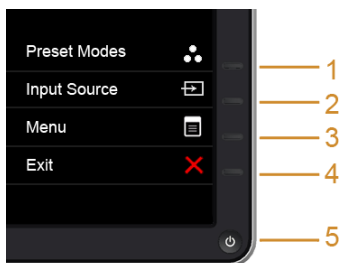
- 4 This box also appears during normal system operation, if the video cable becomes disconnected or damaged.
- 5 Turn Off your monitor and reconnect the video cable; then turn On both your computer and the monitor.

If your monitor screen remains blank after you use the previous procedure, check your video controller and computer, because your monitor is functioning properly.

Built-in Diagnostics

Your monitor has a built-in diagnostic tool that helps you determine if the screen abnormality you are experiencing is an inherent problem with your monitor, or with your computer and video card.

 **NOTE:** You can run the built-in diagnostics only when the video cable is unplugged and the monitor is in *self-test mode*.



To run the built-in diagnostics:

- 1 Ensure that the screen is clean (no dust particles on the surface of the screen).
- 2 Unplug the video cable(s) from the back of the computer or monitor. The monitor then goes into the self-test mode.
- 3 Press and hold **Button 1** and **Button 4** on the front panel simultaneously for 2 seconds. A gray screen appears.
- 4 Carefully inspect the screen for abnormalities.
- 5 Press **Button 4** on the front panel again. The color of the screen changes to red.
- 6 Inspect the display for any abnormalities.
- 7 Repeat steps 5 and 6 to inspect the display in green, blue, black, white and text screens.

The test is complete when the text screen appears. To exit, press **Button 4** again.

If you do not detect any screen abnormalities upon using the built-in diagnostic tool, the monitor is functioning properly. Check the video card and computer.

Common Problems

The following table contains general information about common monitor problems you might encounter and the possible solutions:

Common Symptoms	What You Experience	Possible Solutions
No Video/Power LED off	No picture	<ul style="list-style-type: none">• Ensure that the video cable connecting the monitor and the computer is properly connected and secure.• Verify that the power outlet is functioning properly using any other electrical equipment.• Ensure that the power button is depressed fully.• Ensure that the correct input source is selected in the Input Source menu.
No Video/Power LED on	No picture or no brightness	<ul style="list-style-type: none">• Increase brightness & contrast controls via OSD.• Perform monitor self-test feature check.• Check for bent or broken pins in the video cable connector.• Run the built-in diagnostics.• Ensure that the correct input source is selected in the Input Source menu.
Poor Focus	Picture is fuzzy, blurry, or ghosting	<ul style="list-style-type: none">• Perform Auto Adjust via OSD.• Adjust the Phase and Pixel Clock controls via OSD.• Eliminate video extension cables.• Reset the monitor to factory settings.• Change the video resolution to the correct aspect ratio.
Shaky/Jittery Video	Wavy picture or fine movement	<ul style="list-style-type: none">• Perform Auto Adjust via OSD.• Adjust the Phase and Pixel Clock controls via OSD.• Reset the monitor to factory settings.• Check environmental factors.• Relocate the monitor and test in another room.
Missing Pixels	LCD screen has spots	<ul style="list-style-type: none">• Cycle power On-Off.• Pixel that is permanently Off is a natural defect that can occur in LCD technology.• For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: http://www.dell.com/support/monitors.

Stuck-on Pixels	LCD screen has bright spots	<ul style="list-style-type: none"> • Cycle power On-Off. • Pixel that is permanently off is a natural defect that can occur in LCD technology. • For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: http://www.dell.com/support/monitors.
Brightness Problems	Picture too dim or too bright	<ul style="list-style-type: none"> • Reset the monitor to factory settings. • Perform Auto Adjust via OSD. • Adjust brightness & contrast controls via OSD.
Geometric Distortion	Screen not centered correctly	<ul style="list-style-type: none"> • Reset the monitor to factory settings. • Perform Auto Adjust via OSD. • Adjust horizontal & vertical controls via OSD. <p>NOTE: When using HDMI/DisplayPort input, the positioning adjustments are not available.</p>
Horizontal/Vertical Lines	Screen has one or more lines	<ul style="list-style-type: none"> • Reset the monitor to factory settings. • Perform Auto Adjust via OSD. • Adjust the Phase and Pixel Clock controls via OSD. • Perform monitor self-test feature check and determine if these lines are also in self-test mode. • Check for bent or broken pins in the video cable connector. • Run the built-in diagnostics. <p>NOTE: When using HDMI/DisplayPort input, the Pixel Clock and Phase adjustments are not available.</p>
Synchronization Problems	Screen is scrambled or appears torn	<ul style="list-style-type: none"> • Reset the monitor to factory settings. • Perform Auto Adjust via OSD. • Adjust the Phase and Pixel Clock controls via OSD. • Perform monitor self-test feature check to determine if the scrambled screen appears in self-test mode. • Check for bent or broken pins in the video cable connector. • Restart the computer in the <i>safe mode</i>.
Safety Related Issues	Visible signs of smoke or sparks	<ul style="list-style-type: none"> • Do not perform any troubleshooting steps. • Contact Dell immediately.
Intermittent Problems	Monitor malfunctions on & off	<ul style="list-style-type: none"> • Ensure that the video cable connecting the monitor to the computer is connected properly and is secure. • Reset the monitor to factory settings. • Perform monitor self-test feature check to determine if the intermittent problem occurs in self-test mode.
Missing Color	Picture missing color	<ul style="list-style-type: none"> • Perform monitor self-test feature check. • Ensure that the video cable connecting the monitor to the computer is connected properly and is secure. • Check for bent or broken pins in the video cable connector.

Wrong Color	Picture color not good	<ul style="list-style-type: none"> • Change the settings of the Preset Modes in the Color menu OSD depending on the application. • Adjust R/G/B value under Custom Color in Color menu OSD. • Change the Input Color Format to PC RGB or YPbPr in the Color menu OSD. • Run the built-in diagnostics.
Image retention from a static image left on the monitor for a long period of time	Faint shadow from the static image displayed appears on the screen	<ul style="list-style-type: none"> • Use the Power Management feature to turn off the monitor at all times when not in use (for more information, see Power Management Modes). • Alternatively, use a dynamically changing screensaver.

Product Specific Problems

Specific Symptoms	What You Experience	Possible Solutions
Screen image is too small	Image is centered on screen, but does not fill entire viewing area	<ul style="list-style-type: none"> • Check the Aspect Ratio setting in the Display menu OSD. • Reset the monitor to factory settings.
Cannot adjust the monitor with the buttons on the front panel	OSD does not appear on the screen	<ul style="list-style-type: none"> • Turn Off the monitor, unplug the power cord, plug it back, and then turn On the monitor. • Check whether the OSD menu is locked. If yes, press and hold the button above the Power button for 10 seconds to unlock (for more information, see Lock).
No Input Signal when user controls are pressed	No picture, the LED light is white	<ul style="list-style-type: none"> • Check the signal source. Ensure the computer is not in the power saving mode by moving the mouse or pressing any key on the keyboard. • Check whether the signal cable is plugged in properly. Re-plug the signal cable if necessary. • Reset the computer or video player.
The picture does not fill the entire screen	The picture cannot fill the height or width of the screen	<ul style="list-style-type: none"> • Due to different video formats (aspect ratio) of DVDs, the monitor may display in full screen. • Run the built-in diagnostics.




NOTE: When choosing HDMI/DP mode, the **Auto Adjust** function will not be available.

Universal Serial Bus (USB) Specific Problems

Specific Symptoms	What You Experience	Possible Solutions
USB interface is not working	USB peripherals are not working	<ul style="list-style-type: none">• Check that your monitor is turned On.• Reconnect the upstream cable to your computer.• Reconnect the USB peripherals (downstream connector).• Switch Off and then turn On the monitor again.• Reboot the computer.• Some USB devices like external portable HDD require higher electric current; connect the device directly to the computer system.
High Speed USB 2.0 interface is slow	High Speed USB 2.0 peripherals working slowly or not working at all	<ul style="list-style-type: none">• Check that your computer is USB 2.0-capable.• Some computers have both USB 2.0 and USB 1.1 ports. Ensure that the correct USB port is used.• Reconnect the upstream cable to your computer.• Reconnect the USB peripherals (downstream connector).• Reboot the computer.

Appendix

WARNING: Safety Instructions

 **WARNING: Use of controls, adjustments, or procedures other than those specified in this documentation may result in exposure to shock, electrical hazards, and/or mechanical hazards.**


For information on safety instructions, see the *Product Information Guide*.

FCC Notices (U.S. Only) and Other Regulatory Information

For FCC notices and other regulatory information, see the regulatory compliance website located at www.dell.com/regulatory_compliance.

Contact Dell

For customers in the United States, call 800-WWW-DELL (800-999-3355).

 **NOTE:** If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area.

To get online Monitor support content:

- 1 Visit www.dell.com/support/monitors.

To contact Dell for sales, technical support, or customer service issues:

- 1 Visit www.dell.com/support.
- 2 Verify your country or region in the **Choose A Country/Region** drop-down menu at the bottom of the page.
- 3 Click **Contact Us** on the left side of the page.
- 4 Select the appropriate service or support link based on your need.
- 5 Choose the method of contacting Dell that is convenient for you.

Setting Up Your Monitor

Setting the display resolution

For maximum display performance with Microsoft® Windows® operating systems, set the display resolution to **2560 x 1440** (for HDMI or DisplayPort) or **2048 x 1152** (for VGA) pixels by performing the following steps:

In Windows® 7, Windows® 8, and Windows® 8.1:

- 1 For Windows® 8 and Windows® 8.1 only, select the Desktop tile to switch to classic desktop.
- 2 Right-click on the desktop and click **Screen Resolution**.
- 3 Click the Dropdown list of the Screen Resolution and select **2560 x 1440** (for HDMI or DisplayPort) or **2048 x 1152** (for VGA).
- 4 Click **OK**.

If you do not see the recommended resolution as an option, you may need to update your graphics driver. Please choose the scenario below that best describes the computer system you are using, and follow the given steps.

If you have a Dell™ desktop or a Dell™ portable computer with internet access

- 1 Go to **www.dell.com/support**, enter your service tag, and download the latest driver for your graphics card.
- 2 After installing the drivers for your graphics adapter, attempt to set the resolution to **2560 x 1440** (for HDMI or DisplayPort) or **2048 x 1152** (for VGA) again.



NOTE: If you are unable to set the resolution to 2560 x 1440 (for HDMI or DisplayPort) or 2048 x 1152 (for VGA), please contact Dell™ to inquire about a graphics adapter that supports these resolutions.

If you have a non Dell™ desktop, portable computer, or graphics card

In Windows® 7, Windows® 8, and Windows® 8.1:

- 1 For Windows® 8 and Windows® 8.1 only, select the Desktop tile to switch to classic desktop.
- 2 Right-click on the desktop and click **Personalization**.
- 3 Click **Change Display Settings**.
- 4 Click **Advanced Settings**.
- 5 Identify your graphics controller supplier from the description at the top of the window (e.g. NVIDIA, ATI, Intel etc.).
- 6 Refer to the graphic card provider website for updated driver (for example, <http://www.ATI.com> OR <http://www.NVIDIA.com>).

- 7 After installing the drivers for your graphics adapter, attempt to set the resolution to **2560 x 1440** (for HDMI or DisplayPort) or **2048 x 1152** (for VGA) again.



NOTE: If you are unable to set the recommended resolution, please contact the manufacturer of your computer or consider purchasing a graphics adapter that will support the video resolution.