User's Guide

Dell E1916H

Dell E1916He

Dell E2016H

Dell E2216H

Dell E2316H

Dell E2316Hr

Dell E2416H

Dell E2416HM

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.



MARNING: 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 <u>Contact Dell</u> 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.





- Quick Setup Guide
- Safety and Regulatory Information

Product Features

The Dell E1916H / E1916He / E2016H / E2216H / E2316H / E2316Hr / E2416HM flat-panel display has an active matrix, Thin-Film transistor, Liquid Ceystal Display and LED backlight. The monitor's festures include:

- **E1916H / E1916He / E1916HX**: 47.01cm (18.51 inches) diagonal viewable image size, 1366 x 768 resolution, plus full-screen support for lower resolutions.
- **E2016H**: 49.41cm (19.5 inches) diagonal viewable image size, 1600 x 900 resolution, plus full-screen support for lower resolutions.
- **E2216H**: 54.61cm (21.5 inches) diagonal viewable image size, 1920 x 1080 resolution, plus full-screen support for lower resolutions.
- **E2316H E 2316Hr**: 58.42cm (23.0 inches) diagonal viewable image size, 1920 x 1080 resolution, plus full-screen support for lower resolutions.
- **E2416H / E2416HM**: 60.97cm (24.0 inches) diagonal viewable image size, 1920 x 1080 resolution, plus full-screen support for lower resolutions.
- Tilt adustment capability.
- Removable pedestal and Video Elect ronics Standards Association (VESA) 100mm
- mounting holes for flesible mounting solugions.
- Plug and play capability if supported by your system.
- On-Screen Display (OSD) adjustments for ease of set-up and screen optimination.
- ENERGY STAR-certified.
- Security lock slot.
- Asset Management Capaility.
- EPEAT registered where applicable. EPEAT registration varies by country.
 See www.epeat.net for registration status by country.
- CFCP (for China)
- RoHS compliant.
- E1916He / E2016H / E2216H / E2316H / E2316Hr / E2416H / E2416HM: TCO Certified Displays.
- Energy Gauge show 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



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

Back View

E1916H / E1916He / E2016H:





Back View with Monitor Stand

E2216H / E2316H / E2316Hr / E2416H / E2416HM:



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 contac		
		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
	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		
Pon	10.4 W***		
E _{TEC}	34.3 kWh***		

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
Pon	11.2 W***
E _{TEC}	35 kWh***

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	Less than 0.3 W
				white	
Switch off	_	-		Off	Less than 0.3 W *

Energy Star	Power Consumption
Pon	15.4 W***
ETEC	49.6 kWh***

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
Pon	15.8 W***
E _{TEC}	50.1 kWh***

E2416H / E2416HM:

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	1	Glowing white	Less than 0.3 W
Switch off	-	-		Off	Less than 0.3 W *

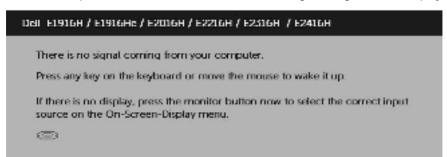
Energy Star	Power Consumption	
Pon	16.7 W***	
E _{TEC}	51.9 kWh***	



Pon: Power consumption of on mode as defined in Energy Star 6.0 version.

E_{TEC}: Total energy consumption in KWh as defined in Energy Star 7.0 version.

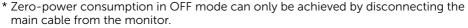
The OSD will only function in the *normal operation* mode. When any button except power button is pressed in Active-off mode, the following messages will be displayed:



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



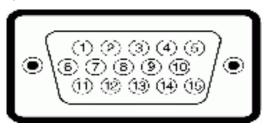
NOTE: The Dell E1916H / E1916He / E2016H / E2216H / E2316H / E2316Hr / E2416H / E2416HM monitor is ENERGY STAR®-certified.



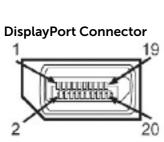
- ** Maximum power consumption with max luminance and contrast.
- *** This document is informational only and reflects laboratory performance. Your product may perform differently, depending on the software, components and peripherals you ordered and shall have no obligation to update such information. 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



Pin Number	20-pin Side of the Connected Signal Cable
1	MLO(p)
2	GND
3	MLO(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 mm² (197.52 inches²)
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/m² (typical)	250 cd/m² (typical)	250 cd/m² (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 / E2416HM
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/m² (typical)	250 cd/m² (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 / E2416HM 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 / E2416HM	
Scan ra	nge				
•	Horizontal	30 kHz to 83 kHz (automatic)			
•	Vertical	56 Hz to 76 Hz (automatic)			
Maximu resoluti	ım preset on	1366 x 768 at 60 Hz 1600 x 900 at 60 Hz 1920 x 1080 at 60 H			

Electrical Specifications

Model number	E1916H / E1916He / E2216H / E2316H / E2316Hr	E2016H / E2416H / E2416HM	
Video input signals	• Analog RGB: 0.7 Volts ± 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 ± 3 Hz / 1.0 A (typical)	100 VAC to 240 VAC / 50 Hz or 60 Hz <u>+</u> 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	+/+
l '				

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 / E2416HM:

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-subminiatu	ire (Black connector)	•
	DP, Black connector		
Signal cable type		ns (cable not include	d)
	Digital: DisplayPort,	20 pins	
Dimensions: (with stand)			
 Height	359.0 mm	368.9 mm	396.7 mm
neignt	(14.13 inches)	(14.52 inches)	(15.62 inches)
NAT' - II I -	445.4 mm	471.5 mm	512.2 mm
Width	(17.54 inches)	(18.56 inches)	(20.17 inches)
Dente	167.0 mm	167.0 mm	180.0 mm
Depth	(6.57 inches)	(6.57 inches)	(7.09 inches)
Dimensions: (without stand)			
	266.0 mm	275.4 mm	303.7 mm
Height	(10.47 inches)	(10.84 inches)	(11.96 inches)
	445.4 mm	 471.5 mm	512.2 mm
Width	(17.54 inches)	(18.56 inches)	(20.17 inches)
	51.5 mm	51.5 mm	50.5 mm
Depth	(2.03 inches)	(2.03 inches)	(1.99 inches)
Stand dimensions:			
	156.0 mm	156.0 mm	177.0 mm
Height	(6.14 inches)	(6.14 inches)	(6.97 inches)
	220.0 mm	220.0 mm	250.0 mm
Width	(8.66 inches)	(8.66 inches)	(9.84 inches)
	167.0 mm	167.0 mm	180.0 mm
Depth	(6.57 inches)	(6.57 inches)	(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 / E2416HM		
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)				
	415.0 mm	427.58 mm		
Height	(16.34 inches)	(16.83 inches)		
 Width	544.8 mm	566.96 mm		
· · ·	(21.45 inches)	(22.32 inches)		
	180.0 mm	180.0 mm		
Depth	(7.09 inches)	(7.09 inches)		
Dimensions: (without stand)	(7.65	(View interior)		
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)		
	50.5 mm	50.5 mm		
Depth	(1.99 inches)	(1.99 inches)		
Stand dimensions:				
Height	177.0 mm (6.97 inches)	177.0 mm (6.97 inches)		
	250.0 mm	250.0 mm		
Width	(9.84 inches)	(9.84 inches)		
	180.0 mm	180.0 mm		
Depth	(7.09 inches)	(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 I	Number	E1916H / E1916H	2	E2016H	
Temperature					
 Operating 		0 °C to 40 °C (32 °F to 104 °F)			
•	Non-operating	Storage: -20 °C to 6	0 °C (-4 °F	to 140 °F)	
		Shipping: -20 °C to 60 °C (-4 °F to 140 °F)			
Humidit	У				
•	Operating	10 % to 80 % (non-c	ondensing	J)	
•	Non-operating	Storage: 5 % to 90 % (non-condensing)			
		Shipping: 5 % to 90 s	% (non-co	ndensing)	
Altitude					
•	Operating	5,000 m (16,404 ft) r			
•	Non-operating	12,191 m (40,000 ft)	max		
Thermal	dissipation	58.0 BTU/hour (maximum) 64.83 BTU/hour (maximum)			
		47.8 BTU/hour (typic	cal)	51.18 BTU	/hour (typical)
Model Number			E2316H / E2316Hr	1	E2416H / E2416HM
Tempera	ature				
•	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)			
Humidit	У				
•	Operating	10 % to 80 % (non-c	ondensing	J)	
Non-operating		Storage: 5 % to 90 % (non-condensing)			
		Shipping: 5 % to 90 s	% (non-co	ndensing)	
Altitude					
 Operating 		5,000 m (16,404 ft) max			
Non-operating		12,191 m (40,000 ft) max			
Thermal	dissipation		85.3 BTU		92.1 BTU/hour
		l ·	(maximum 68.3 BTU/		(maximum) 75.1 BTU/hour
			(typical)	noui	(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:

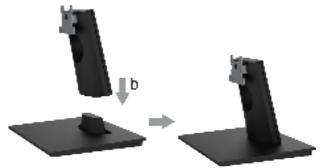
- To clean your antistatic screen, slightly dampen a soft, clean cloth with water. If
 possible, use a special screen-cleaning tissue or solution suitable for the antistatic
 coating. Do not use benzene, thinner, ammonia, abrasive cleaners, or compressed
 air.
- Use a slightly dampened, warm cloth to 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:





- 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

MARNING: Before you begin any of the procedures in this section, follow the <u>Safety Instructions</u>.

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

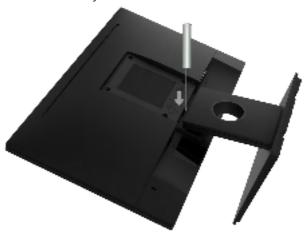
NOTE: This is applicable for a monitor with a stand. When any other stand is bought, please refer to the respective stand setup guide for the removal instructions.

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 \times 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/E1916He)/2.22kg (E2016H)/2.84 kg (E2216H)/2.98 kg (E2316H/E2316Hr)/2.91 kg (E2416H / E2416HM).

Operating the Monitor

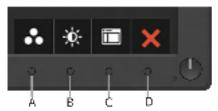
Power On the Monitor

Press the **1** button to turn on the monitor.



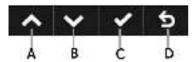
Using the Front-Panel Controls

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



Front-Panel Keys		Description	
А	Preset modes	Use the Preset modes key to choose from a list of preset color modes. See <u>Using the OSD Menu</u> .	
В	Brightness /Contrast	Use the Brightness / Contrast key to direct access to the "Brightness" and "Contrast" control menu.	
С	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		Use the Up key to adjust (increase ranges) items in the OSD menu.

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

Using the On-Screen Display (OSD) Menu

Accessing the Menu System

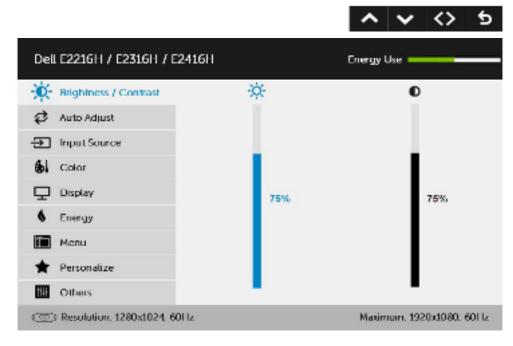
- **NOTE:** If you change the settings and then either proceed to another menu or exit the OSD menu, the monitor automatically saves those changes. The changes are also saved if you change the settings and then wait for the OSD menu to disappear.
 - 1. Press the d button to open the OSD menu and display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

Main Menu







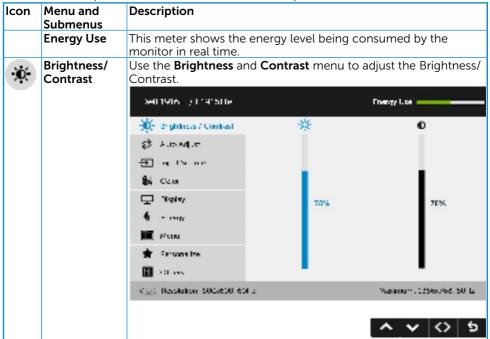


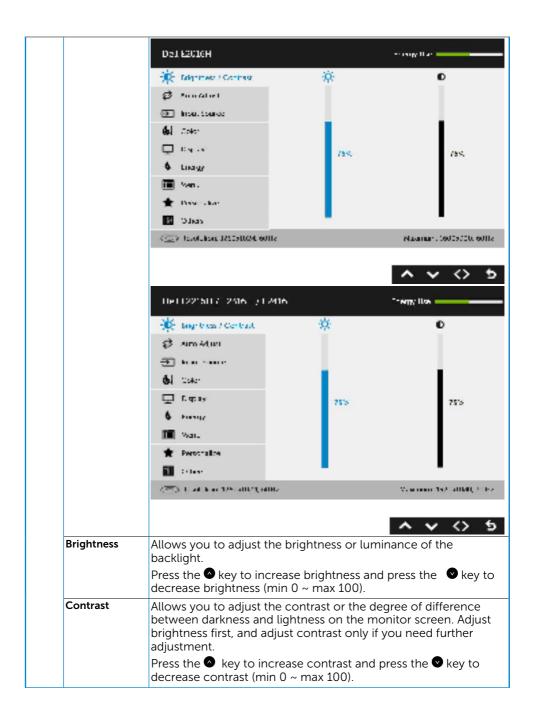


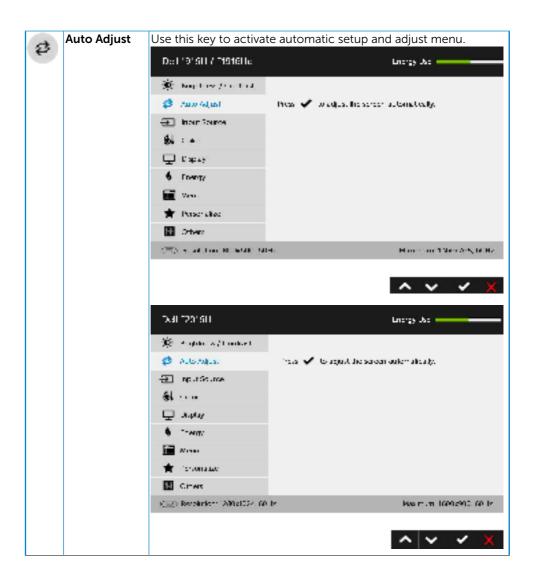
NOTE: Auto Adjust is only available when you use the analog (VGA) connector.

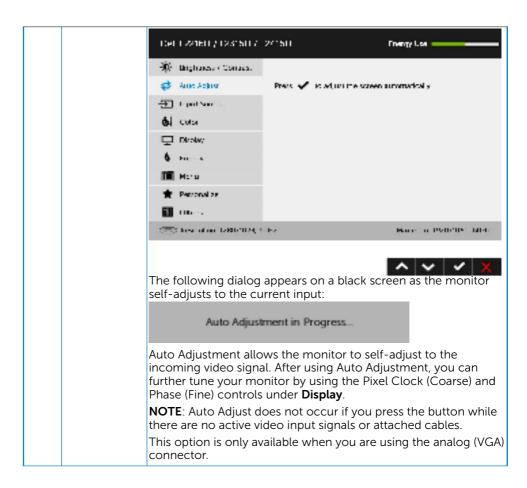
- 2. Press the and buttons to toggle between options in the Menu. As you move from one icon to another, the option name is highlighted.
- **3.** To select the highlighted item on the menu press the **●** button again.
- **4.** Press the **△** and **∨** buttons to select the desired parameter.
- 5. Press 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 **9** to return to previous menu without accepting current settings or **9** to accept and return to previous menu.

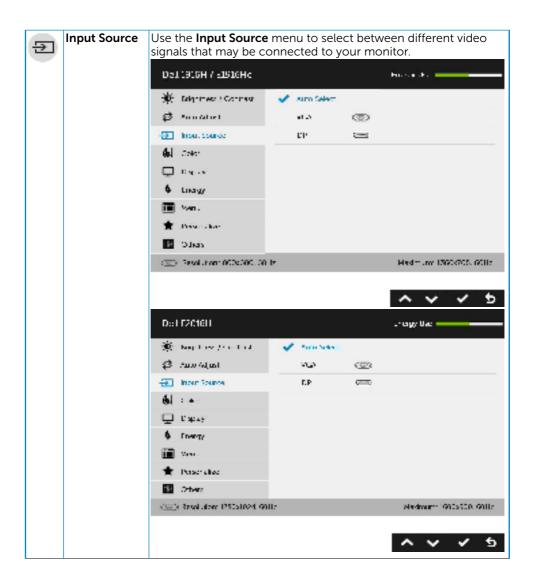
The table below provides a list of all the OSD menu options and their functions.

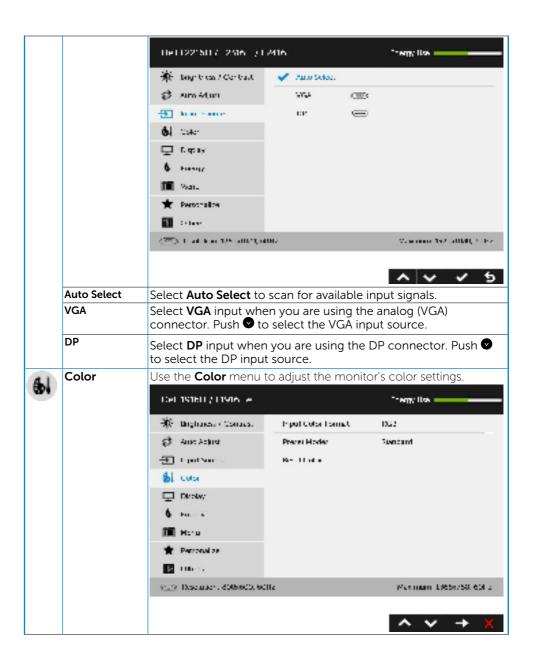


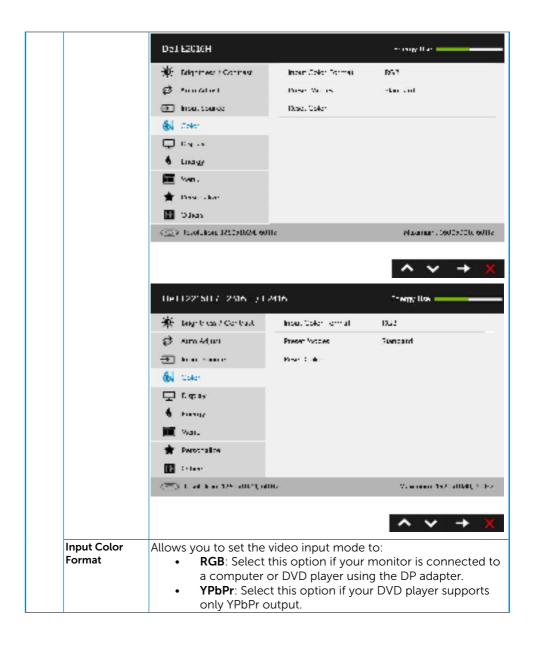


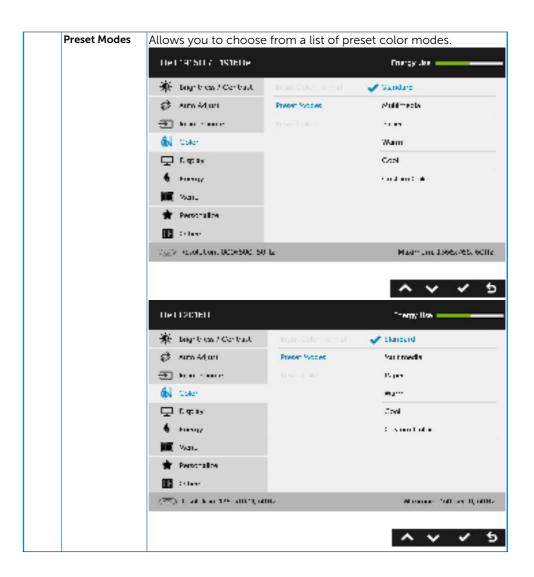


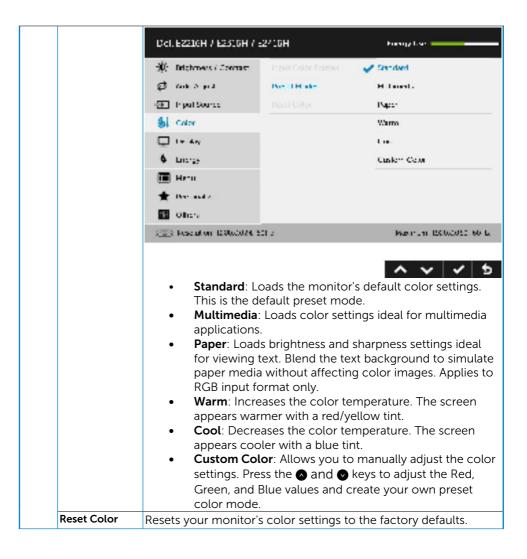


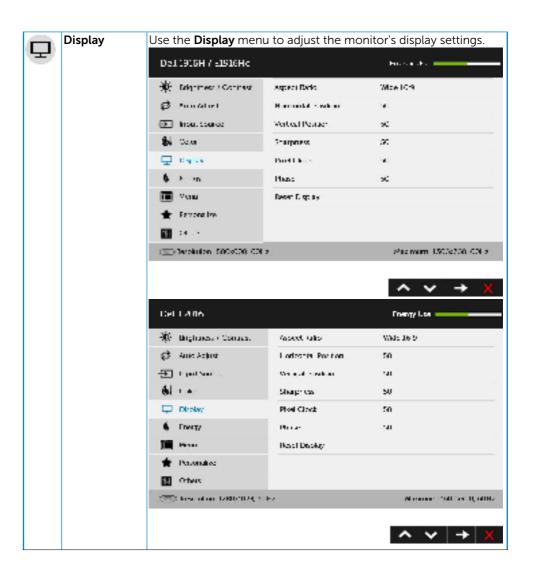


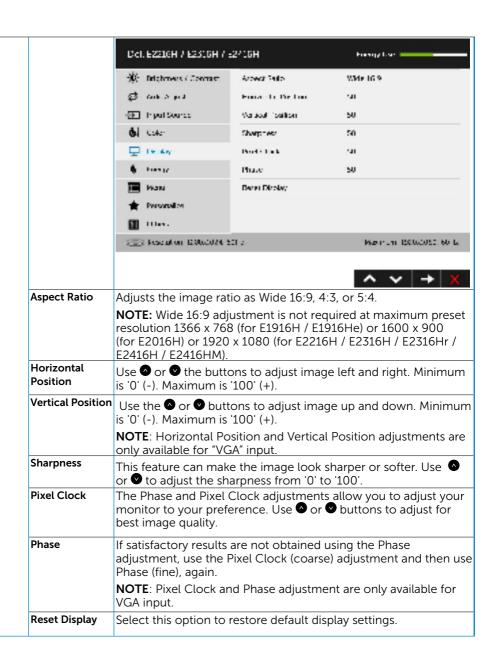


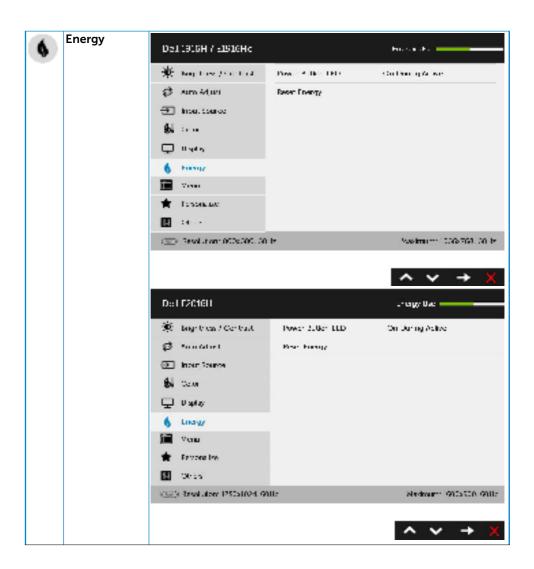


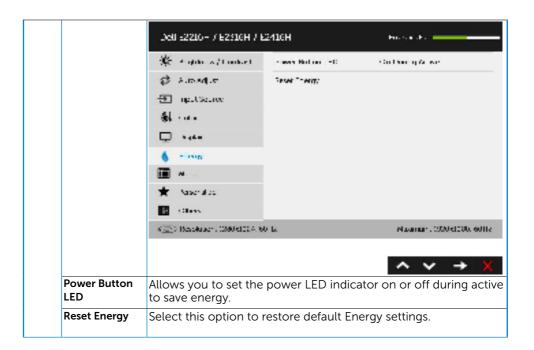


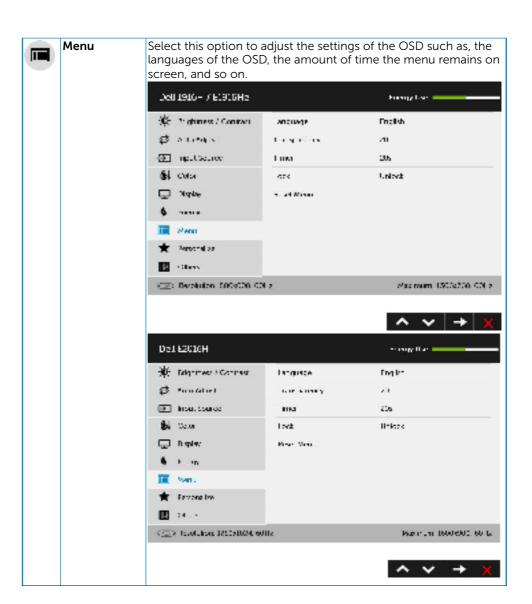


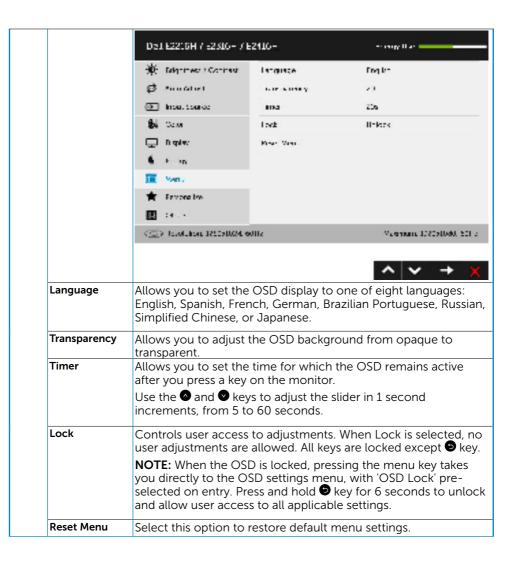


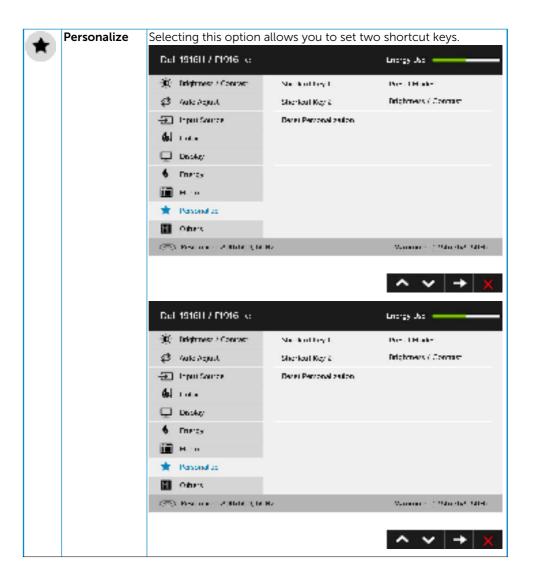


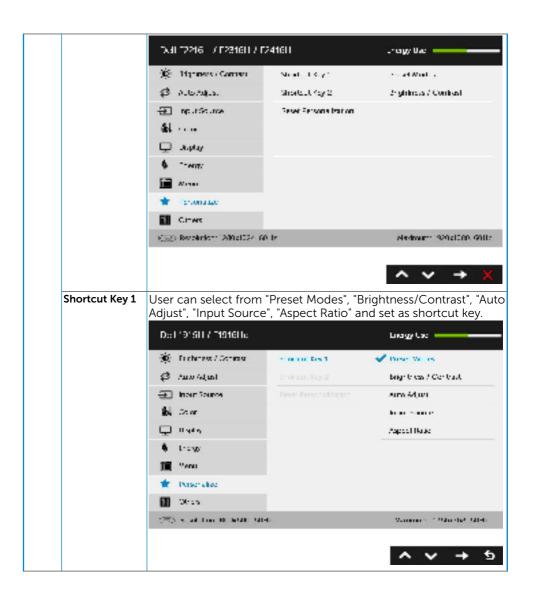


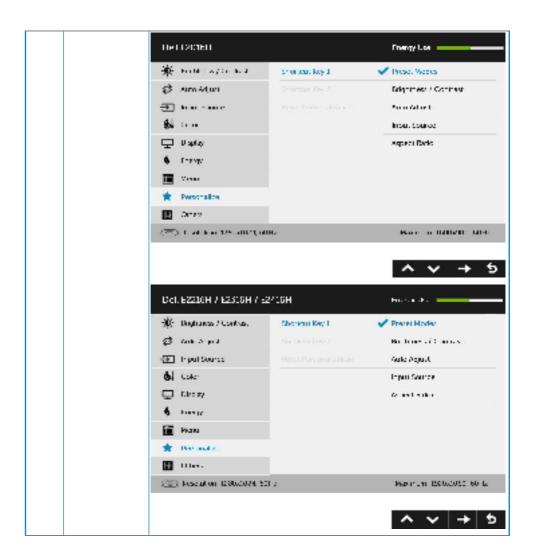


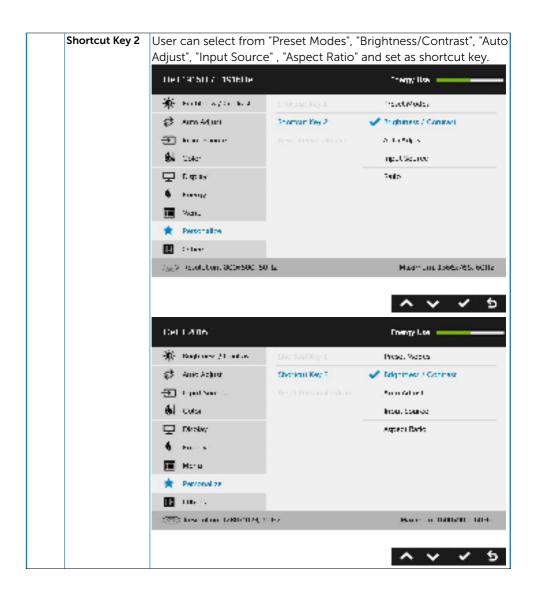


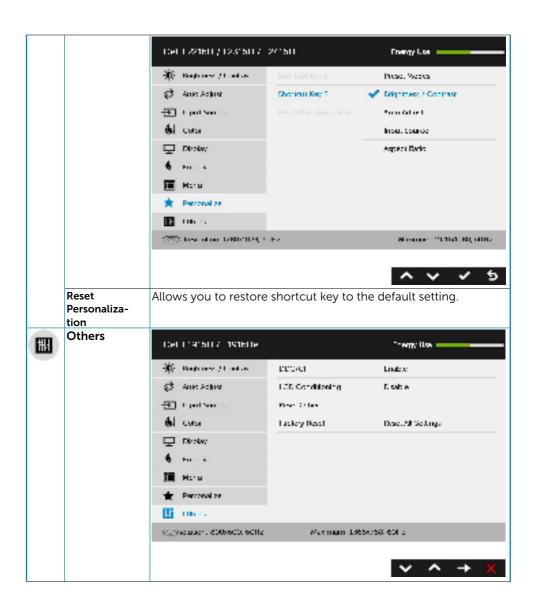


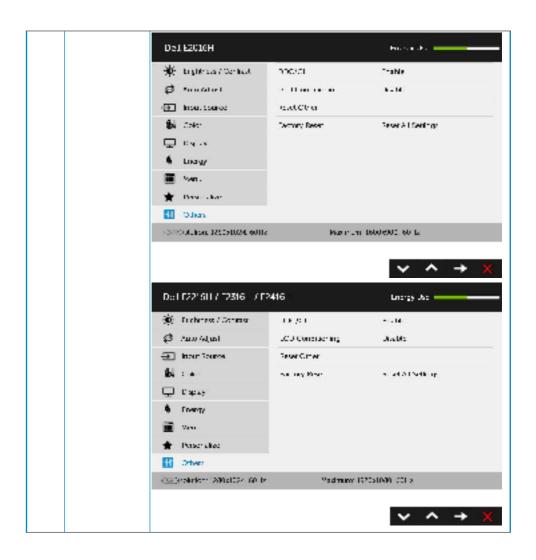












DDC/CI DDC/CI (Display Data Channel/Command Interface) allows a software on your computer to adjust the monitor display settings like the brightness, color balance etc. Enable (Default): Optimizes the performance of your monitor and provides a better customer experience. Disable: Disables the DDC/CI option and the following message appears on the screen. рын евиын / евиыне / ежиын / ежиын / ежиын The function of adjusting display setting using P.C. application will be disabled. De you wish to disable DDC/CI function? NO YE8 LCD This feature will help reduce minor cases of image retention. Conditioning 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. **NOTE**: Use LCD Conditioning only when you experience a problem with image retention. The below warning message appears once user selects "Enable" LCD Conditioning. DML FISTOR / FIRIGHA / F2016H / F221GH / F2516H / F241GH The feature will help reduce minor cases of image retention. Depending on the degree of image retendon, the program may take some time to run. Do you wish to continue? NO YE8 Reset Other Select this option to restore default other settings, such as DDC/

Resets all OSD settings to the factory preset values.

Factory Reset

OSD Messages

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

DBI F1916H / F1916Hc

The current input timing is not supported by the monitor display. Hease change your input timing to 1.766 x 765, 664x or any other monitor listed timing as per the monitor specifications.

Dell C201611

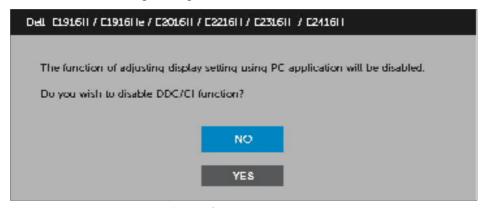
The current input timing is not supported by the monitor display. Please change your input timing to 1600 x 200, 500 x or any other monitor listed timing as per the monitor specifications.

Dell F2216H /F2316H / F2416H

The current input timing is not supported by the monitor display. Please change your input timing to 1920 a 1980, 6642 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 <u>Monitor Specifications</u> for the horizontal and vertical frequency ranges addressable by this monitor. Recommended mode is 1366×768 (for E1916H / E1916He) or 1600×900 (for E2016H) or 1920×1080 (for E2216H / E2316H / E2316Hr / E2416HM).

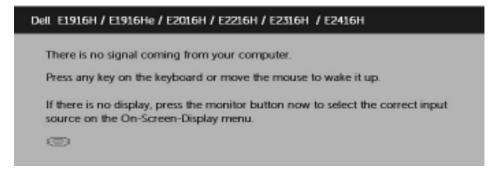
You will see the following message before the DDC/CI function is disabled.



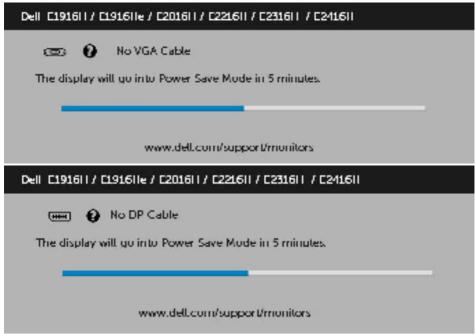
When the monitor enters the **Power Save** mode, the following message appears:



Activate the computer and wake up the monitor to gain access to the <u>OSD</u>. 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

For optimal display performance while using the Microsoft Windows operating systems, set the display resolution to 1366×768 (for E1916H / E1916He) or 1600×900 (for E2016H) or 1920×1080 (for E2216H / E2316H / E2316Hr / E2416HM) 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 / E2416HM).
- 4. Click OK.

In Windows 10:

- 1. Right-click on the desktop and click **Display settings**.
- 2. Click Advanced display settings.
- **3.** Click the dropdown list of **Resolution** and select 1366 x 768 (for E1916H / E1916He) or 1600 x 900 (for E2016H) or 1920 x 1080 (for E2216H / E2316H / E2316Hr / E2416H / E2416HM).
- 4. Click Apply.

If you do not see 1366 x 768 (for E1916H / E1916He) or 1600×900 (for E2016H) or 1920×1080 (for E2216H / E2316H / E2316Hr / E2416H / E2416HM) 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 1366×768 (for E1916H / E1916He) or 1600×900 (for E2016H) or 1920×1080 (for E2216H / E2316H / E2316Hr / E2416H / E2416HM) 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 / E2316Hr / E2416H / E2416HM), 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 / E2416HM) again.

In Windows 10

- 1. Right-click on the desktop and click **Display settings**.
- 2. Click Advanced display settings.
- 3. Click Display adapter properties.
- **4.** Identify your graphics controller supplier from the description at the top of the window (e.g. NVIDIA, ATI, Intel etc.).
- **5.** Please refer to the graphics card provider website for updated driver (for example, http://www.ATI.com OR http://www.NVIDIA.com).
- **6.** After installing the drivers for your graphics adapter, attempt to set the resolution to 1366×768 (for E1916H / E1916He) or 1600×900 (for E2016H) or 1920×1080 (for E2216H / E2316H / E2316H / E2416H / E2416HM) 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 / E2416HM), 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 / E2416HM).

Using the Tilt

Tilt

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



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

Troubleshooting

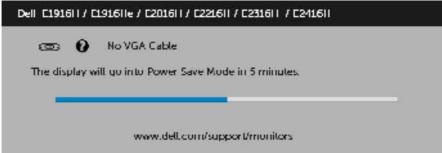
MARNING: Before you begin any of the procedures in this section, follow the Safety Instruction

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.

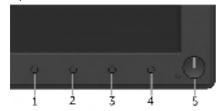


- **4.** This box also appears during normal system operation, if the video cable becomes disconnected or damaged. The monitor will enter **Power Save Mode after 5 minutes** if left at this state
- **5.** Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

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	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	 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	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	• Perform Auto Adjust via OSD.
	movement	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 Divols	I CD sarrow bas spats	Cycle newer on off
Missing Pixels	LCD screen has spots	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	Cycle power on-off.
	spots	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	Reset the monitor to Factory Settings .
		Auto Adjust via OSD.
		Adjust brightness & contrast controls via OSD.
Geometric Distortion	Screen not centered correctly	Reset the monitor to Factory Settings.
		• Auto Adjust via OSD.
		Adjust brightness & contrast controls via OSD.
		NOTE : When using 'DP', the positioning adjustments are not available.
Horizontal/Vertical Lines	Screen has one or more lines	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.
		NOTE : When using 'DP', the Pixel Clock and Phase adjustments are not available.

Synchronization Problems	Screen is scrambled or appears torn	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	Do not perform any troubleshooting steps.
		Contact Dell immediately.
Intermittent Problems	Monitor malfunctions on & off	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	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	 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.

a static image left on	Use the Power Management feature to turn off the monitor at all times when not in use (for more information, see <u>Power Management</u> <u>Modes</u> .
	 Alternatively, use a dynamically changing screensaver.

MOTE: 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	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	OSD does not appear on the screen	Turn off the monitor, unplug the power cord, plug back, and then turn on the monitor.
panel		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.	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	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	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	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 reseat 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	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 reseat the audio line-in plug.

Distorted Sound	Computer's sound	Clear any obstructions between the
	Computer's sound card is used as the	Clear any obstructions between the Soundbar and the user.
	audio source	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	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	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

MARNING: 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** dropdown 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.