

User's Guide

Dell E1916H

Dell E1916He

Dell E2016H

Dell E2216H


Dell E2316H


Dell E2316Hr


Dell E2416H

Regulatory model: E1916Hf / E1916Hef / E2016Hb / E2216Hf /
E2316Hf / E2416Hb



 **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 all the components shown below. Ensure that you have received all the components and **Contact Dell** if anything 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.

	<ul style="list-style-type: none">• Monitor
	<ul style="list-style-type: none">• Stand Riser
	<ul style="list-style-type: none">• Stand Base
	<ul style="list-style-type: none">• VESA™ Screw Cover
	<ul style="list-style-type: none">• Power Cable (varies with countries)
	<ul style="list-style-type: none">• DisplayPort Cable (for E1916H / E1916He / E2016H / E2216H / E2316H / E2416H)
	<ul style="list-style-type: none">• VGA Cable (for E2316Hr)



- Drivers and Documentation media
- Quick Setup Guide
- Safety and Regulatory Information

Product Features

The Dell E1916H / E1916He / E2016H / E2216H / E2316H / E2316Hr / E2416H flat-panel display has an active matrix, Thin-Film Transistor, Liquid Crystal Display and LED backlight. The monitor's features include:

- **E1916H / E1916He:** 47.01 cm (18.51 inches) diagonal viewable image size, 1366 x 768 resolution, plus full-screen support for lower resolutions.
- **E2016H:** 49.41 cm (19.5 inches) diagonal viewable image size, 1600 x 900 resolution, plus full-screen support for lower resolutions.
- **E2216H:** 54.61 cm (21.5 inches) diagonal viewable image size, 1920 x 1080 resolution, plus full-screen support for lower resolutions.
- **E2316H / E2316Hr:** 58.42 cm (23.0 inches) diagonal viewable image size, 1920 x 1080 resolution, plus full-screen support for lower resolutions.
- **E2416H:** 60.97 cm (24.0 inches) diagonal viewable image size, 1920 x 1080 resolution, plus full-screen support for lower resolutions.
- Tilt adjustment capability.
- Removable pedestal and Video Electronics Standards Association (VESA) 100 mm mounting holes for flexible mounting solutions.
- 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 which includes an information file (INF), Image Color Matching File (ICM), and product documentation.
- Dell Display Manager Software
- ENERGY STAR-compliant.
- Security lock slot.
- Asset Management Capability.
- **E1916H / E1916He :** EPEAT Sliver compliant.
- **E2016H / E2216H / E2316H / E2316Hr / E2416H:** EPEAT Gold compliant.
- CECP (for China).
- RoHS compliant.
- **E1916He / E2016H / E2216H / E2316H / E2316Hr / E2416H:** TCO Certified Displays.
- 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

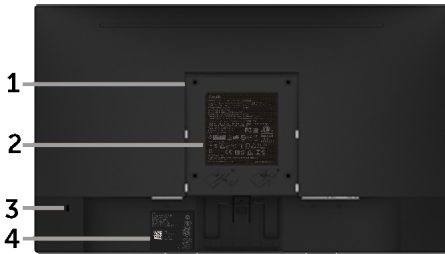
Front View



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

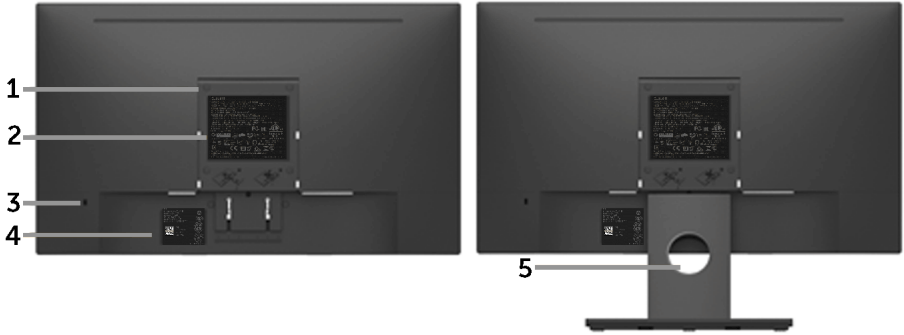
Back View

E1916H / E1916He / E2016H:



Back View with Monitor Stand

E2216H / E2316H / E2316Hr / E2416H:



Back View with Monitor Stand

Label	Description	Use
1	VESA mounting holes (100 mm)	To mount the monitor.
2	Regulatory rating label	Lists the regulatory approvals.
3	Security lock slot	Secures monitor with security lock (security lock not included).
4	Barcode serial number label	Refer to this label if you need to contact Dell for technical support.
5	Cable management slot	Use to organize cables by placing them through the slot.

Side View



Right Side

Bottom View



Label	Description	Use
1	AC power connector	To connect the monitor power cable.
2	Displayport connector	To connect your computer to the monitor using a DP cable.
3	VGA connector	To connect your computer to the monitor using a VGA cable.
4	Dell soundbar mounting slots	To attach the optional Dell Soundbar.

Monitor Specifications

The following sections give you information about the various power management modes and pin assignments for the various connectors of your monitor.

Power Management Modes

If you have VESA's DPM compliance display card or software installed in your PC, the monitor automatically reduces its power consumption when not in use. This is referred to as Power Save Mode. If the computer detects input from 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:

E1916H / E1916He:

VESA Modes	Horizontal Sync	Vertical Sync	Video	Power Indicator	Power Consumption
Normal operation	Active	Active	Active	White	17 W (Maximum)** 14 W (Typical)
Active-off mode	Inactive	Inactive	Blank	Glowing white	Less than 0.3 W
Switch off	-	-		Off	Less than 0.3 W *

Energy Star	Power Consumption
On Mode	13.3 W***

E2016H:

VESA Modes	Horizontal Sync	Vertical Sync	Video	Power Indicator	Power Consumption
Normal operation	Active	Active	Active	White	19 W (Maximum)** 15 W (Typical)
Active-off mode	Inactive	Inactive	Blank	Glowing white	Less than 0.3 W
Switch off	-	-		Off	Less than 0.3 W *

Energy Star	Power Consumption
On Mode	11 W***

E2216H:

VESA Modes	Horizontal Sync	Vertical Sync	Video	Power Indicator	Power Consumption
Normal operation	Active	Active	Active	White	24 W (Maximum)** 18 W (Typical)
Active-off mode	Inactive	Inactive	Blank	Glowing white	Less than 0.3 W
Switch off	-	-		Off	Less than 0.3 W *

Energy Star	Power Consumption
On Mode	18.2 W***

E2316H / E2316Hr:

VESA Modes	Horizontal Sync	Vertical Sync	Video	Power Indicator	Power Consumption
Normal operation	Active	Active	Active	White	25 W (Maximum)** 20 W (Typical)
Active-off mode	Inactive	Inactive	Blank	Glowing white	Less than 0.3 W
Switch off	-	-		Off	Less than 0.3 W *

Energy Star	Power Consumption
On Mode	19.4 W***

E2416H:

VESA Modes	Horizontal Sync	Vertical Sync	Video	Power Indicator	Power Consumption
Normal operation	Active	Active	Active	White	27 W (Maximum)** 22 W (Typical)
Active-off mode	Inactive	Inactive	Blank	Glowing white	Less than 0.3 W
Switch off	-	-		Off	Less than 0.3 W *

Energy Star	Power Consumption
On Mode	16.3 W***

The OSD will only function in the *normal operation* mode. When any button except power button is pressed in Active-off mode, the following messages will be displayed:


There is no signal coming from your computer.

Press any key on the keyboard or move the mouse to wake it up.

If there is no display, press the monitor button now to select the correct input source on the On-Screen-Display menu.



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

 **NOTE:** The Dell E1916H / E1916He / E2016H / E2216H / E2316H / E2316Hr / E2416H monitor is ENERGY STAR®-compliant.

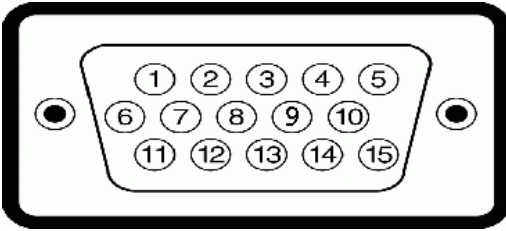


- * Zero-power consumption in OFF mode can only be achieved by disconnecting the main cable from the monitor.
- ** Maximum power consumption with max luminance and contrast.
- *** Energy consumption (On Mode) is tested at 230 Volts / 50 Hz.

This document is informational only and reflects laboratory performance. Your product may perform differently, depending on the software, components and peripherals you ordered and shall have no obligation to update such information. Accordingly, the customer should not rely upon this information in making decisions about electrical tolerances or otherwise. No warranty as to accuracy or completeness is expressed or implied.

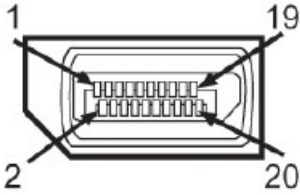
Pin Assignments

15-pin D-Sub connector



Pin Number	Monitor Side of the 15-pin Side 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	DDC +5 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	HPD
19	DP_PWR_Return
20	+3.3 V DP_PWR

Plug and Play Capability

You can install the monitor in any Plug and Play compatible system. The monitor automatically provides the computer with its Extended Display Identification Data (EDID) using Display Data Channel (DDC) protocols so that the system can configure itself and optimize the monitor settings. Most monitor installations are automatic. You can select different settings if required.

Flat-Panel Specifications

Model number	E1916H / E1916He	E2016H	E2216H
Screen type	Active matrix - TFT LCD	Active matrix - TFT LCD	Active matrix - TFT LCD
Panel Type	TN	TN	TN
Viewable image			
Diagonal	470.1 mm (18.51 inches)	494.1 ± 0.02 mm (19.5 ± 0.05 inches)	546.1 mm (21.5 inches)
Horizontal Active Area	409.8 mm (16.13 inches)	432.0 ± 1.92 mm (17.0 ± 0.08 inches)	476.06 mm (18.74 inches)
Vertical Active Area	230.4 mm (9.07 inches)	239.76 ± 3.42 mm (9.44 ± 0.13 inches)	267.79 mm (10.54 inches)
Area	94417.92 mm ² (146.35 inches ²)	102552.65 ± 1050 mm ² (158.84 ± 1.56 inches ²)	127484.10 mm ² (197.52 inches ²)
Pixel pitch	0.30 x 0.30 mm	0.248 ± 0.022 x 0.248 + 0.022 mm	0.248 x 0.248 mm
Viewing angle:			
Horizontal	90° typical	170° typical	170° typical
Vertical	65° typical	160° typical	160° typical
Luminance output	200 cd/m ² (typical)	250 cd/m ² (typical)	250 cd/m ² (typical)
Contrast ratio	600 to 1 (typical)	1000 to 1 (typical)	1000 to 1 (typical)
Faceplate coating	Antiglare with hard-coating 3H	Antiglare with hard-coating 3H	Antiglare with hard-coating 3H
Backlight	LED edgelight system	LED edgelight system	LED light bar system
Response Time	5 ms typical (white to black, black to white)	5 ms typical (white to black, black to white)	5 ms typical (white to black, black to white)
Color Depth	16.7 mil colors	16.7 mil colors	16.7 mil colors
Color Gamut	82 % (typical) *	86 % (typical) *	84 % (typical) *

Model number	E2316H / E2316Hr	E2416H
Screen type	Active matrix - TFT LCD	Active matrix - TFT LCD
Panel Type	TN	TN
Viewable image		
Diagonal	584.2 mm (23.0 inches)	609.7 mm (24.0 inches)
Horizontal Active Area	509.18 mm (20.05 inches)	531.36 mm (20.91 inches)
Vertical Active Area	286.42 mm (11.28 inches)	298.89 mm (11.77 inches)
Area	145839.34 mm ² (226.16 inches ²)	158818.19 mm ² (246.11 inches ²)
Pixel pitch	0.265 x 0.265 mm	0.27675 x 0.27675 mm
Viewing angle:		
Horizontal	170° typical	170° typical
Vertical	160° typical	160° typical
Luminance output	250 cd/m ² (typical)	250 cd/m ² (typical)
Contrast ratio	1000 to 1 (typical)	1000 to 1 (typical)
Faceplate coating	Antiglare with hard-coating 3H	Antiglare with hard-coating 3H
Backlight	LED light bar system	LED edgelight system
Response Time	5 ms typical (white to black, black to white)	5 ms typical (white to black, black to white)
Color Depth	16.7 mil colors	16.7 mil colors
Color Gamut	83 % (typical) *	86 % (typical) *

* E1916H / E1916He color gamut (typical) is based on CIE1976 (82 %) and CIE1931 (72 %) test standards. E2016H / E2416H color gamut (typical) is based on CIE1976 (86 %) and CIE1931 (72 %) test standards. E2216H color gamut (typical) is based on CIE1976 (84 %) and CIE1931 (72 %) test standards. E2316H / E2316Hr color gamut (typical) is based on CIE1976 (83 %) and CIE1931 (72 %) test standards.

Resolution Specifications

Model number	E1916H / E1916He	E2016H	E2216H / E2316H / E2316Hr / E2416H
Scan range	<ul style="list-style-type: none"> Horizontal 30 kHz to 83 kHz (automatic) Vertical 56 Hz to 76 Hz (automatic) 		
Maximum preset resolution	1366 x 768 at 60 Hz	1600 x 900 at 60 Hz	1920 x 1080 at 60 Hz

Electrical Specifications

Model number	E1916H / E1916He / E2216H / E2316H / E2316Hr	E2016H / E2416H
Video input signals	<ul style="list-style-type: none"> Analog RGB: 0.7 Volts \pm 5 %, 75 ohm input impedance DisplayPort, 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 / 1.0 A (typical)	100 VAC to 240 VAC / 50 Hz or 60 Hz \pm 3 Hz / 0.8 A (typical)
Inrush current	120 V: 30 A (Max.) 240 V: 60 A (Max.)	

Preset Display Modes

The following table lists the preset modes for which Dell guarantees image size and centering:

E1916H / E1916He:

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	59.9	25.2	-/-
VESA, 640 x 480	37.5	75.0	31.5	-/-
VESA, 800 x 600	37.9	60.3	40.0	+/+
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, 1280 x 1024	80.0	75.0	135.0	+/+
VESA, 1366 x 768	47.7	59.8	85.5	+/+

E2016H :

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	59.9	25.2	-/-
VESA, 640 x 480	37.5	75.0	31.5	-/-
VESA, 800 x 600	37.9	60.3	40.0	+/+
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 1024	64.0	60.0	108.0	+/+
VESA, 1280 x 1024	80.0	75.0	135.0	+/+
VESA, 1600 x 900	60.0	60.0	108.0	+/+

E2216H / E2316H / E2316Hr / E2416H :

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	59.9	25.2	-/-
VESA, 640 x 480	37.5	75.0	31.5	-/-
VESA, 800 x 600	37.9	60.3	40.0	+/+
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 1024	64.0	60.0	108.0	+/+
VESA, 1280 x 1024	80.0	75.0	135.0	+/+
VESA, 1600 x 900	60.0	60.0	108.0	+/+
VESA, 1920 x 1080	67.5	60.0	148.5	+/+

Physical Characteristics

The following table lists the monitor's physical characteristics:

Model Number	E1916H/ E1916He	E2016H	E2216H
Connector type	15-pin D-subminiature (Black connector) DP, Black connector		
Signal cable type	Analog: D-Sub, 15 pins (cable not included) Digital: DisplayPort, 20 pins		
Dimensions: (with stand)			
Height	359.0 mm (14.13 inches)	368.9 mm (Maximum) (14.52 inches (Maximum))	396.7 mm (15.62 inches)
Width	445.4 mm (17.54 inches)	471.5 mm (Maximum) (18.56 inches (Maximum))	512.2 mm (20.17 inches)
Depth	167.0 mm (6.57 inches)	167.0 mm (6.57 inches)	180.0 mm (7.09 inches)
Dimensions: (without stand)			
Height	266.0 mm (10.47 inches)	275.4 mm (Maximum) (10.84 inches (Maximum))	303.7 mm (11.96 inches)
Width	445.4 mm (17.54 inches)	471.5 mm (Maximum) (18.56 inches (Maximum))	512.2 mm (20.17 inches)
Depth	51.5 mm (2.03 inches)	51.5 mm (2.03 inches)	50.5 mm (1.99 inches)
Stand dimensions:			
Height	156.0 mm (6.14 inches)	156.0 mm (6.14 inches)	177.0 mm (6.97 inches)
Width	220.0 mm (8.66 inches)	220.0 mm (8.66 inches)	250.0 mm (9.84 inches)
Depth	167.0 mm (6.57 inches)	167.0 mm (6.57 inches)	180.0 mm (7.09 inches)
Weight:			
Weight with packaging	3.60 kg (7.94 lb)	4.11 kg (9.06 lb)	4.85 kg (10.69 lb)
Weight with stand assembly and cables	3.00 kg (6.61 lb)	2.92 kg (6.44 lb)	3.63 kg (8.0 lb)
Weight without stand assembly (For wall mount or VESA mount considerations - no cables)	2.26 kg (4.98 lb)	2.22 kg (4.89 lb)	2.84 kg (6.26 lb)
Weight of stand assembly	0.46 kg (1.01 lb)	0.46 kg (1.01 lb)	0.52 kg (1.15 lb)

Model Number	E2316H / E2316Hr	E2416H
Connector type	15-pin D-subminiature (Back connector) DP, Back connector	
Signal cable type	Analog: D-Sub, 15 pins (cable included for E2316Hr only) Digital: DisplayPort, 20 pins (cable not included for E2316Hr)	
Dimensions: (with stand)		
Height	415.0 mm (16.34 inches)	427.58 mm (16.83 inches)
Width	544.8 mm (21.45 inches)	566.96 mm (22.32 inches)
Depth	180.0 mm (7.09 inches)	180.0 mm (7.09 inches)
Dimensions: (without stand)		
Height	322.0 mm (12.68 inches)	334.58 mm (13.17 inches)
Width	544.8 mm (21.45 inches)	566.96 mm (22.32 inches)
Depth	50.5 mm (1.99 inches)	50.5 mm (1.99 inches)
Stand dimensions:		
Height	177.0 mm (6.97 inches)	177.0 mm (6.97 inches)
Width	250.0 mm (9.84 inches)	250.0 mm (9.84 inches)
Depth	180.0 mm (7.09 inches)	180.0 mm (7.09 inches)
Weight:		
Weight with packaging	5.09 kg (11.22 lb)	5.23 kg (11.53 lb)
Weight with stand assembly and cables	3.77 kg (8.31 lb)	3.84 kg (8.47 lb)
Weight without stand assembly (For wall mount or VESA mount considerations - no cables)	2.98 kg (6.57 lb)	2.91 kg (6.42 lb)
Weight of stand assembly	0.52 kg (1.15 lb)	0.69 kg (1.52 lb)

Environmental Characteristics

The following table lists the environmental conditions for your monitor:

Model Number	E1916H / E1916He	E2016H	
Temperature	<ul style="list-style-type: none"> Operating 0 °C to 40 °C (32 °F to 104 °F) Non-operating Storage: -20 °C to 60 °C (-4 °F to 140 °F) Shipping: -20 °C to 60 °C (-4 °F to 140 °F) 		
Humidity	<ul style="list-style-type: none"> Operating 10 % to 80 % (non-condensing) Non-operating Storage: 5 % to 90 % (non-condensing) Shipping: 5 % to 90 % (non-condensing) 		
Altitude	<ul style="list-style-type: none"> Operating 5,000 m (16,404 ft) max Non-operating 12,191 m (40,000 ft) max 		
Thermal dissipation	58.0 BTU/hour (maximum) 47.8 BTU/hour (typical)	64.83 BTU/hour (maximum) 51.18 BTU/hour (typical)	
Model Number	E2216H	E2316H / E2316Hr	E2416H
Temperature	<ul style="list-style-type: none"> Operating 0 °C to 40 °C (32 °F to 104 °F) Non-operating Storage: -20 °C to 60 °C (-4 °F to 140 °F) Shipping: -20 °C to 60 °C (-4 °F to 140 °F) 		
Humidity	<ul style="list-style-type: none"> Operating 10 % to 80 % (non-condensing) Non-operating Storage: 5 % to 90 % (non-condensing) Shipping: 5 % to 90 % (non-condensing) 		
Altitude	<ul style="list-style-type: none"> Operating 5,000 m (16,404 ft) max Non-operating 12,191 m (40,000 ft) max 		
Thermal dissipation	81.9 BTU/hour (maximum) 61.4 BTU/hour (typical)	85.3 BTU/hour (maximum) 68.3 BTU/hour (typical)	92.1 BTU/hour (maximum) 75.1 BTU/hour (typical)



LCD Monitor Quality & Pixel Policy

During the LCD Monitor manufacturing process, it is not uncommon for one or more pixels to become fixed in an unchanging state. The visible result is a fixed pixel that appears as an extremely tiny dark or bright discolored spot. When the pixel remains permanently lit, it is known as a "bright dot." When the pixel remains black, it is known as a "dark dot."

In almost every case, these fixed pixels are hard to see and do not detract from display quality or usability. A display with 1 to 5 fixed pixels is considered normal and within competitive standards. For more information, see Dell Support site at: <http://www.dell.com/support/monitors>.

Maintenance Guidelines

Caring for Your Monitor


-  **CAUTION: Read and follow the safety instructions before cleaning the monitor.**
-  **CAUTION: 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:

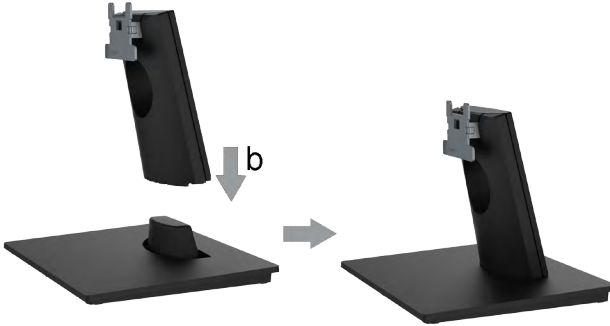
- To clean your antistatic screen, slightly dampen a soft, clean cloth with water. If possible, use a special screen-cleaning tissue or solution suitable for the antistatic coating. Do not use benzene, thinner, ammonia, abrasive cleaners, or compressed air.
- Use a slightly dampened, warm cloth to clean the plastics. Avoid using detergent of any kind as some detergents leave a milky film on the plastics.
- If you notice a white powder when you unpack your monitor, wipe it off with a cloth. This white powder occurs during the shipping of the monitor.
- Handle your monitor with care as a darker-colored monitor may scratch 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 power off your monitor when not in use.

Setting Up the Monitor

Attaching the Stand

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

1. Assemble the stand riser to stand base.



- a. Place the monitor stand base on a stable table top.
- b. Slide the monitor stand body in the correct direction down onto the stand base until it clicks into place.

2. Attach the stand assembly to the monitor:



E1916H/E1916He/E2016H



E2216H/E2316H/E2316Hr/E2416H

- a. Place the monitor on a soft cloth or cushion near the edge of desk.
- b. Align the stand assembly bracket to the monitor groove.
- c. Insert the bracket towards monitor until it locks in place.

Connecting Your Monitor

⚠ WARNING: Before you begin any of the procedures in this section, follow the **Safety Instructions**.

To connect your monitor to the computer:

1. Turn off your computer and disconnect the power cable.
2. Connect the black VGA or DisplayPort cable to the corresponding video port on the back of your computer. Do not use all cables at the same time. Use the all cables only when they are connected to different computers with appropriate video systems.

Connecting VGA Cable



Connecting DP cable



📎 NOTE: The graphics are used for the purpose of illustration only. Appearance on the computer may vary.

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.

Removing the Monitor Stand

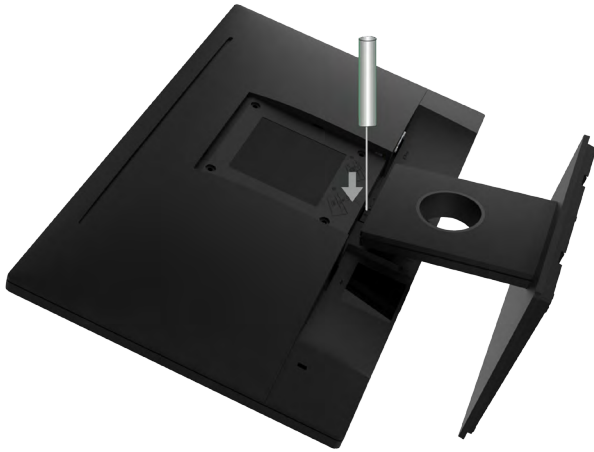
NOTE: This is applicable for a monitor with a stand. When any other stand is bought, please refer to the respective stand setup guide for the removal instructions.

1. Remove the VESA Cover.



- a. Place the monitor panel on a soft cloth or cushion.
- b. Lift from both side simultaneously, remove the VESA Cover away from the monitor.

2. Remove the stand assembly to the monitor.




- a. Use a long screwdriver to push the release latch located in a hole just above the stand.
- b. Once the latch is released, remove the base away from the monitor.

Wall Mounting (Optional)




(Screw dimension: M4 x 10 mm). Refer to the instructions that come with the VESA-compatible base mounting kit.

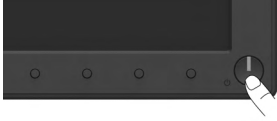
1. Place the monitor panel on a soft cloth or cushion on a stable flat table.
2. Remove the stand.
3. Use a screwdriver to remove the four screws securing the plastic cover.
4. Attach the mounting bracket from the wall mounting kit to the LCD.
5. Mount the LCD on the wall by following the instructions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

 **NOTE:** For use only with UL-listed wall-mount bracket with minimum weight/load bearing capacity of 2.26 kg (E1916H/E1916H_e)/2.22kg (E2016H)/2.84 kg (E2216H)/2.98 kg (E2316H/E2316H_r)/2.91 kg (E2416H).

Operating the Monitor

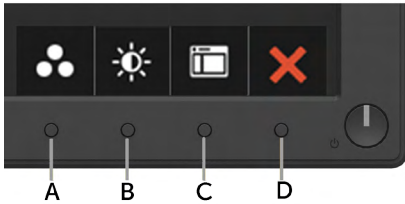
Power On the Monitor





Press the  button to turn on the monitor.



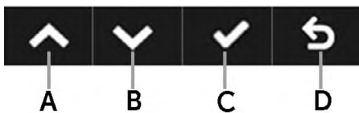
Using the Front-Panel Controls


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






Front-Panel Keys	Description
A  Preset modes	Use the Preset modes key to choose from a list of preset color modes. See Using the OSD Menu .
B  Brightness / Contrast	Use the Brightness / Contrast key to direct access to the "Brightness" and "Contrast" control menu.
C  Menu	Use the Menu key to open the on-screen display (OSD).
D  Exit	Use the Exit key to exit on-screen display (OSD) from menu and sub-menus.

Front-Panel Keys




Front-Panel Keys	Description
A  Up	Use the Up key to adjust (increase ranges) items in the OSD menu.

B	 Down	Use the Down key to adjust (decrease ranges) items in the OSD menu.
C	 OK	Use the OK key to confirm your selection.
D	 Back	Use the Back key to go back to the previous menu.

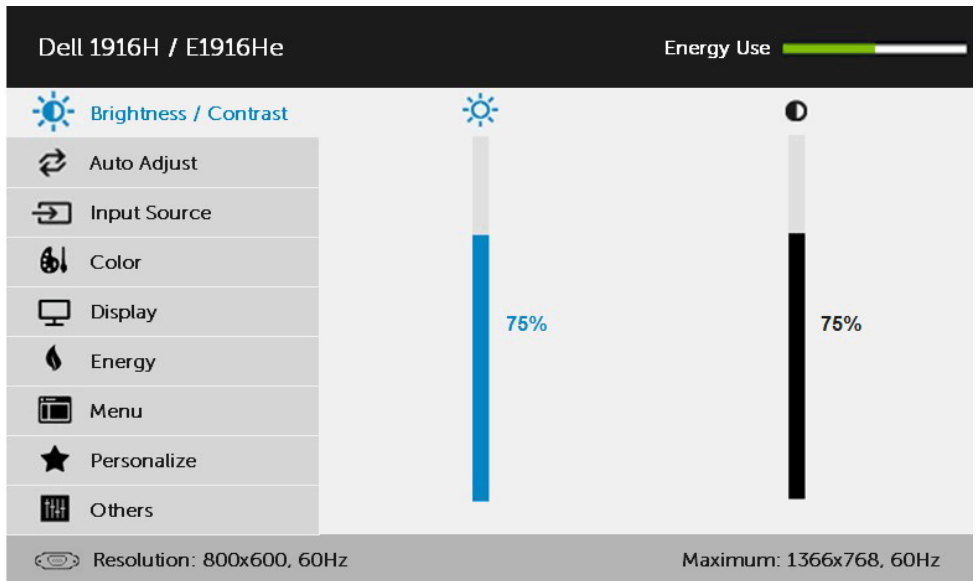
Using the On-Screen Display (OSD) Menu

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 open the OSD menu and display the main menu.









Main Menu



Dell 1916H / E1916He


Energy Use 

 **Brightness / Contrast**

-  Auto Adjust
-  Input Source
-  Color
-  Display
-  Energy
-  Menu
-  Personalize
-  Others


75%


75%









 Resolution: 800x600, 60Hz


Maximum: 1366x768, 60Hz




Dell E2016H Energy Use 

 **Brightness / Contrast**


-  Auto Adjust
-  Input Source
-  Color
-  Display
-  Energy
-  Menu
-  Personalize
-  Others




75%












75%


 Resolution: 1280x1024, 60Hz
Maximum: 1600x900, 60Hz




Dell E2216H / E2316H / E2416H Energy Use 

 **Brightness / Contrast**


-  Auto Adjust
-  Input Source
-  Color
-  Display
-  Energy
-  Menu
-  Personalize
-  Others




75%



75%


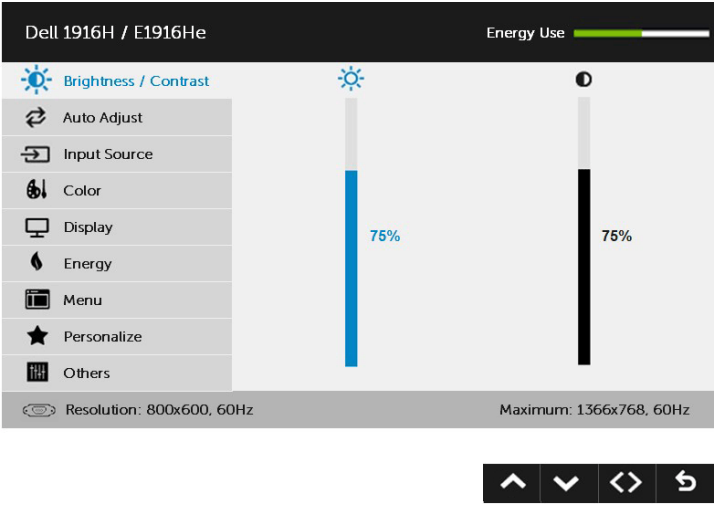
 Resolution: 1280x1024, 60Hz
Maximum: 1920x1080, 60Hz

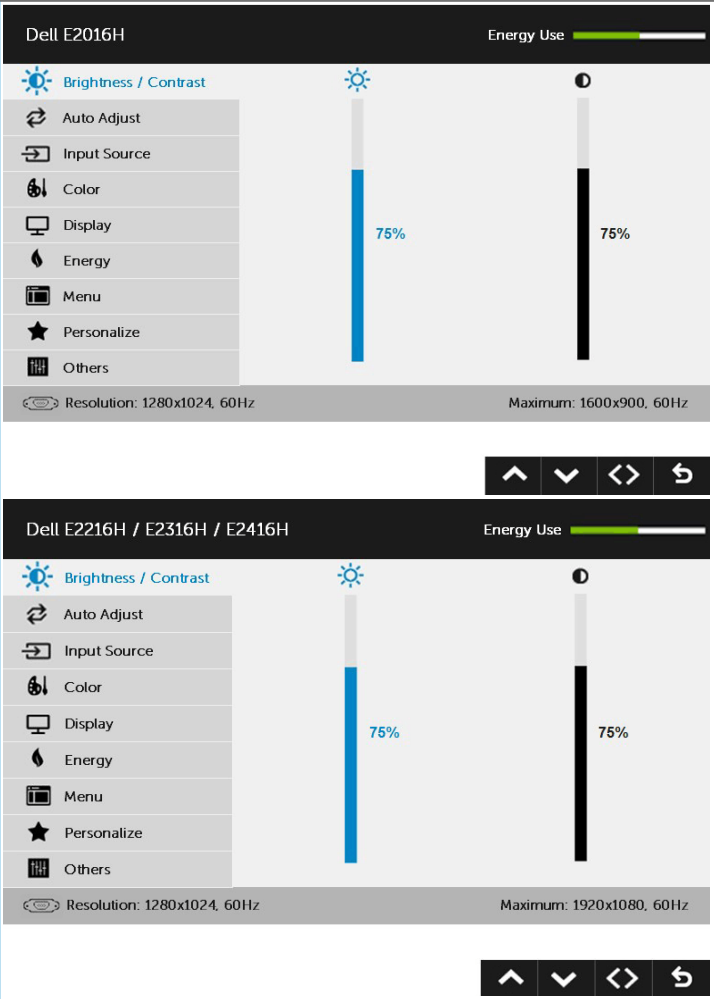






 **NOTE:** Auto Adjust is only available when you use the analog (VGA) connector.

2. Press the **▲** and **▼** buttons to toggle between options in the Menu. As you move from one icon to another, the option name is highlighted.
3. To select the highlighted item on the menu press the **➔** button again.
4. Press the **▲** and **▼** buttons to select the desired parameter.
5. Press the **➔** button to enter the slide bar and then use the **▲** or **▼** buttons, according to the indicators on the menu, to make your changes.
6. Select the **⏪** to return to previous menu without accepting current settings or **✓** to accept and return to previous menu.

The table below provides a list of all the OSD menu options and their functions.

Icon	Menu and Submenus	Description
	Energy Use	This meter shows the energy level being consumed by the monitor in real time.
	Brightness/ Contrast	<p>Use the Brightness and Contrast menu to adjust the Brightness/ Contrast.</p> 

	 <p>The screenshot shows the OSD menu for a Dell E2016H monitor. At the top, it says 'Dell E2016H' and 'Energy Use' with a green progress bar. The main menu is titled 'Brightness / Contrast' and includes options: Auto Adjust, Input Source, Color, Display, Energy, Menu, Personalize, and Others. Two vertical sliders are shown: a blue one for Brightness and a black one for Contrast, both set to 75%. At the bottom, it displays 'Resolution: 1280x1024, 60Hz' and 'Maximum: 1600x900, 60Hz'. Navigation arrows are visible at the bottom right.</p>
<p>Brightness</p>	<p>Allows you to adjust the brightness or luminance of the backlight.</p> <p>Press the  key to increase brightness and press the  key to decrease brightness (min 0 ~ max 100).</p>
<p>Contrast</p>	<p>Allows you to adjust the contrast or the degree of difference between darkness and lightness on the monitor screen. Adjust brightness first, and adjust contrast only if you need further adjustment.</p> <p>Press the  key to increase contrast and press the  key to decrease contrast (min 0 ~ max 100).</p>



Auto Adjust

Use this key to activate automatic setup and adjust menu.

The image shows two screenshots of the Dell monitor's On-Screen Display (OSD) menu. The top screenshot is for the Dell 1916H / E1916He model, and the bottom screenshot is for the Dell E2016H model. Both screens show the 'Auto Adjust' option highlighted in blue. The 'Auto Adjust' option is accompanied by a checkmark icon and the text 'Press ✓ to adjust the screen automatically.' The OSD menu includes options for Brightness / Contrast, Input Source, Color, Display, Energy, Menu, Personalize, and Others. The current resolution and refresh rate are displayed at the bottom of each screen, along with the maximum supported resolution and refresh rate. The Energy Use indicator is shown at the top right of each screen.

Dell 1916H / E1916He Energy Use

Brightness / Contrast

Auto Adjust Press ✓ to adjust the screen automatically.

Input Source

Color

Display

Energy

Menu

Personalize

Others

Resolution: 800x600, 60Hz Maximum: 1366x768, 60Hz

↑ ↓ ✓ ✗

Dell E2016H Energy Use

Brightness / Contrast

Auto Adjust Press ✓ to adjust the screen automatically.

Input Source

Color

Display

Energy

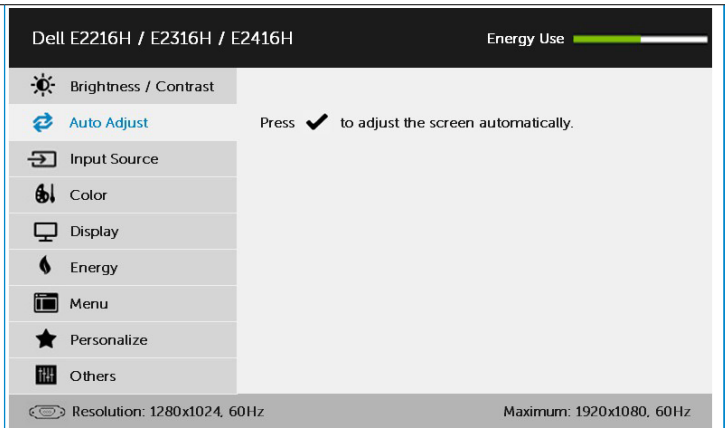
Menu

Personalize

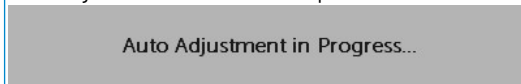
Others

Resolution: 1280x1024, 60Hz Maximum: 1600x900, 60Hz

↑ ↓ ✓ ✗



The following dialog appears on a black screen as the monitor self-adjusts to the current input:



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**.

NOTE: Auto Adjust does not occur if you press the button while there are no active video input signals or attached cables.

This option is only available when you are using the analog (VGA) connector.



Input Source

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

Dell 1916H / E1916He Energy Use

Auto Select

Brightness / Contrast	VGA	
Auto Adjust	DP	
Input Source		
Color		
Display		
Energy		
Menu		
Personalize		
Others		

Resolution: 800x600, 60Hz Maximum: 1366x768, 60Hz



Dell E2016H Energy Use

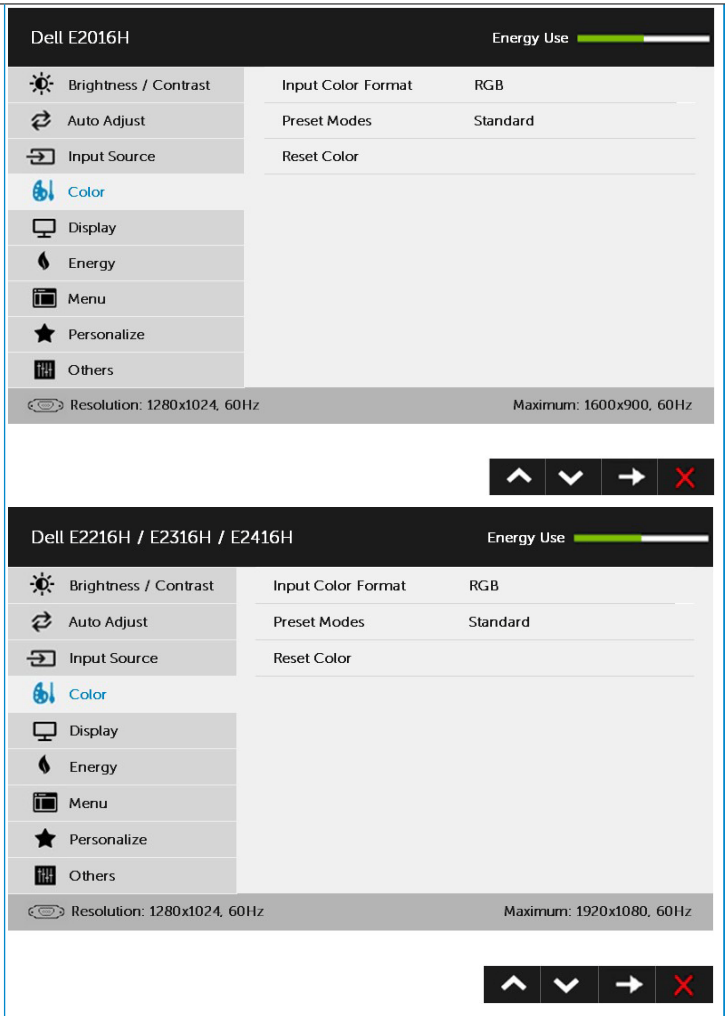
Auto Select

Brightness / Contrast	VGA	
Auto Adjust	DP	
Input Source		
Color		
Display		
Energy		
Menu		
Personalize		
Others		

Resolution: 1280x1024, 60Hz Maximum: 1600x900, 60Hz



	Auto Select	Select Auto Select to scan for available input signals.
	VGA	Select VGA input when you are using the analog (VGA) connector. Push ▼ to select the VGA input source.
	DP	Select DP input when you are using the DP connector. Push ▼ to select the DP input source.
	Color	<p>Use the Color menu to adjust the monitor's color settings.</p>



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 adapter.
- **YPbPr:** Select this option if your DVD player supports only YPbPr output.

Preset Modes

Allows you to choose from a list of preset color modes.

Dell 1916H / E1916He Energy Use

Brightness / Contrast	Input Color Format	Standard
Auto Adjust	Preset Modes	Multimedia
Input Source	Reset Color	Paper
Color		Warm
Display		Cool
Energy		Custom Color
Menu		
Personalize		
Others		

Resolution: 800x600, 60Hz Maximum: 1366x768, 60Hz

Navigation:

Dell E2016H Energy Use

Brightness / Contrast	Input Color Format	Standard
Auto Adjust	Preset Modes	Multimedia
Input Source	Reset Color	Paper
Color		Warm
Display		Cool
Energy		Custom Color
Menu		
Personalize		
Others		

Resolution: 1280x1024, 60Hz Maximum: 1600x900, 60Hz


Navigation:










	<div data-bbox="325 76 1047 510"> </div> <div data-bbox="325 510 1047 1050"> <ul style="list-style-type: none"> • Standard: Loads the monitor's default color settings. This is the default preset mode. • Multimedia: Loads color settings ideal for multimedia 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 keys to adjust the Red, Green, and Blue values and create your own preset color mode. </div>
Reset Color	Resets your monitor's color settings to the factory defaults.




Display


Use the **Display** menu to adjust the monitor's display settings.










Dell 1916H / E1916He Energy Use 


 Brightness / Contrast	Aspect Ratio	Wide 16:9
 Auto Adjust	Horizontal Position	50
 Input Source	Vertical Position	50
 Color	Sharpness	50
 Display	Pixel Clock	50
 Energy	Phase	50
 Menu	Reset Display	
 Personalize		
 Others		

 Resolution: 800x600, 60Hz Maximum: 1366x768, 60Hz

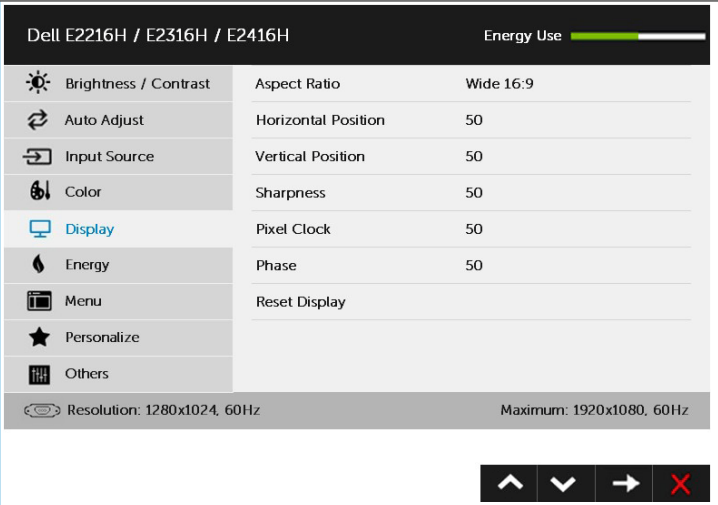










Dell E2016H Energy Use 

 Brightness / Contrast	Aspect Ratio	Wide 16:9
 Auto Adjust	Horizontal Position	50
 Input Source	Vertical Position	50
 Color	Sharpness	50
 Display	Pixel Clock	50
 Energy	Phase	50
 Menu	Reset Display	
 Personalize		
 Others		


 Resolution: 1280x1024, 60Hz Maximum: 1600x900, 60Hz












	
Aspect Ratio	<p>Adjusts the image ratio as Wide 16:9, 4:3, or 5:4.</p> <p>NOTE: Wide 16:9 adjustment is not required at maximum preset resolution 1366 x 768 (for E1916H / E1916He) or 1600 x 900 (for E2016H) or 1920 x 1080 (for E2216H / E2316H / E2316Hr / E2416H).</p>
Horizontal Position	<p>Use  or  the buttons to adjust image left and right. Minimum is '0' (-). Maximum is '100' (+).</p>
Vertical Position	<p>Use the  or  buttons to adjust image up and down. Minimum is '0' (-). Maximum is '100' (+).</p> <p>NOTE: Horizontal Position and Vertical Position adjustments are only available for "VGA" input.</p>
Sharpness	<p>This feature can make the image look sharper or softer. Use  or  to adjust the sharpness from '0' to '100'.</p>
Pixel Clock	<p>The Phase and Pixel Clock adjustments allow you to adjust your monitor to your preference. Use  or  buttons to adjust for best image quality.</p>
Phase	<p>If satisfactory results are not obtained using the Phase adjustment, use the Pixel Clock (coarse) adjustment and then use Phase (fine), again.</p> <p>NOTE: Pixel Clock and Phase adjustment are only available for VGA input.</p>
Reset Display	<p>Select this option to restore default display settings.</p>





Energy










Dell 1916H / E1916He Energy Use 

 Brightness / Contrast	Power Button LED	On During Active
 Auto Adjust	Reset Energy	
 Input Source		
 Color		
 Display		
 Energy		
 Menu		
 Personalize		
 Others		


Resolution: 800x600, 60Hz Maximum: 1366x768, 60Hz



Dell E2016H Energy Use 

 Brightness / Contrast	Power Button LED	On During Active
 Auto Adjust	Reset Energy	
 Input Source		
 Color		
 Display		
 Energy		
 Menu		
 Personalize		
 Others		

Resolution: 1280x1024, 60Hz Maximum: 1600x900, 60Hz



Power Button LED		Allows you to set the power LED indicator on or off during active to save energy.
Reset Energy		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.

Dell 1916H / E1916He Energy Use

Brightness / Contrast	Language	English
Auto Adjust	Transparency	20
Input Source	Timer	20s
Color	Lock	Unlock
Display	Reset Menu	
Energy		
Menu		
Personalize		
Others		

Resolution: 800x600, 60Hz Maximum: 1366x768, 60Hz

Navigation:

Dell E2016H Energy Use

Brightness / Contrast	Language	English
Auto Adjust	Transparency	20
Input Source	Timer	20s
Color	Lock	Unlock
Display	Reset Menu	
Energy		
Menu		
Personalize		
Others		

Resolution: 1280x1024, 60Hz Maximum: 1600x900, 60Hz


Navigation:










Language	Allows you to set the OSD display to one of eight languages: English, Spanish, French, German, Brazilian Portuguese, Russian, Simplified Chinese, or Japanese.
Transparency	Allows you to adjust the OSD background from opaque to transparent.
Timer	Allows you to set the time for which the OSD remains active after you press a key on the monitor. Use the and keys 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 keys are locked except key. NOTE: When the OSD is locked, pressing the menu key takes you directly to the OSD settings menu, with 'OSD Lock' pre-selected on entry. Press and hold key for 6 seconds to unlock and allow user access to all applicable settings.
Reset Menu	Select this option to restore default menu settings.



Personalize


Selecting this option allows you to set two shortcut keys.










Dell 1916H / E1916He Energy Use 

 Brightness / Contrast	Shortcut Key 1	Preset Modes
 Auto Adjust	Shortcut Key 2	Brightness / Contrast
 Input Source	Reset Personalization	
 Color		
 Display		
 Energy		
 Menu		
 Personalize		
 Others		

Resolution: 800x600, 60Hz Maximum: 1366x768, 60Hz

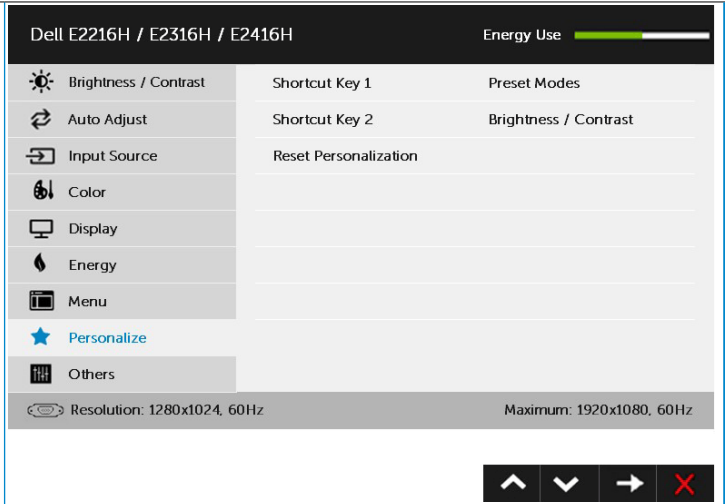


Dell 1916H / E1916He Energy Use 

 Brightness / Contrast	Shortcut Key 1	Preset Modes
 Auto Adjust	Shortcut Key 2	Brightness / Contrast
 Input Source	Reset Personalization	
 Color		
 Display		
 Energy		
 Menu		
 Personalize		
 Others		

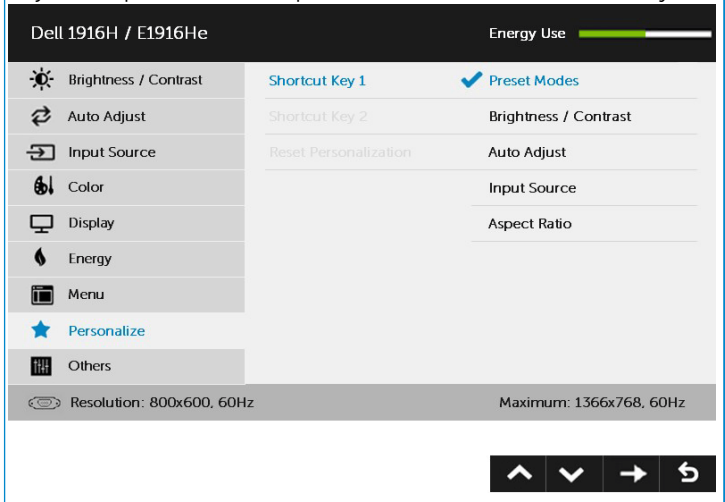
Resolution: 800x600, 60Hz Maximum: 1366x768, 60Hz





Shortcut Key 1

User can select from "Preset Modes", "Brightness/Contrast", "Auto Adjust", "Input Source", "Aspect Ratio" and set as shortcut key.



Dell E2016H
Energy Use

Brightness / Contrast	Shortcut Key 1	<input checked="" type="checkbox"/> Preset Modes
Auto Adjust	Shortcut Key 2	Brightness / Contrast
Input Source	Reset Personalization	Auto Adjust
Color		Input Source
Display		Aspect Ratio
Energy		
Menu		
Personalize		
Others		

Resolution: 1280x1024, 60Hz
Maximum: 1600x900, 60Hz

↑
↓
→
↶

Dell E2216H / E2316H / E2416H
Energy Use

Brightness / Contrast	Shortcut Key 1	<input checked="" type="checkbox"/> Preset Modes
Auto Adjust	Shortcut Key 2	Brightness / Contrast
Input Source	Reset Personalization	Auto Adjust
Color		Input Source
Display		Aspect Ratio
Energy		
Menu		
Personalize		
Others		

Resolution: 1280x1024, 60Hz
Maximum: 1920x1080, 60Hz

↑
↓
→
↶

Shortcut Key 2

User can select from "Preset Modes", "Brightness/Contrast", "Auto Adjust", "Input Source", "Aspect Ratio" and set as shortcut key.

Dell 1916H / E1916He Energy Use

Brightness / Contrast	Shortcut Key 1	Preset Modes
Auto Adjust	Shortcut Key 2	<input checked="" type="checkbox"/> Brightness / Contrast
Input Source	Reset Personalization	Auto Adjust
Color		Input Source
Display		Ratio
Energy		
Menu		
Personalize		
Others		

Resolution: 800x600, 60Hz Maximum: 1366x768, 60Hz

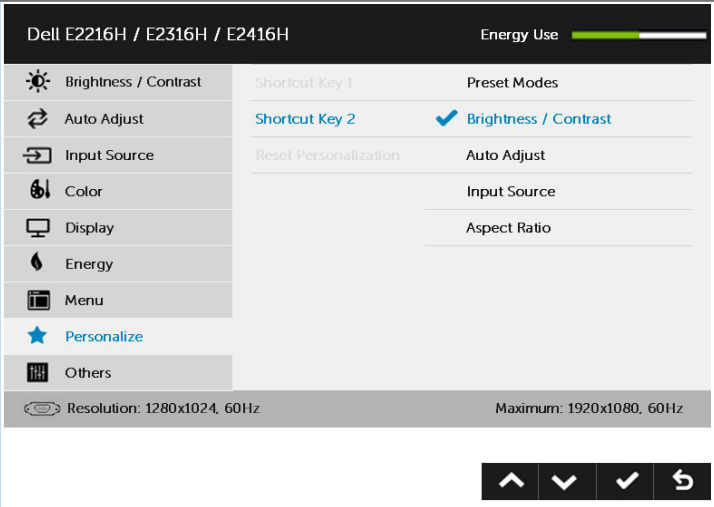

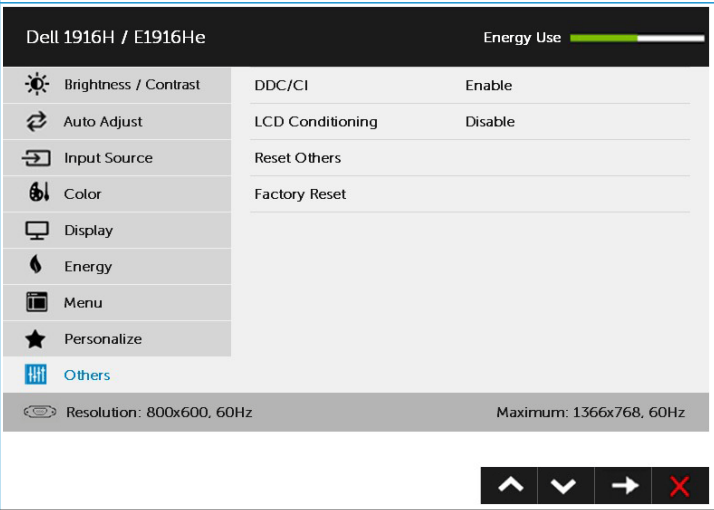



Dell E2016H Energy Use










Brightness / Contrast	Shortcut Key 1	Preset Modes
Auto Adjust	Shortcut Key 2	<input checked="" type="checkbox"/> Brightness / Contrast
Input Source	Reset Personalization	Auto Adjust
Color		Input Source
Display		Aspect Ratio
Energy		
Menu		
Personalize		
Others		


Resolution: 1280x1024, 60Hz Maximum: 1600x900, 60Hz




		
	Reset Personalization	Allows you to restore shortcut key to the default setting.
	Others	










Dell E2016H Energy Use 


 Brightness / Contrast	DDC/CI	Enable
 Auto Adjust	LCD Conditioning	Disable
 Input Source	Reset Others	
 Color	Factory Reset	
 Display		
 Energy		
 Menu		
 Personalize		
 Others		

 Resolution: 1280x1024, 60Hz Maximum: 1600x900, 60Hz

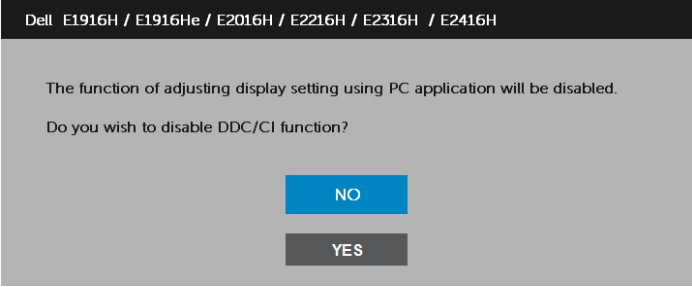
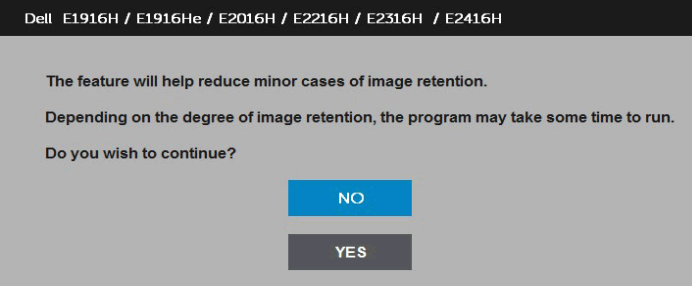


Dell E2216H / E2316H / E2416H Energy Use 

 Brightness / Contrast	DDC/CI	Enable
 Auto Adjust	LCD Conditioning	Disable
 Input Source	Reset Others	
 Color	Factory Reset	
 Display		
 Energy		
 Menu		
 Personalize		
 Others		

 Resolution: 1280x1024, 60Hz Maximum: 1920x1080, 60Hz



<p>DDC/CI</p>	<p>DDC/CI (Display Data Channel/Command Interface) allows a software on your computer to adjust the monitor display settings like the brightness, color balance etc.</p> <p>Enable (Default): Optimizes the performance of your monitor and provides a better customer experience.</p> <p>Disable: Disables the DDC/CI option and the following message appears on the screen.</p>  <p>The screenshot shows a dialog box with a black header containing the model numbers: Dell E1916H / E1916He / E2016H / E2216H / E2316H / E2416H. The main text reads: "The function of adjusting display setting using PC application will be disabled. Do you wish to disable DDC/CI function?". There are two buttons: a blue "NO" button and a grey "YES" button.</p>
<p>LCD Conditioning</p>	<p>This feature will help reduce minor cases of image retention. If an image appears to be stuck on the monitor, select LCD Conditioning to help eliminate any image retention. Using the LCD Conditioning feature may take some time. LCD Conditioning feature cannot remove severe cases of image retention or burn-in.</p> <p>NOTE: Use LCD Conditioning only when you experience a problem with image retention.</p> <p>The below warning message appears once user selects "Enable" LCD Conditioning.</p>  <p>The screenshot shows a dialog box with a black header containing the model numbers: Dell E1916H / E1916He / E2016H / E2216H / E2316H / E2416H. The main text reads: "The feature will help reduce minor cases of image retention. Depending on the degree of image retention, the program may take some time to run. Do you wish to continue?". There are two buttons: a blue "NO" button and a grey "YES" button.</p>
<p>Reset Other</p>	<p>Select this option to restore default other settings, such as DDC/CI.</p>
<p>Factory Reset</p>	<p>Resets all OSD settings to the factory preset values.</p>

OSD Messages

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

Dell E1916H / E1916He

The current input timing is not supported by the monitor display. Please change your input timing to **1366 x 768, 60Hz** or any other monitor listed timing as per the monitor specifications.



Dell E2016H

The current input timing is not supported by the monitor display. Please change your input timing to **1600 x 900, 60Hz** or any other monitor listed timing as per the monitor specifications.



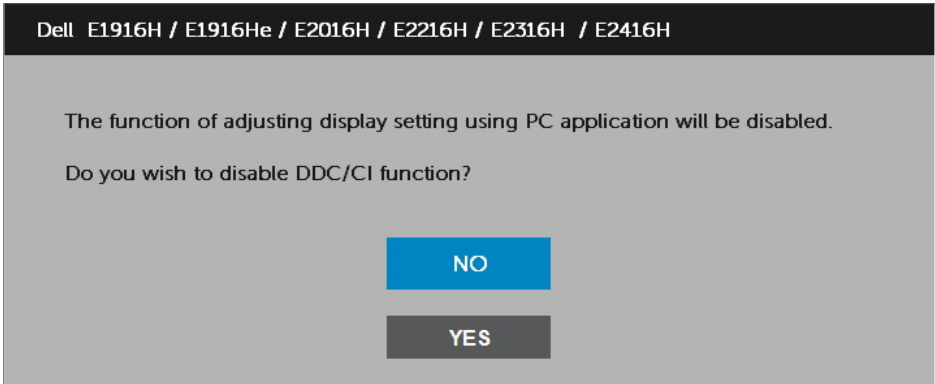
Dell E2216H / E2316H / E2416H

The current input timing is not supported by the monitor display. Please change your input timing to **1920 x 1080, 60Hz** or any other monitor listed timing as per the monitor specifications.



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 1366 x 768 (for E1916H / E1916He) or 1600 x 900 (for E2016H) or 1920 x 1080 (for E2216H / E2316H / E2316Hr / E2416H).

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

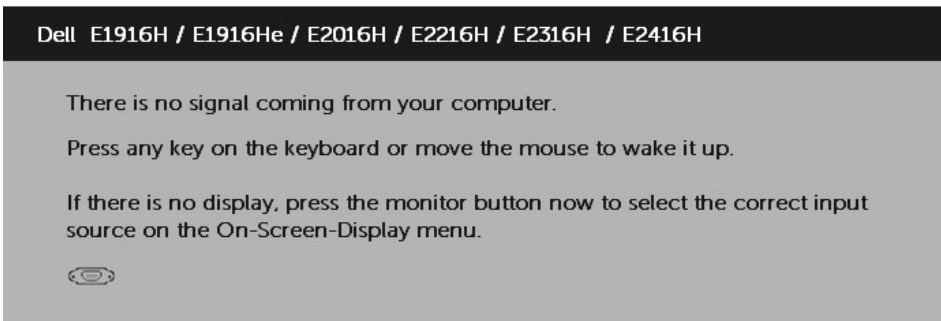


When the monitor enters the **Power Save** mode, the following message appears:

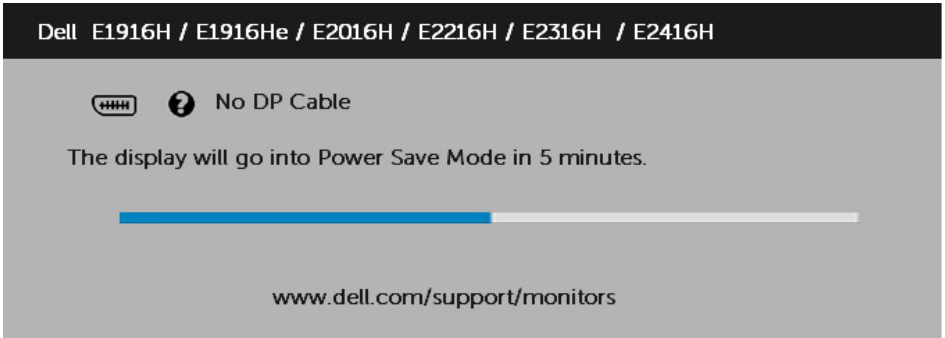
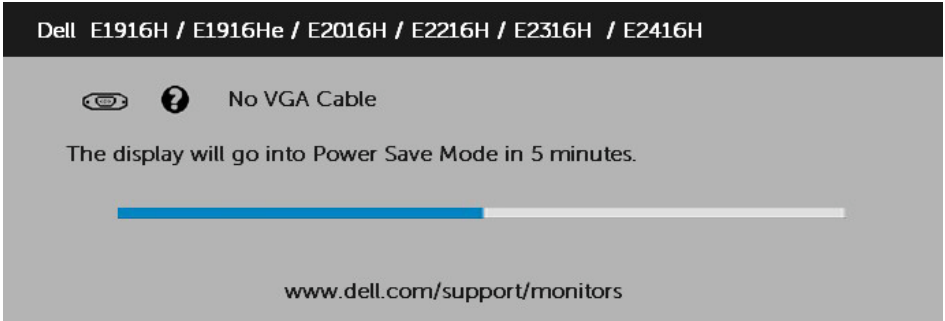


Activate the computer and wake up the monitor to gain access to the **OSD**.

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



If VGA or DP cable is not connected, a floating dialog box as shown below appears. The monitor will enter **Power Save Mode after 5 minutes** if left at this state.



See [Solving Problems](#) for more information.

Setting the Maximum Resolution

Windows Vista® ,Windows® 7 ,Windows® 8 or Windows 8.1:

1. For Windows® 8 or 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 1366 x 768 (for E1916H / E1916He) or 1600 x 900 (for E2016H) or 1920 x 1080 (for E2216H / E2316H / E2316Hr / E2416H).
4. Click OK.

If you do not see 1366 x 768 (for E1916H / E1916He) or 1600 x 900 (for E2016H) or 1920 x 1080 (for E2216H / E2316H / E2316Hr / E2416H) 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 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

Tilt

With the stand assembly, you can tilt the monitor for the most comfortable viewing angle.

21° typical (maximum 22°) 5° typical (maximum 6°)



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

Troubleshooting

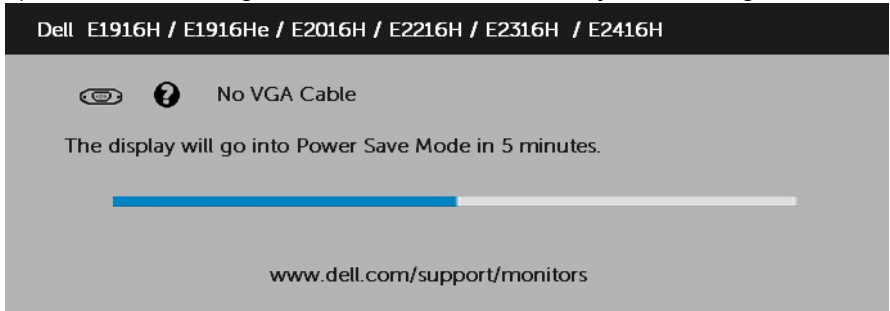
⚠ WARNING: Before you begin any of the procedures in this section, follow the Safety Instruction

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 both VGA and the DP 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.

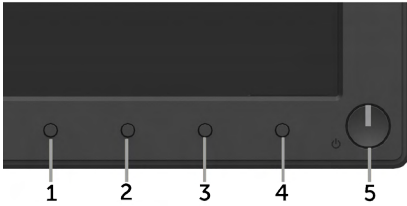



4. This box also appears during normal system operation, if the video cable becomes disconnected or damaged. The monitor will enter **Power Save Mode after 5 minutes** if left at this state.
5. Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

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 the **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 the **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 screens.

The test is complete when the Text screen appears. To exit, press the **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 via the Input Source Select button. • Check the "Power LED Button" option under Energy in OSD 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. • Ensure that the correct input source is selected via the Input Source Select menu. • Run the built-in diagnostics.
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 (16:9).
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. <p>For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: http://www.dell.com/support/monitors.</p>
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. <p>For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: http://www.dell.com/support/monitors.</p>
Brightness Problems	Picture too dim or too bright	<ul style="list-style-type: none"> • Reset the monitor to Factory Settings. • 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. • Auto Adjust via OSD. • Adjust brightness & contrast controls via OSD. <p>NOTE: When using 'DP', 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 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. <p>NOTE: When using 'DP', 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 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 safe mode.
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 Color Mode in the Color OSD to Graphics or Video depending on the application. • Try different Color Preset Settings in Color OSD. Adjust R/G/B value in Color OSD if the Color Management is turned off. • Change the Input Color Format to PC RGB or YPbPr in the Color OSD.

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.
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 **NOTE:** When choosing DP mode, the Auto Adjust function is not available.

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 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 back, and then turn on the monitor. • Check whether the OSD menu is locked. If yes, press and hold the button beside 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. When you press "up", "down" or "Menu" key, the message "No input signal" will appear.	<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.


Dell Soundbar Problems

Common Symptoms	What You Experience	Possible Solutions
No sound for system where the Soundbar draws power from an AC adapter	No power to Soundbar - the power indicator is off	<ul style="list-style-type: none"> • Turn the Power/Volume knob on the Soundbar clockwise to the middle position; check if the power indicator (white LED) on the front of the Soundbar is illuminated. • Confirm that the power cable from the Soundbar is plugged into the adapter.
No Sound	Soundbar has power - power indicator is on	<ul style="list-style-type: none"> • Plug the audio line-in cable into the computer's audio out jack. • Set all volume controls to their maximum and ensure that the mute option is not enabled. • Play some audio content on the computer (example, audio CD, or MP3). • Turn the Power/Volume knob on the Soundbar clockwise to a higher volume setting. • Clean and reseal the audio line-in plug. • Test the Soundbar using another audio source (For example: portable CD player, MP3 player).
Distorted Sound	Other audio source is used	<ul style="list-style-type: none"> • Clear any obstructions between the Soundbar and the user. • Confirm that the audio line-in plug is completely inserted into the jack of the audio source. • Decrease the volume of the audio source. • Turn the Power/Volume knob on the Soundbar counter-clockwise to a lower volume setting. • Clean and reseal the audio line-in plug.

Distorted Sound	Computer's sound card is used as the audio source	<ul style="list-style-type: none"> • Clear any obstructions between the Soundbar and the user. • Confirm that the audio line-in plug is completely inserted into the jack of the sound card. • Set all Windows volume controls to their midpoints. • Decrease the volume of the audio application. • Turn the Power/Volume knob on the Soundbar counter-clockwise to a lower volume setting. • Clean and re-seat the audio line-in plug. • Troubleshoot the computer's sound card. • Test the Soundbar using another audio source (For example: portable CD player, MP3 player). • Avoid using an audio cable extension or audio jack converter.
Unbalanced Sound Output	Sound from only one side of Soundbar	<ul style="list-style-type: none"> • Clear any obstructions between the Soundbar and the user. • Confirm that the audio line-in plug is completely inserted into the jack of the sound card or audio source. • Set all Windows audio balance controls (L-R) to their midpoints. • Clean and reseat the audio line-in plug. • Troubleshoot the computer's sound card. • Test the Soundbar using another audio source (For example: portable CD player, MP3 player).
Low Volume	Volume is too low	<ul style="list-style-type: none"> • Clear any obstructions between the Soundbar and the user. • Turn the Power/Volume knob on the Soundbar clockwise to the maximum volume setting. • Set all Windows volume controls to their maximum. • Increase the volume of the audio application. • Test the Soundbar using another audio source (For example: portable CD player, MP3 player)

Appendix

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.

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

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 top left of the page.
3. Click **Contact Us** on the top 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 the display resolution to 1366 x 768 (for E1916H / E1916He) or 1600 x 900 (for E2016H) or 1920 x 1080 (for E2216H / E2316H / E2316Hr / E2416H) (Maximum)

For optimal display performance while using the Microsoft Windows operating systems, set the display resolution to 1366 x 768 (for E1916H / E1916He) or 1600 x 900 (for E2016H) or 1920 x 1080 (for E2216H / E2316H / E2316Hr / E2416H) pixels by performing the following steps:

In Windows Vista®, Windows® 7, Windows® 8 or Windows 8.1:


1. For Windows® 8 or 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 1366 x 768 (for E1916H / E1916He) or 1600 x 900 (for E2016H) or 1920 x 1080 (for E2216H / E2316H / E2316Hr / E2416H).
4. Click OK.

If you do not see 1366 x 768 (for E1916H / E1916He) or 1600 x 900 (for E2016H) or 1920 x 1080 (for E2216H / E2316H / E2316Hr / E2416H) 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 provided

1: If you have a Dell desktop or a Dell portable computer with Internet access


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

If you have a Dell desktop or a Dell portable computer with Internet access

1. Go to <http://www.dell.com/support>, enter your service tag, and download the latest driver for your graphics
2. After installing the drivers for your graphics adapter, attempt to set the resolution to 1366 x 768 (for E1916H / E1916He) or 1600 x 900 (for E2016H) or 1920 x 1080 (for E2216H / E2316H / E2316Hr / E2416H) again.
 **NOTE:** If you are unable to set the resolution to 1366 x 768 (for E1916H / E1916He) or 1600 x 900 (for E2016H) or 1920 x 1080 (for E2216H / E2316H / E2316Hr / E2416H), 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 Vista®, Windows® 7, Windows® 8 or Windows 8.1:



1. For Windows® 8 or 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. Please refer to the graphics 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 1366 x 768 (for E1916H / E1916He) or 1600 x 900 (for E2016H) or 1920 x 1080 (for E2216H / E2316H / E2316Hr / E2416H) again.
 **NOTE:** If you are unable to set the resolution to 1366 x 768 (for E1916H / E1916He) or 1600 x 900 (for E2016H) or 1920 x 1080 (for E2216H / E2316H / E2316Hr / E2416H), please contact the manufacturer of your computer or consider purchasing a graphics adapter that will support the video resolution of 1366 x 768 (for E1916H / E1916He) or 1600 x 900 (for E2016H) or 1920 x 1080 (for E2216H / E2316H / E2316Hr / E2416H).

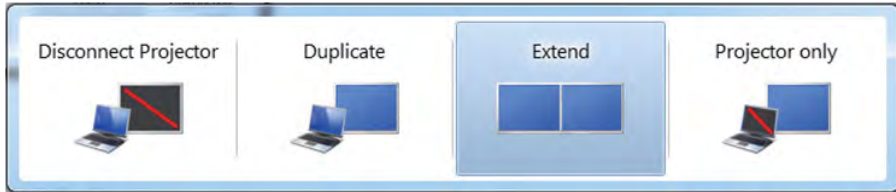
Procedures for setting up dual monitors

For Windows Vista®

Connect the external monitor(s) to your laptop or desktop using a video cable (VGA, DVI, DP, HDMI etc.) and follow any of the below setup method.

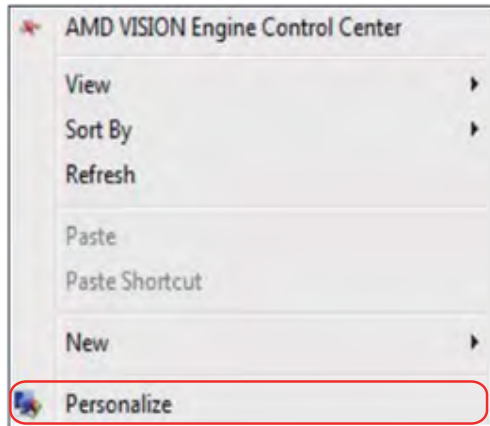
Method 1: Using keyboard shortcut "Win+P"

1. Press the **Windows logo key + P** on your keyboard.  + 
2. While holding down the **Windows logo key**, press **P** to toggle between the display selections.

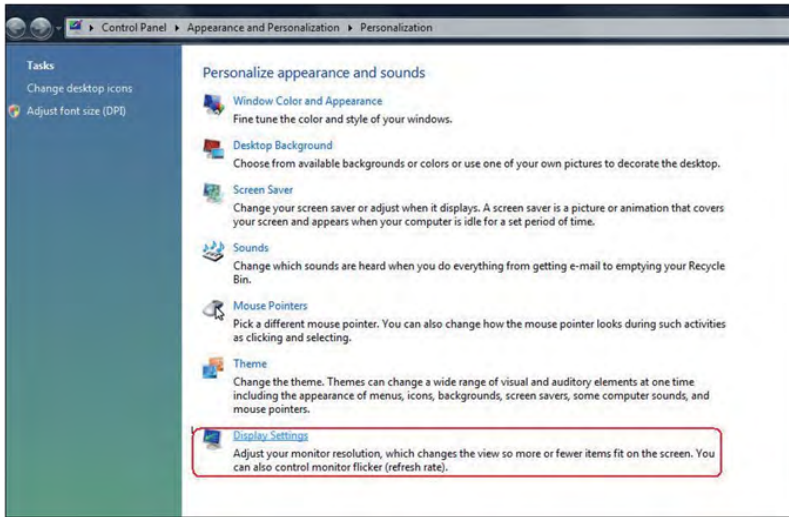


Method 2: Using the "Personalize" menu

1. Right-click on the desktop and click **Personalize**.

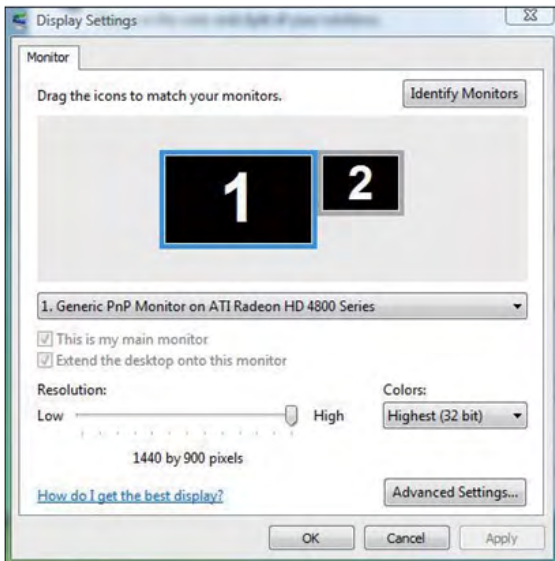


2. Click Display Settings.



3. Click Identify Monitors.

- You may need to restart your system and repeat steps 1 to 3 if the system does not detect the added monitor.



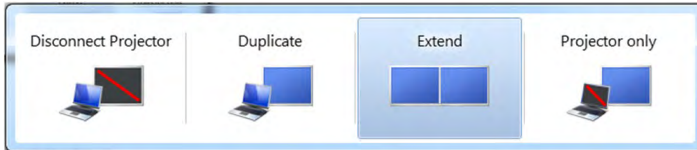
For Windows® 7

Connect the external monitor(s) to your laptop or desktop using a video cable (VGA, DVI, DP, HDMI etc.) and follow any of the below setup method.

Method 1: Using keyboard shortcut “Win+P”

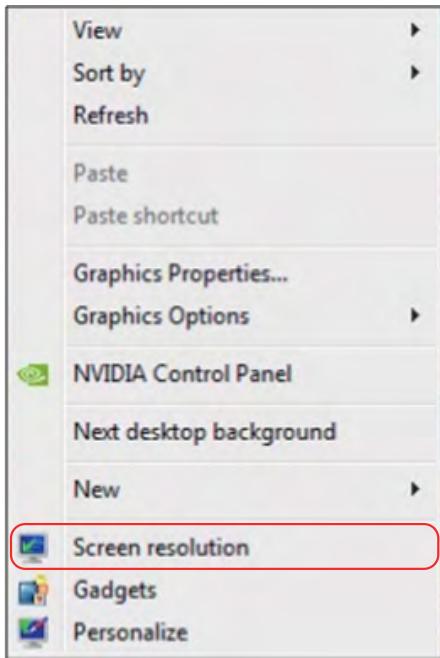


1. Press the **Windows logo key + P** on your keyboard.
2. While holding down the **Windows logo key**, press **P** to toggle between the display selections.

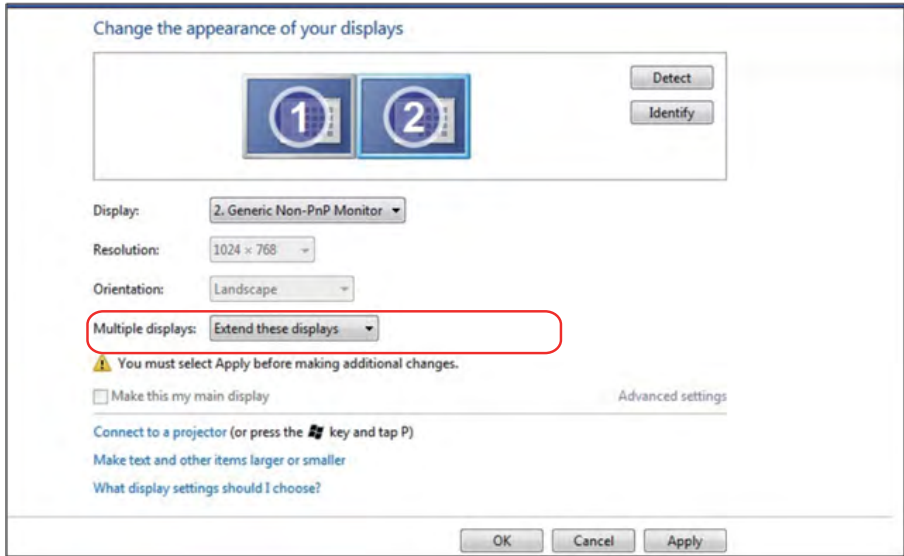


Method 2: Using the “Screen Resolution” menu

1. Right-click on the desktop and click **Screen resolution**.





2. Click **Multiple displays** to choose a display selection. If you do not see the additional monitor listed, click **Detect**.
- You may need to restart your system and repeat steps 1 to 3 if the system does not detect the added monitor.

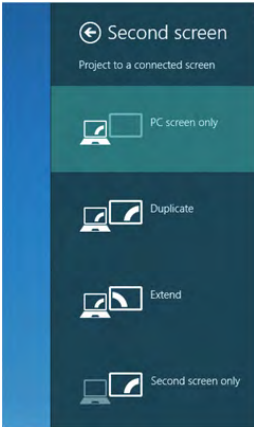


For Windows® 8 or Windows 8.1

Connect the external monitor(s) to your laptop or desktop using a video cable (VGA, DVI, DP, HDMI etc.) and follow any of the below setup method.

Method 1: Using keyboard shortcut “Win+P”

1. Press the **Windows logo key + P** on your keyboard.  + 
2. While holding down the **Windows logo key**, press **P** to toggle between the display selections.

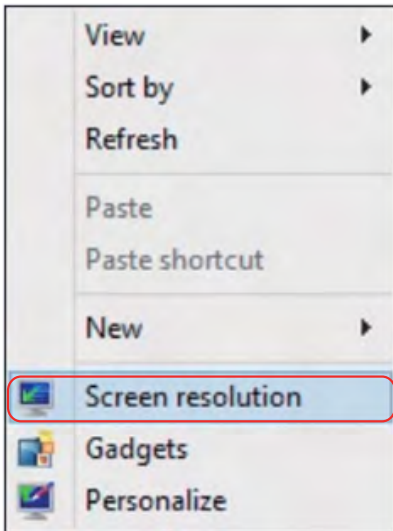


Method 2: Using the “Screen Resolution” menu

1. From the Start screen, select **Desktop** tile to switch to the Classic Windows desktop.

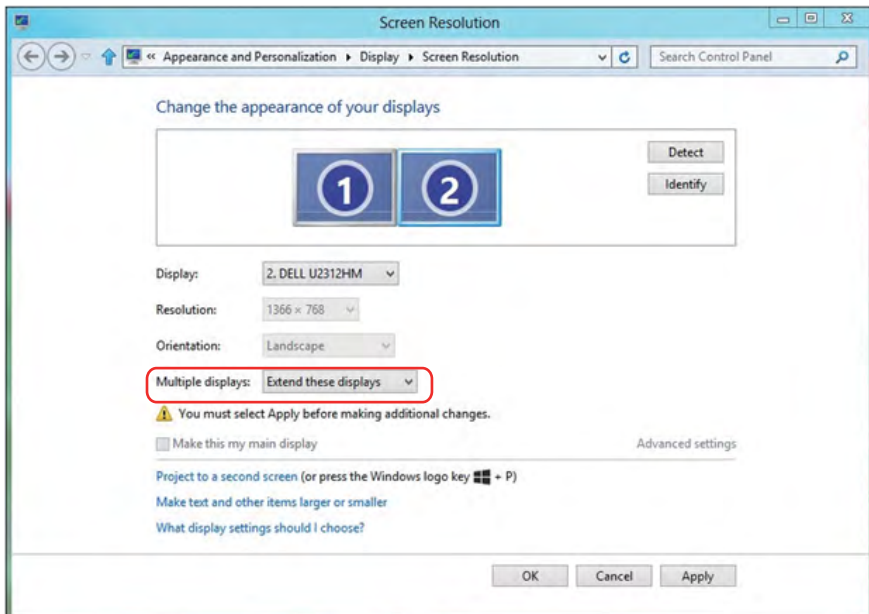


2. Right-click on the desktop and click **Screen resolution**.



3. Click **Multiple displays** to choose a display selection. If you do not see the additional monitor listed, click Detect.

- You may need to restart your system and repeat steps 1 to 3 if the system does not detect the added monitor.



Setting Display Styles For Multiple Monitor

After the external monitor(s) have been set up, users can select the desired display style from **Multiple displays** menu: Duplicate, Extend, Show Desktop On.

- **Duplicate these displays:** Duplicate the same screen on two monitors with the same resolution, chosen based on the monitor with a lower resolution.

For Windows Vista®

[DUPLICATE NOT AVAILABLE]

For Windows® 7

Change the appearance of your displays



Display: 1. Mobile PC Display

Resolution: 1024 × 768

Orientation: Landscape

Multiple displays: Extend these displays

You must select **Duplicate these displays** for additional changes.

Make this my main display

[Advanced settings](#)

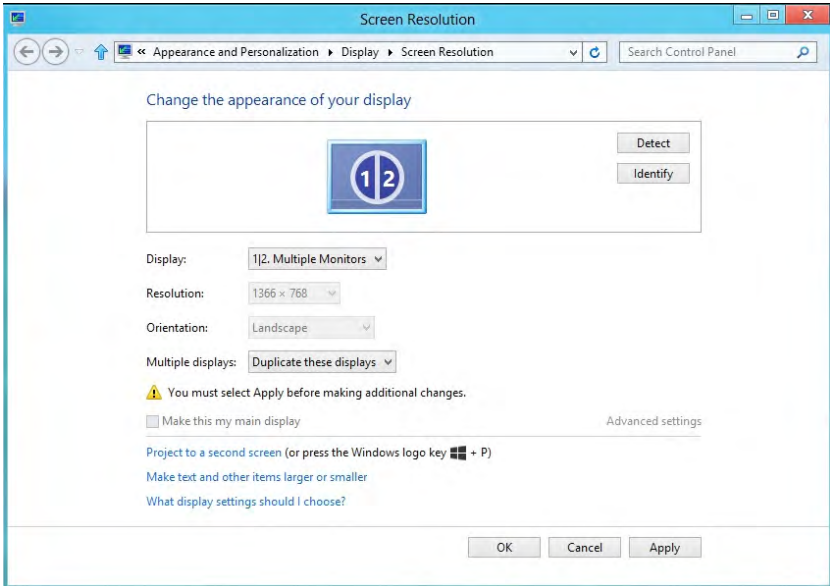
[Connect to a projector](#) (or press the key and tap P)

[Make text and other items larger or smaller](#)

[What display settings should I choose?](#)

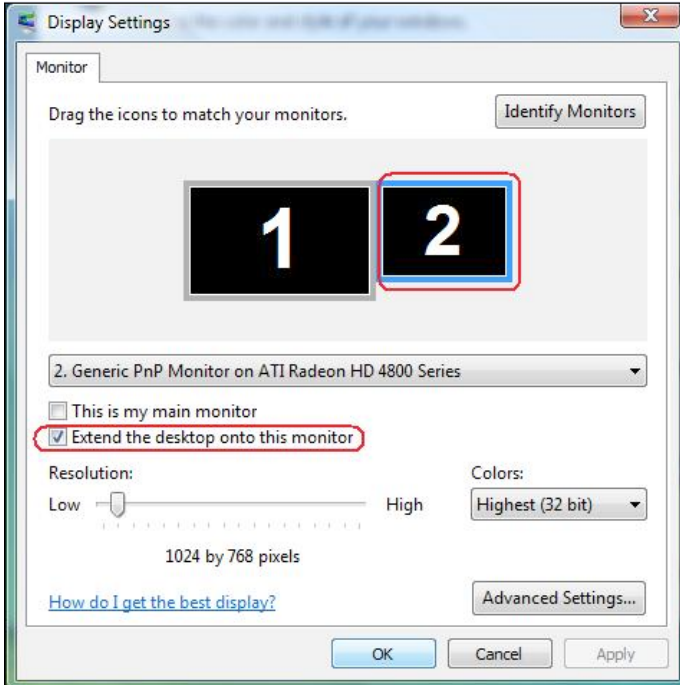
OK Cancel Apply

For Windows® 8 or Windows 8.1



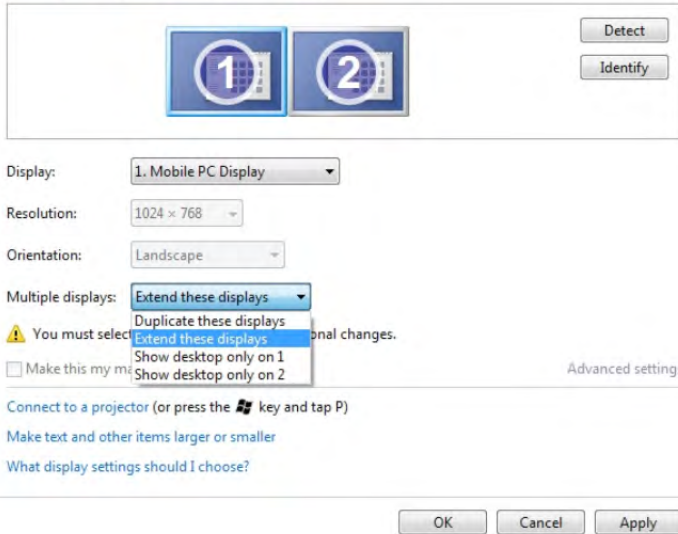
- **Extend these displays:** This option is recommended when an external monitor is connected to a laptop, and each monitor can display different screen independently to improve user convenience. The relative position of the screens can be set up here, for example monitor 1 may be set up to be to the left of monitor 2 or vice versa. This depends on the physical position of the LCD monitor in relation to the laptop. The horizontal line displayed on both monitors can be based on the laptop or external monitor. These are all adjustable options, and all a user need do is drag the monitor of the main screen to the extended monitor.

For Windows Vista®



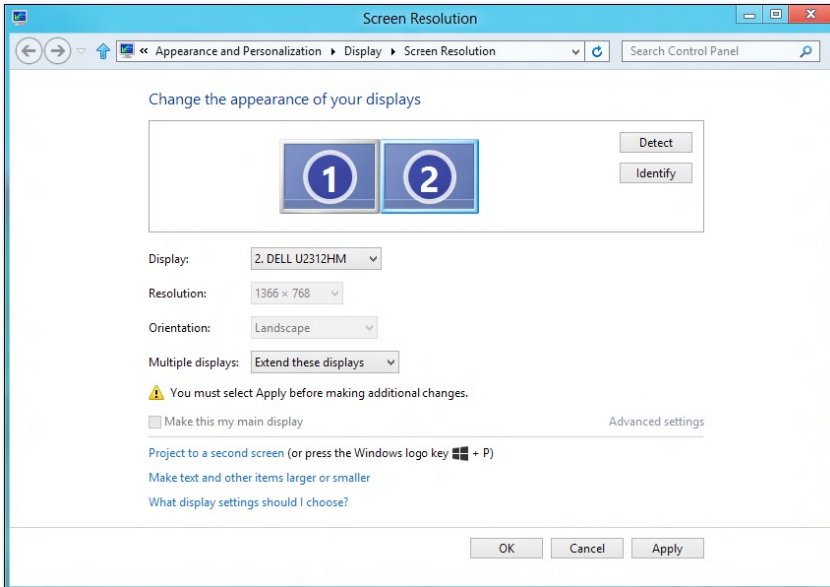
For Windows® 7

Change the appearance of your displays



The screenshot shows the Windows 7 Display Settings window. At the top, there are two display icons labeled '1' and '2'. To the right are 'Detect' and 'Identify' buttons. Below the icons, the 'Display' dropdown is set to '1. Mobile PC Display'. The 'Resolution' is '1024 x 768' and 'Orientation' is 'Landscape'. The 'Multiple displays' dropdown is open, showing options: 'Extend these displays' (selected), 'Duplicate these displays', 'Show desktop only on 1', and 'Show desktop only on 2'. A warning icon and text state: 'You must select a display mode before making additional changes.' There is also a checkbox for 'Make this my main display' and a link for 'Advanced settings'. At the bottom, there are 'OK', 'Cancel', and 'Apply' buttons.

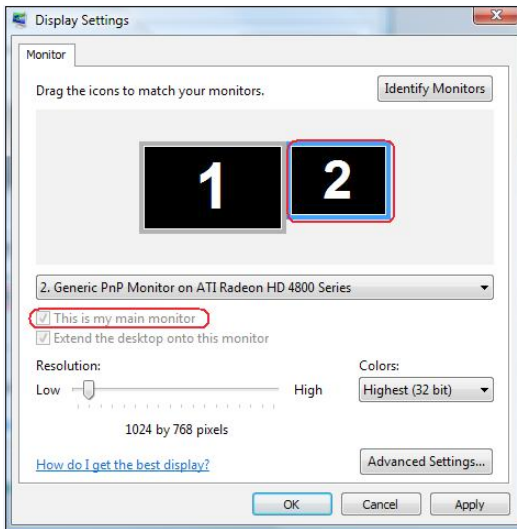
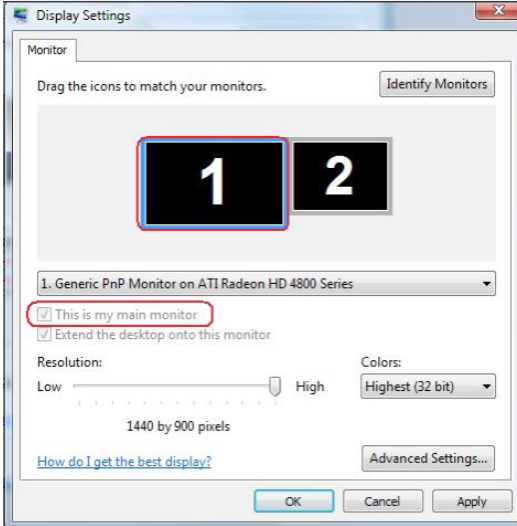
For Windows® 8 or Windows 8.1



The screenshot shows the Windows 8/8.1 Screen Resolution window. The title bar reads 'Screen Resolution'. The breadcrumb navigation is '<< Appearance and Personalization >> Display > Screen Resolution'. The main heading is 'Change the appearance of your displays'. It features two display icons labeled '1' and '2'. To the right are 'Detect' and 'Identify' buttons. Below the icons, the 'Display' dropdown is set to '2. DELL U2312HM'. The 'Resolution' is '1366 x 768' and 'Orientation' is 'Landscape'. The 'Multiple displays' dropdown is set to 'Extend these displays'. A warning icon and text state: 'You must select Apply before making additional changes.' There is also a checkbox for 'Make this my main display' and a link for 'Advanced settings'. At the bottom, there are 'OK', 'Cancel', and 'Apply' buttons.

- **Show desktop only on...:** Display the status of a particular monitor. This option is typically chosen when the laptop is used as a PC so the user can enjoy a large external monitor. Most current laptops support mainstream resolutions. As shown in the figure above, the resolution of the laptop monitor is only 1280 x 800, but after connecting a 27" external LCD monitor, users can immediately improve their visual enjoyment to 1920 x 1080 Full HD quality.

For Windows Vista®



For Windows® 7

Change the appearance of your displays



Display: 1. Mobile PC Display

Resolution: 1024 x 768

Orientation: Landscape

Multiple displays: Show desktop only on 1

⚠ You must select a display mode for each display. You can't make personal changes.
Duplicate these displays
Extend these displays
Show desktop only on 1
Show desktop only on 2

Make this my main display

Advanced settings

Connect to a projector (or press the key and tap P)

Make text and other items larger or smaller

What display settings should I choose?

OK

Cancel

Apply

Change the appearance of your displays



Display: 1. Mobile PC Display

Resolution: 1024 x 768

Orientation: Landscape

Multiple displays: Show desktop only on 2

⚠ You must select a display mode for each display. You can't make personal changes.
Duplicate these displays
Extend these displays
Show desktop only on 1
Show desktop only on 2

Make this my main display

Advanced settings

Connect to a projector (or press the key and tap P)

Make text and other items larger or smaller

What display settings should I choose?

OK

Cancel

Apply

For Windows® 8 or Windows 8.1

