




# Dell E2221HN/E2421HN

## User's Guide

**Monitor model:** E2221HN/E2421HN  
**Regulatory model:** E2221HNf, E2421HNf



# Notes, Cautions and Warnings

-  **NOTE:** A NOTE indicates important information that helps you make better use of your computer.
-  **CAUTION:** A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.
-  **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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# About your monitor

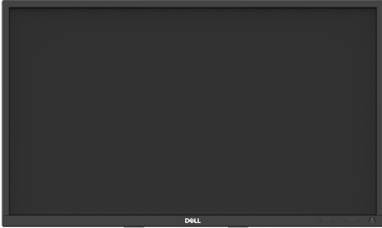

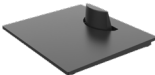


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## Package contents

Your monitor ships with the components indicated in the table. Ensure that you have received all the components and see [Contact Dell](#) if anything is missing.

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

 **NOTE: To set up Stand from any other source, refer to the documentation comes with the Stand for instruction.**

Component image	Component description
	Display
	Stand riser
	Stand base
	VESA™ Screw Cover
	Power cable (varies by country)

Component image	Component description
	VGA cable (EMEA and Japan region)
	HDMI cable
	<ul style="list-style-type: none"> <li>• Quick Setup Guide</li> <li>• Safety, Environmental, and Regulatory Information</li> </ul>

## Product features

The Dell E2221HN/E2421HN flat panel monitor has an active matrix, Thin-Film Transistor (TFT), Liquid Crystal Display (LCD) Panel with LED backlight. The monitor features include :

- E2221HN: 54.68 cm (21.5 in.) diagonal viewable area display (measured diagonally). 1920 x 1080 resolution, with full-screen support for lower resolutions.
- E2421HN: 60.47 cm (23.8 in.) diagonal viewable area display (measured diagonally). 1920 x 1080 resolution, with full-screen support for lower resolutions.
- E2221HN: Viewing angles of 160 degrees in vertical and 170 degrees in horizontal directions.
- E2421HN: Wide viewing angles of 178 degrees in vertical and horizontal directions.
- Dynamic contrast ratio (1,000:1).
- Digital connectivity with HDMI.
- Plug and play capable if supported by your computer.
- On-Screen Display (OSD) adjustments for easy setup and screen optimization.
- 0.3 W standby power when in the sleep mode.
- Optimize eye comfort with a flicker-free screen.
- Possible long-term effects if blue light emission from the monitor may cause damage to the eyes, including eye fatigue or digital eye strain. ComfortView feature to reduce risk of eye strain from high blue light emission.
- Security-lock slot.
- Arsenic-free glass and Mercury-free for panel only.
- BFR/PVC-Reduced (Its circuit boards are made from BFR/PVC-free laminates).
- Meets NFPA 99 leakage current requirement.
- TCO-certified display.
- EPEAT registered where applicable. EPEAT registration varies by country. See [www.epeat.net](http://www.epeat.net) for registration status by country.
- RoHS Compliant.
- Energy Star® Certified.

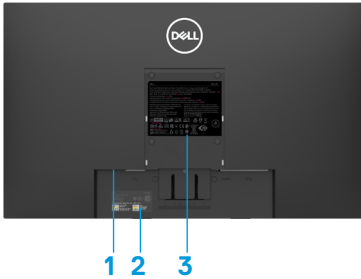
# Identifying features and controls

## Front view



Label	Description	Use
1	Function buttons	To access the OSD menu and change the settings if required. (For more information, see <a href="#">Using the front panel controls</a> )
2	Power On/Off button (with LED indicator)	To turn the monitor On or Off.

## Back view



Without monitor stand



With monitor stand

Label	Description	Use
1	Security-lock slot	To secure the monitor using a security lock (purchased separately).
2	Barcode, serial number, and service tag label	See this label if you need to contact Dell for technical support. The Service Tag is a enables Dell service technicians to identify the hardware components in your computer and access warranty information.
3	Regulatory information	List the regulatory approvals.
4	Cable-management slot	To organize the cables.
5	Stand release button	Release stand from monitor.

## Side view



## Bottom view, without monitor stand



Label	Description	Use
1	Power port	To connect the monitor power cable.
2	HDMI port	For connection to your computer using HDMI cable.
3	VGA port	For connection to your computer using VGA cable.



## Monitor specifications

Model	E2221HN	E2421HN
Screen type	Active matrix-TFT LCD	Active matrix-TFT LCD
Panel type	TN	In-Plane Switching
Viewable area		
Diagonal	546.86 mm (21.5 in.)	604.70 mm (23.8 in.)
Active area		
Horizontal	476.64 mm (18.77 in.)	527.04 mm (20.75 in.)
Vertical	268.11 mm (10.56 in.)	296.46 mm (11.67 in.)
Area	1277.92 cm <sup>2</sup> (198.21 in. <sup>2</sup> )	1562.46 cm <sup>2</sup> (242.15 in. <sup>2</sup> )
Pixel pitch	0.2482 mm x 0.2482 mm	0.2745 mm x 0.2745 mm
Pixel per inch (PPI)	102	92
Viewing angle		
Horizontal	170° (typical)	178° (typical)
Vertical	160° (typical)	178° (typical)
Brightness	250 cd/m <sup>2</sup> (typical)	250 cd/m <sup>2</sup> (typical)
Contrast ratio	1,000 to 1 (typical)	1,000 to 1 (typical)
Faceplate coating	Anti-glare with 3H hardness	Anti-glare with 3H hardness
Backlight	LED light bar system	LED light bar system
Response time		
Normal mode	5 ms	8 ms
Fast mode	-	5 ms
Color depth	16.7 million colors	16.7 million colors
Color gamut	72% (CIE1931)/83% (CIE1976)	72% (CIE1931)/83% (CIE1976)
Dell display manager compatibility	Yes	Yes
Connectivity	1 x HDMI 1.4, 1 x VGA	1 x HDMI 1.4, 1 x VGA
Bezel width (edge of monitor to active area)	17.8 mm (Top) 17.8 mm (Left/Right) 17.8 mm (Bottom)	11.8 mm (Top) 11.8 mm (Left/Right) 18.2 mm (Bottom)
Security	Security-lock slot for cable lock (optional purchase)	Security-lock slot for cable lock (optional purchase)
Tilt angle	-5° to 21°	-5° to 21°

## Resolution specifications

Model	E2221HN	E2421HN
Horizontal scan range	30 kHz to 83 kHz (automatic)	30 kHz to 83 kHz (automatic)
Vertical scan range	56 Hz to 76 Hz (automatic)	56 Hz to 76 Hz (automatic)
Maximum preset resolution	1920 x 1080 @ 60 Hz	1920 x 1080 @ 60 Hz

## Preset display modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (Horizontal /Vertical)
VESA, 720 x 400	31.5	70.1	28.3	-/+
VESA, 640 x 480	31.5	60.0	25.2	-/-
VESA, 640 x 480	37.5	75.0	31.5	-/-
VESA, 800 x 600	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 x1024	64.0	60.0	108.0	+/+
VESA, 1280 x1024	80.0	75.0	135.0	+/+
VESA, 1600 x 900	60.0	60.0	108.0	+/+
VESA, 1920 x1080	67.5	60.0	148.5	+/+

## Electrical specifications

Model	E2221HN
Video input signals	<ul style="list-style-type: none"> <li>Analog RGB: 0.7 V <math>\pm</math> 5 %, 75 <math>\Omega</math> input impedance</li> <li>HDMI 1.4 (HDCP 1.2), 600 mV for each differential line, 100 <math>\Omega</math> input impedance per differential pair</li> </ul>
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 / 0.7 A
Inrush current	30 A (120 V AC Input) 60 A (240 V AC Input)

Model	E2421HN
Video input signals	<ul style="list-style-type: none"> <li>Analog RGB: 0.7 V <math>\pm</math> 5 %, 75 <math>\Omega</math> input impedance</li> <li>HDMI 1.4 (HDCP 1.2), 600 mV for each differential line, 100 <math>\Omega</math> input impedance per differential pair</li> </ul>
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 / 0.8 A
Inrush current	30 A (120 V AC Input) 60 A (240 V AC Input)

## Physical characteristics

<b>Model</b>	<b>E2221HN/E2421HN</b>	
Signal cable type	D-Sub (VGA), 15 pins (cable is included for EMEA and JPN region only); HDMI, 19 pins	
Analog		
Digital		
<b>NOTE:</b> Dell monitors are designed to work optimally with the video cables that are shipped with your monitor. As Dell does not have control over the different cable suppliers in the market, the type of material, connector and process used to manufacture these cables, Dell does not guarantee video performance on cables that are not shipped with your Dell monitor.		
<b>Dimensions (with stand)</b>	<b>E2221HN</b>	<b>E2421HN</b>
Height	397.30 mm (15.64 in.)	419.70 mm (16.52 in.)
Width	512.20 mm (20.17 in.)	550.60 mm (21.68 in.)
Depth	171.00 mm (6.73 in.)	171.00 mm (6.73 in.)
<b>Dimensions (without stand)</b>	<b>E2221HN</b>	<b>E2421HN</b>
Height	303.70 mm (11.96 in.)	326.50 mm (12.85 in.)
Width	512.20 mm (20.17 in.)	550.60 mm (21.68 in.)
Depth	52.40 mm (2.06 in.)	52.40 mm (2.06 in.)
<b>Stand dimensions</b>	<b>E2221HN</b>	<b>E2421HN</b>
Height	176.90 mm (6.96 in.)	176.90 mm (6.96 in.)
Width	200.00 mm (7.87 in.)	200.00 mm (7.87 in.)
Depth	171.00 mm (6.73 in.)	171.00 mm (6.73 in.)
<b>Weight</b>	<b>E2221HN</b>	<b>E2421HN</b>
Weight with packaging	4.90 kg (10.80 lb)	5.95 kg (13.12 lb)
With stand assembly and cables	3.51 kg (7.74 lb)	4.27 kg (9.41 lb)
Without stand assembly and cables	2.70 kg (5.95 lb)	3.25 kg (7.17 lb)
Weight of stand assembly	0.44 kg (0.97 lb)	0.59 kg (1.30 lb)

## Environmental characteristics

<b>Model</b>	<b>E2221HN/E2421HN</b>
Temperature: Operating	0°C to 40°C (32°F to 104°F)
Non-operating: Storage Shipping	-20°C to 60°C (-4°F to 140°F)
Humidity: Operating	10% to 80% (non-condensing)
Non-operating: Storage Shipping	5% to 90% (non-condensing)
<b>Altitude:</b>	
Operating (maximum)	5,000 m (16,400 ft)
Non-operating (maximum)	12,192 m (40,000 ft)

<b>Model</b>	<b>E2221HN</b>	<b>E2421HN</b>
Thermal dissipation	54.59 BTU/hour (maximum) 44.36 BTU/hour (typical)	68.24 BTU/hour (maximum) 51.18 BTU/hour (typical)

## Power Management Modes

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

### E2221HN

VESA Modes	Horizontal sync	Vertical sync	Video	Power indicator	Power consumption
Normal operation	Active	Active	Active	White	16 W (maximum)** 13 W (typical)
Active-off mode	Inactive	Inactive	Blanked	White (Glowing)	Less than 0.3 W
Switch-off	-	-	-	Off	Less than 0.3 W

<b>Power Consumption P<sub>ON</sub></b>	11.21 W
<b>Total Energy Consumption(TEC)</b>	35.16 kWh

### E2421HN

VESA Modes	Horizontal sync	Vertical sync	Video	Power indicator	Power consumption
Normal operation	Active	Active	Active	White	20 W (maximum)** 15 W (typical)
Active-off mode	Inactive	Inactive	Blanked	White (Glowing)	Less than 0.3 W
Switch-off	-	-	-	Off	Less than 0.3 W

<b>Power Consumption P<sub>ON</sub></b>	12.34 W
<b>Total Energy Consumption(TEC)</b>	38.52 kWh

\*\* 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.

 **NOTE: This monitor is ENERGY STAR certified.** 

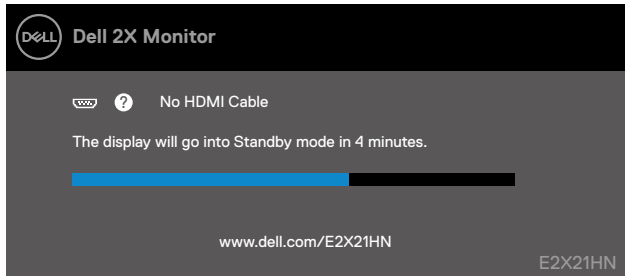
This product qualifies for ENERGY STAR in the factory default settings which can be restored by "Factory Reset" function in the OSD menu. Changing the factory default settings or enabling other features may increase power consumption that could exceed the ENERGY STAR specified limit.

 **NOTE:**

P<sub>ON</sub> : Power consumption of On Mode as defined in Energy Star 8.0 version.

TEC: Total energy consumption in kWh as defined in Energy Star 8.0 version.

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



## Plug and play capability

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

## LCD monitor quality and pixel policy

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

## Maintenance guidelines

### Cleaning your monitor

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

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


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

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

# Setting up the monitor

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## Connecting the stand

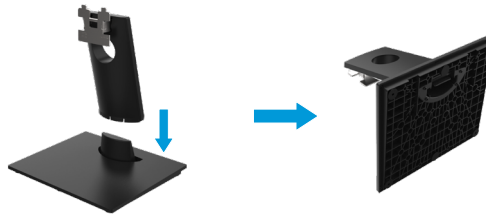
 **NOTE:** The stand is not attached when the monitor is shipped from the factory.

 **NOTE:** The following procedure is applicable for the stand that shipped with your monitor.

To attach the monitor stand:  
E2221HN

### 1. Assemble the stand riser to stand base.

- Place the monitor stand base on a stable table top.
- 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.

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





## Connecting the stand

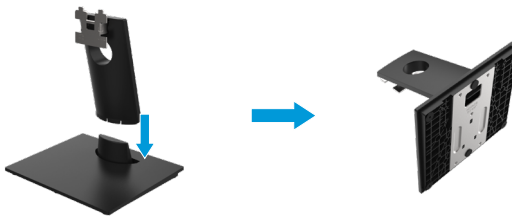
 **NOTE:** The stand is not attached when the monitor is shipped from the factory.

 **NOTE:** The following procedure is applicable for the stand that shipped with your monitor.

To attach the monitor stand:  
E2421HN

### 1. Assemble the stand riser to stand base.

- Place the monitor stand base on a stable table top.
- 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

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



## Connecting your monitor

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

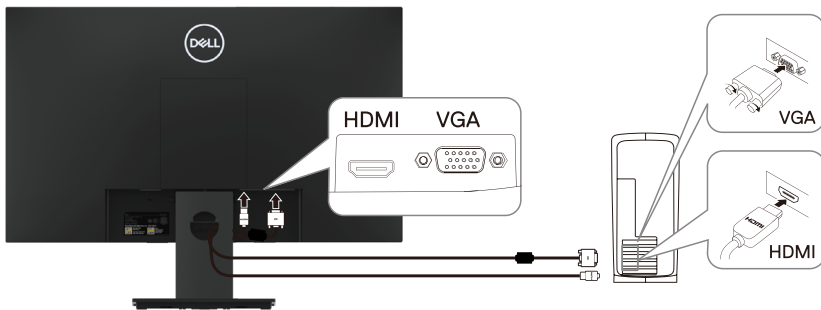
**✎ NOTE:** Do not connect all cables to the computer at the same time. It is recommended to route the cables through the cable-management slot before you connect them to the monitor.

**✎ NOTE:** Dell monitors are designed to work optimally with Dell supplied inbox cables. Dell does not guarantee the video quality and performance when using non-Dell cables.

To connect your monitor to the computer:

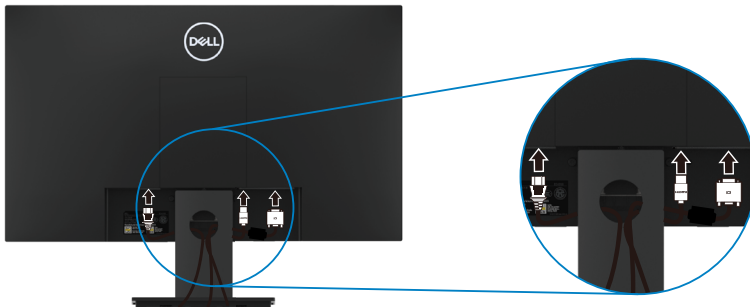
1. Turn off your computer and disconnect the power cable.
2. Connect HDMI or VGA cable from your monitor to the computer.

## Connecting HDMI/VGA cable



## Organizing cables

Use the cable-management slot to route the cables connected to your monitor.



## Removing the stand

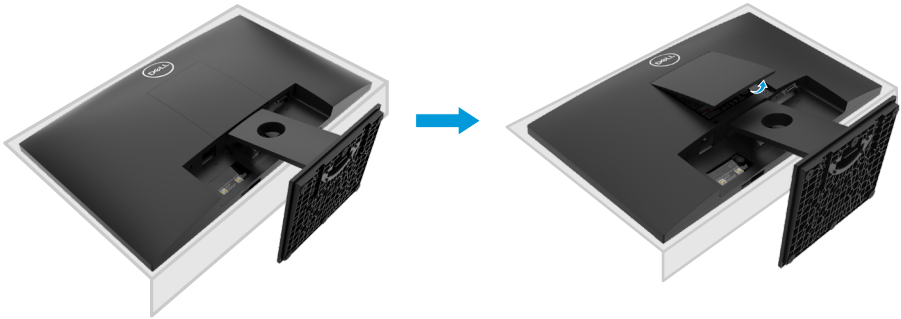
**NOTE:** To prevent scratches on the screen when removing the stand, ensure that the monitor is placed on a soft and clean surface.

**NOTE:** The following procedure is applicable for the stand that shipped with your monitor.

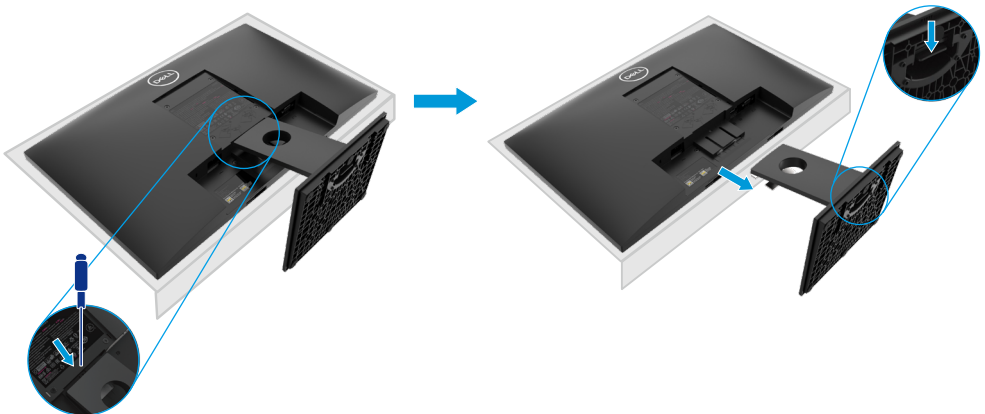
To remove the stand:

E2221HN

1. a. Place the monitor on a soft cloth along the desk.  
b. Remove VESA cover to access the release button.



2. a. Use a long and thin 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.  
c. Press down on the quick release tab latch on the bottom of the base to separate base from stand riser.



## Removing the stand

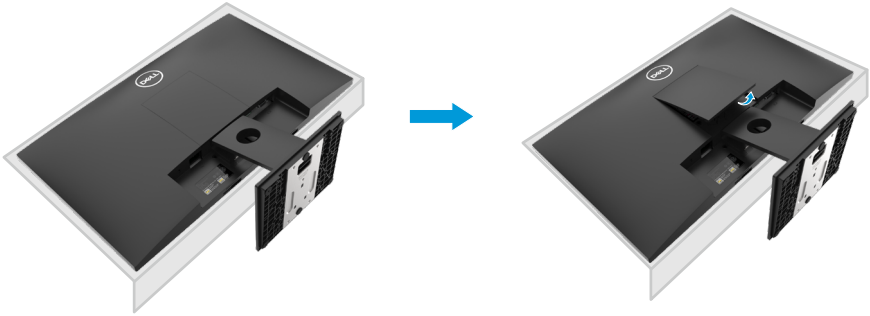
**NOTE:** To prevent scratches on the screen when removing the stand, ensure that the monitor is placed on a soft and clean surface.

**NOTE:** The following procedure is applicable for the stand that shipped with your monitor.

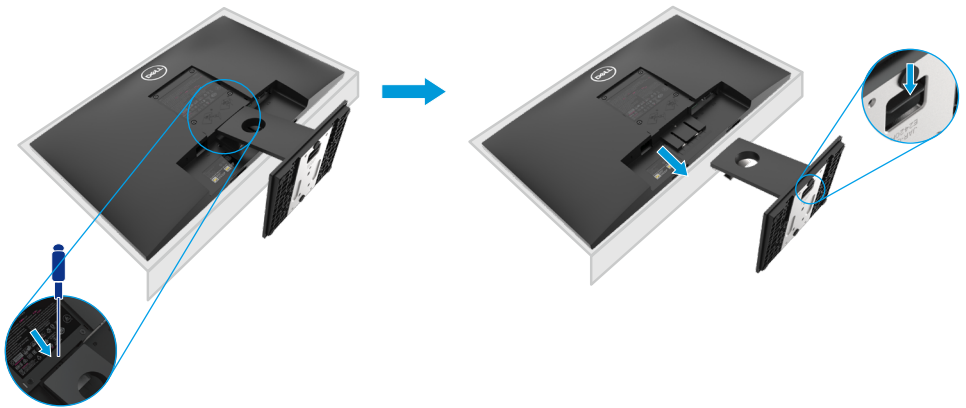
To remove the stand:

E2421HN

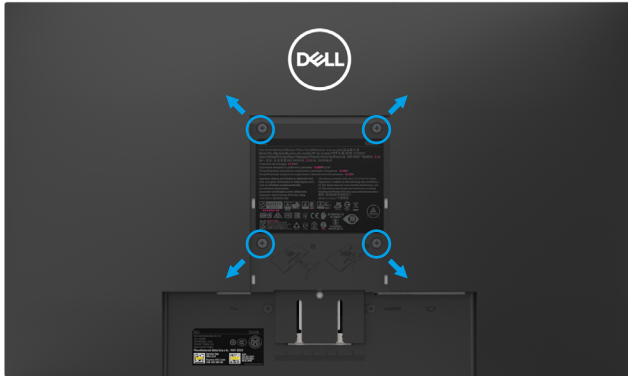
1. a. Place the monitor on a soft cloth along the desk.  
b. Remove VESA cover to access the release button.



2. a. Use a long and thin 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.  
c. Press down on the quick release tab latch on the bottom of the base to separate base from stand riser.



## 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 or CSA or GS-listed wall-mount bracket with minimum weight/ load bearing capacity of 10.80 kg (23.80 lb) for E2221HN, 13.00 kg (28.66 lb) for E2421HN.

# Operating your monitor

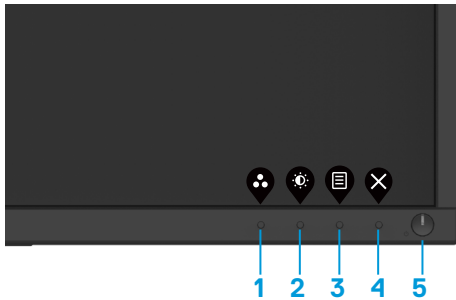
## Turning on the monitor

Press the button to turn on the monitor.








## Using the front panel controls

Use the control buttons at the bottom edge of the monitor to adjust the image being displayed.







The following table describes the control buttons:

Control Buttons	Description
1  Preset modes	Use this button to choose from a list of preset modes.
2  Brightness/Contrast	For direct access to the Brightness and Contrast menu.
3  Menu	To launch the On-Screen Display (OSD) menu, or to access the list of items / options of a menu item. For more information, see <a href="#">Accessing the OSD menu</a> .
4  Exit	To exit or return to the OSD main menu.
5  Power button (with power-status light)	To turn the monitor on or off. Solid white light indicates the monitor is turned on and functioning normally. Blinking white light indicates the monitor is in Standby mode.

## OSD controls


Use the buttons on the bottom edge of the monitor to adjust the image settings.




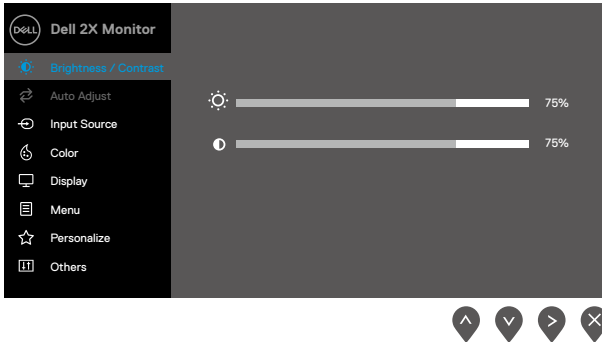
Control Buttons	Description
1  Up	Use the Up button to increase values or move up in a menu.
2  Down	Use the Down button to decrease values or move down in a menu.
3  OK	Use the OK button to confirm your selection in a menu.
4  Back	Use the Back button to go back to the previous menu.










# Using the On-Screen Display (OSD) menu

## Accessing the OSD menu


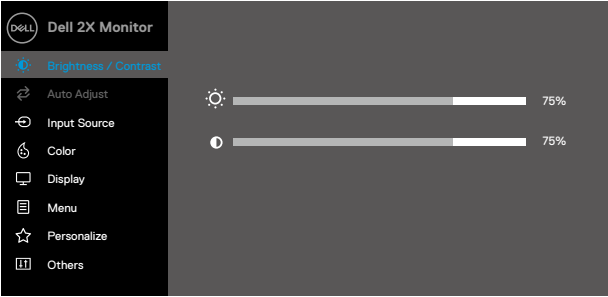




 **NOTE:** Any changes you make are automatically saved when you move to another menu, exit the OSD menu, or wait for the OSD menu to close automatically.




1. Press the  button to display the OSD main menu.


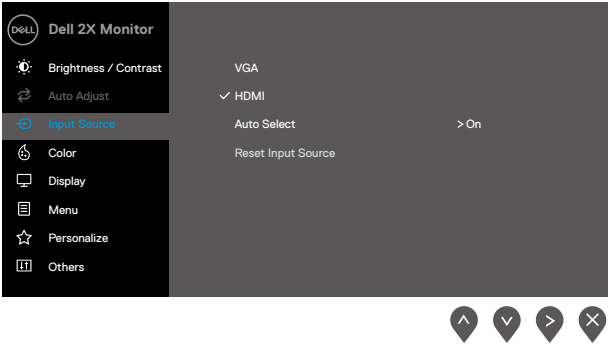



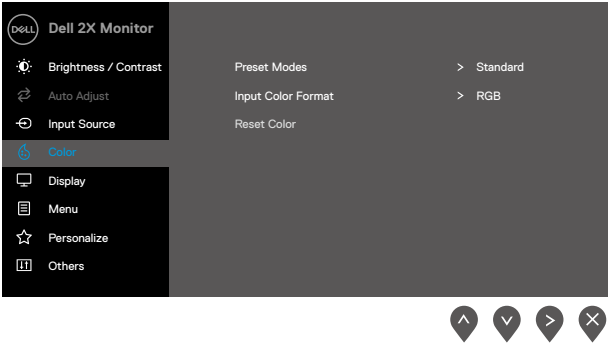




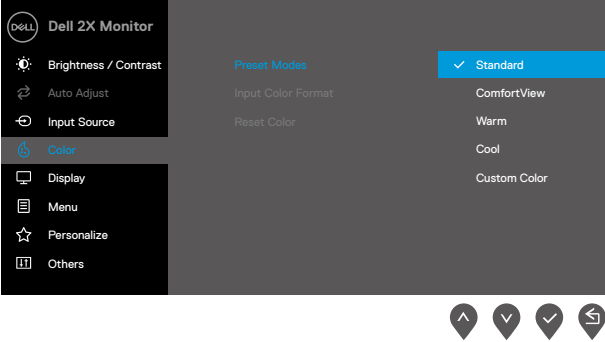
2. Press the  and  buttons to move between the setting options. As you move from one icon to another, the option name is highlighted.
3. Press the  button once to activate the highlighted option.
4. Press  and  button to select the desired parameter.
5. Press  and then use the  and  buttons, according to the indicators on the menu, to make your changes.
6. Select the  button to return to the main menu.

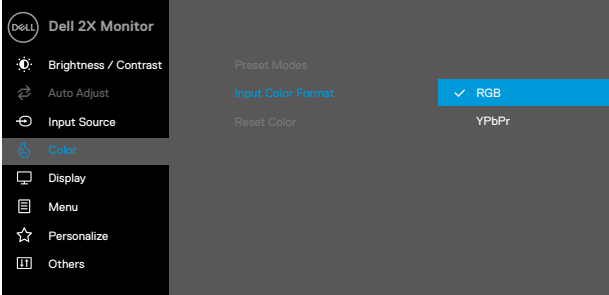

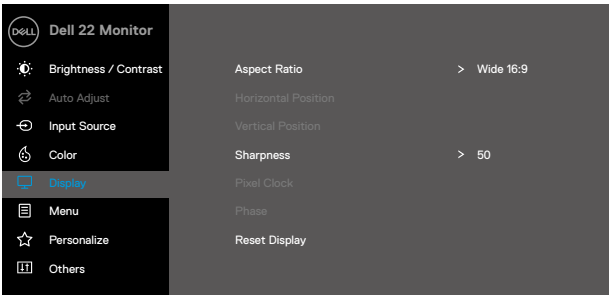
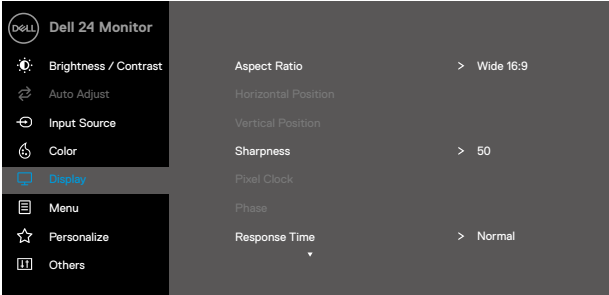


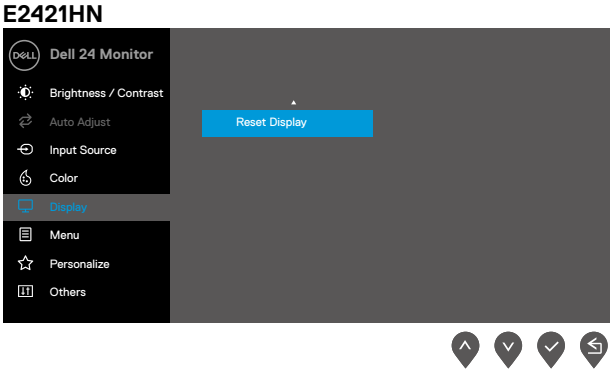








Icon	Menu and Submenus	Description
	<b>Brightness/ Contrast</b>	<p>Use this option to control the brightness or contrast settings.</p> 
	<b>Brightness</b>	<p>Brightness adjusts the luminance of the backlight.</p> <p>Press the  button to increase the brightness and press the  button to decrease the brightness (min. 0; max. 100).</p>
	<b>Contrast</b>	<p>Adjust the brightness first, and then adjust the contrast only if further adjustment is necessary.</p> <p>Press the  button to increase the contrast and press the  button to decrease the contrast (min. 0; max. 100). The contrast function adjusts the degree of difference between darkness and lightness on the screen.</p>


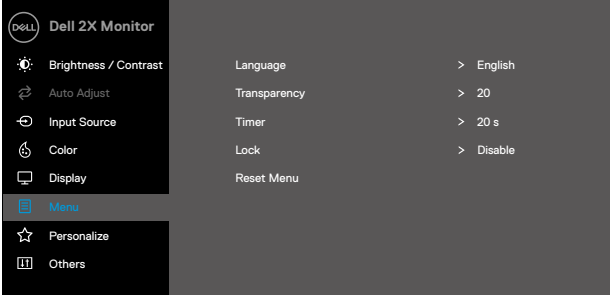







Icon	Menu and Submenus	Description
	<b>Auto Adjust</b>	<p>Use this option to activate automatic setup and adjust menu.</p>  <p>The following dialog appears on a black screen as the monitor self-adjusts to the current input:</p>  <p>Auto Adjust allows the monitor to self-adjust to the incoming video signal. After using Auto Adjustment, you can further tune your monitor by using the Pixel Clock (Coarse) and Phase (Fine) controls under Display.</p> <p><b>NOTE:</b> 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.</p>


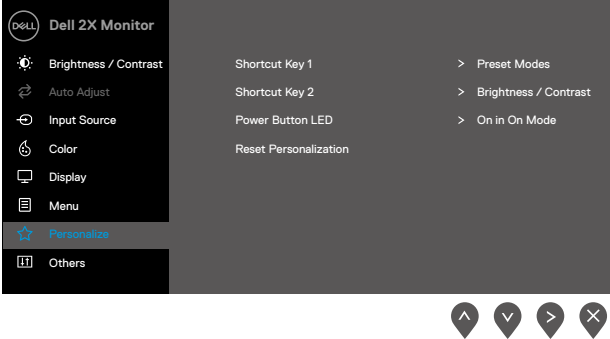
Icon	Menu and Submenus	Description
	<b>Input Source</b>	<p>Use the input source menu to switch between the different video signals that may be connected to your monitor.</p> 
	<b>VGA</b>	Push  to select the VGA input source when using VGA connector.
	<b>HDMI</b>	Push  to select the HDMI input source when using HDMI connector.
	<b>Auto Select</b>	Select Auto Select to scan for available input signals.
	<b>Reset Input Source</b>	Select this option to restore default input source.
	<b>Color</b>	<p>Use color to adjust the color setting mode.</p> 

Icon	Menu and Submenus	Description
	<b>Preset Modes</b>	<p>When you select Preset Modes, you can choose <b>Standard</b>, <b>ComfortView</b>, <b>Warm</b>, <b>Cool</b>, <b>Custom Color</b> from the list.</p> <ul style="list-style-type: none"> <li>• <b>Standard:</b> Load the monitor's default color settings. This is the default preset mode.</li> <li>• <b>ComfortView:</b> Decreases the level of blue light emitted from the screen to make viewing more comfortable for your eyes.  <b>NOTE:</b> To reduce the risk of eye strain and neck/arm/back/shoulders pain from using the monitor for long periods of time, we suggest that you: <ul style="list-style-type: none"> <li>- Set the screen about 20~28 in. (50~70 cm) from your eyes.</li> <li>- Blink frequently to moisten or lubricate your eyes.</li> <li>- Take regular 20-minute breaks every two hours.</li> <li>- Look away from your monitor and gaze at a distant object at 20 feet away for at least 20 seconds during the breaks.</li> <li>- Perform stretches to relieve tension in the neck/arm/back/shoulders during the breaks.</li> </ul> </li> <li>• <b>Warm:</b> Increase the color temperature. The screen appears warmer with a red/yellow tint.</li> <li>• <b>Cool:</b> Decrease the color temperature. The screen appears cooler with a blue tint.</li> <li>• <b>Custom Color:</b> Allows you to manually adjust the color settings.</li> </ul> <p>Press the  and  buttons to adjust the three colors (R, G, B) values and create your own preset color mode.</p> 


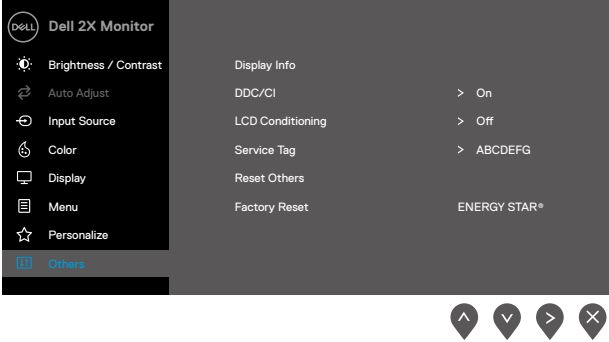
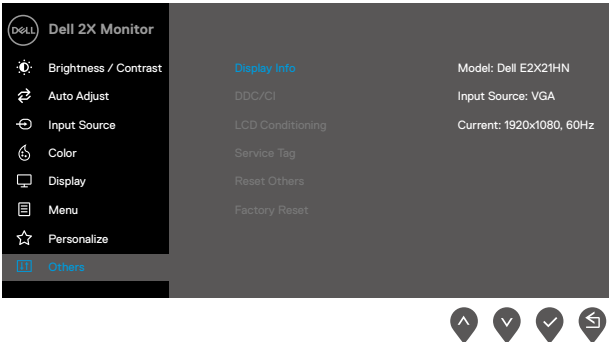
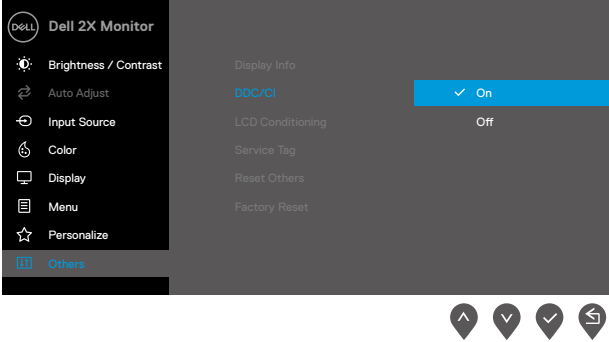
Icon	Menu and Submenus	Description
	<b>Input Color Format</b>	<p>Allow you to set the video input mode to:</p> <ul style="list-style-type: none"> <li>• <b>RGB</b>: Select this option if your monitor is connected to a computer or DVD player using the HDMI cable.</li> <li>• <b>YPbPr</b>: Select this option if your DVD player supports only YPbPr output.</li> </ul>  <p>The screenshot shows the 'Color' submenu of a Dell 2X Monitor. The 'Input Color Format' option is highlighted in blue and set to 'RGB'. Other options include 'YPbPr'. Navigation arrows are visible at the bottom right.</p>
	<b>Reset Color</b>	<p>Reset your monitor color settings to the factory settings.</p>
	<b>Display</b>	<p>Use the display to adjust image.</p> <p><b>E2221HN</b></p>  <p>The screenshot shows the 'Display' submenu of a Dell E2221HN monitor. Settings include Aspect Ratio (Wide 16:9), Sharpness (50), and a 'Reset Display' option. Navigation arrows are at the bottom right.</p> <p><b>E2421HN</b></p>  <p>The screenshot shows the 'Display' submenu of a Dell E2421HN monitor. Settings include Aspect Ratio (Wide 16:9), Sharpness (50), and Response Time (Normal). Navigation arrows are at the bottom right.</p>

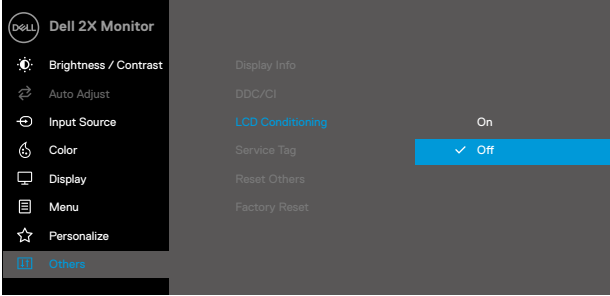
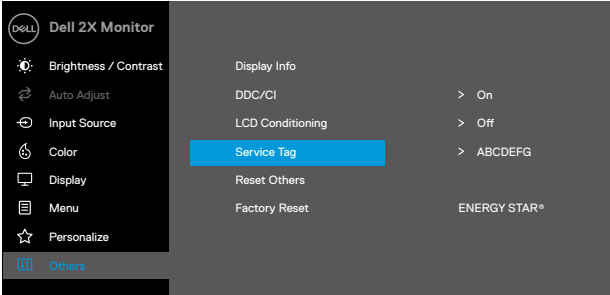
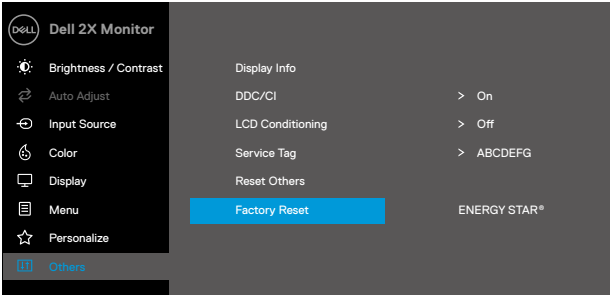
Icon	Menu and Submenus	Description
		
	<b>Aspect Ratio</b>	Adjust the image ratio to Wide 16:9, 4:3 or 5:4.
	<b>Horizontal Position (VGA input only)</b>	Use  or  to move image left and right. Minimum is '0' (-). Maximum is '100' (+).
	<b>Vertical Position (VGA input only)</b>	Use the  or  to move image up and down. Minimum is '0' (-). Maximum is '100' (+).
	<b>Sharpness</b>	This feature can make the image look sharper or softer. Use  or  to adjust the sharpness from 0 to 100.
	<b>Pixel Clock (VGA input only)</b>	The Pixel Clock feature enables you to adjust image quality on your monitor to your preference. Use  or  buttons to adjust for best image quality.
	<b>Phase (VGA input only)</b>	If satisfactory results are not obtained using the Phase adjustment, use the Pixel Clock (coarse) adjustment and then use Phase (fine), again.
	<b>Response Time</b>	Allow you to select between Normal (8 ms), Fast (5 ms).
	<b>Reset Display</b>	Select this option to restore default display settings.

Icon	Menu and Submenus	Description
	<b>Menu</b>	<p>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.</p>  
	<b>Language</b>	<p>Language options set the OSD display to one of the eight languages (English, Spanish, French, German, Brazilian Portuguese, Russian, Simplified Chinese, or Japanese).</p>
	<b>Transparency</b>	<p>Select this option to change the menu transparency by pressing the  or  buttons from 0 to 100.</p>
	<b>Timer</b>	<p>OSD hold time: sets the length of time , the OSD will remain active after the last time you pressed a button.</p> <p>Use  or  to adjust the slider in 1 second increments, from 5 to 60 seconds.</p>
	<b>Lock</b>	<p>Controls user access to adjustments. When Lock is selected, no user adjustments are allowed. All keys are locked except  key.</p> <p>To unlock, please use one of the following options :</p> <ol style="list-style-type: none"> <li>1. Press the menu key takes you directly to the OSD menu to unlock.</li> <li>2. Press and hold  key of the monitor for 4 seconds to unlock.</li> </ol>
	<b>Reset Menu</b>	<p>Select this option to restore default menu settings.</p>

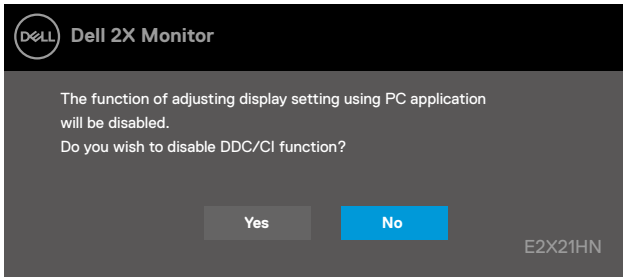
Icon	Menu and Submenus	Description
	<b>Personalize</b>	<p>Selecting this option allows you to set two shortcut keys and power LED indicator function.</p> 
	<b>Shortcut Key 1</b>	<p>Allow you to select one of the following: Preset Modes, Brightness/Contrast, Auto Adjust, Input Source, Aspect Ratio, to set the shortcut key 1.</p>
	<b>Shortcut Key 2</b>	<p>Allow you to select one of the following: Preset Modes, Brightness/Contrast, Auto Adjust, Input Source, Aspect Ratio, to set the shortcut key 2.</p>
	<b>Power Button LED</b>	<p>Allow you to set the power LED indicator On in On Mode or Off in On Mode to save energy.</p>
	<b>Reset Personalization</b>	<p>Allow you to restore shortcut key to the default setting.</p>



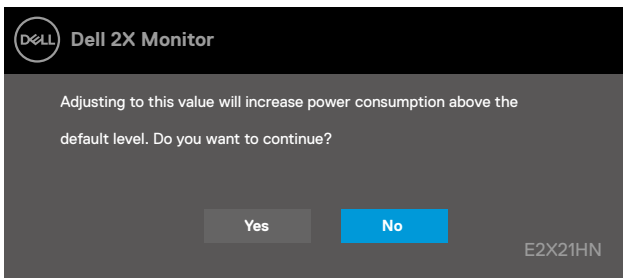
Icon	Menu and Submenus	Description
	<b>Others</b>	
	<b>Display Info</b>	<p>Press to display the information about the display.</p> 
	<b>DDC/CI</b>	<p>DDC/CI (Display Data Channel/Command Interface) allows you to adjust the monitor settings using software on your computer. Select off to turn off this feature. Enable this feature for best user experience and optimum performance of your monitor.</p> 

Icon	Menu and Submenus	Description
	<b>LCD Conditioning</b>	<p>Help reduce minor cases of image retention. Depending on the degree of image retention, the program may take some time to run. To start LCD Conditioning , select On.</p>  <p>The screenshot shows the 'Dell 2X Monitor' OSD menu. The left sidebar lists options: Brightness / Contrast, Auto Adjust, Input Source, Color, Display, Menu, Personalize, and Others. The main area shows settings for Display Info, DDC/CI, LCD Conditioning (set to Off), Service Tag, Reset Others, and Factory Reset. The 'Off' option for LCD Conditioning is highlighted in blue.</p>
	<b>Service Tag</b>	<p>Display the Service Tag number of the monitor.</p>  <p>The screenshot shows the 'Dell 2X Monitor' OSD menu. The left sidebar is the same as above. The main area shows settings for Display Info, DDC/CI (On), LCD Conditioning (Off), Service Tag (displayed as ABCDEFG), Reset Others, and Factory Reset (ENERGY STAR®). The 'Service Tag' option is highlighted in blue.</p>
	<b>Reset Others</b>	<p>Reset all settings under the Others setting menu to the factory default.</p>
	<b>Factory Reset</b>	<p>Restore all preset values to the factory default setting. These are also the settings for ENERGY STAR® tests.</p>  <p>The screenshot shows the 'Dell 2X Monitor' OSD menu. The left sidebar is the same as above. The main area shows settings for Display Info, DDC/CI (On), LCD Conditioning (Off), Service Tag (ABCDEFG), Reset Others, and Factory Reset (ENERGY STAR®). The 'Factory Reset' option is highlighted in blue.</p>

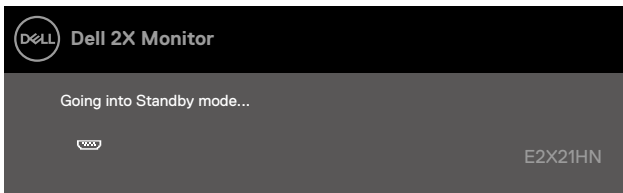
Before the DDC/CI function is disabled, the following message is displayed.



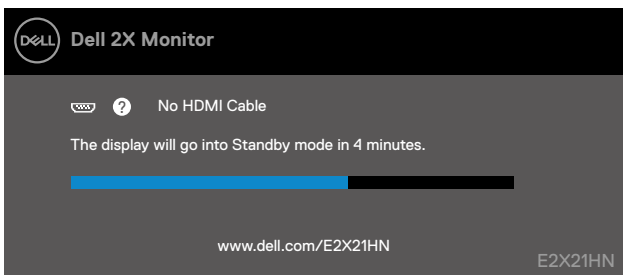
The Power Warning Message box below shall apply to Brightness functions for the first time when user adjust the Brightness level above the default level.



When the monitor enters Standby mode, the following message appears.



If VGA or HDMI cable is not connected, a floating dialog box as shown below appears. The monitor will enter Standby mode after 4 minutes if left at this state.



See [Troubleshooting](#) for more information.

## Setting up your monitor

### Setting display resolution to 1920 x 1080

For best performance, set the display resolution to 1920 x 1080 pixels by performing the following steps:

#### In Windows 7:

1. Right-click on the desktop and click **Screen Resolution**.
2. Click the drop-down menu of the **Screen Resolution** and select 1920 x 1080.
3. Click **OK**.

#### In Windows 8 or Windows 8.1:

1. Select the Desktop tile to switch to classic desktop.
2. Right-click on the desktop and click **Screen Resolution**.
3. Click the drop-down menu of the **Screen Resolution** and select 1920 x 1080.
4. Click **OK**.

#### In Windows 10:

1. Right-click on the desk top and click **Display Settings**.
2. Click **Advanced Display Settings**.
3. Click the drop-down menu under **Resolution** and select 1920 x 1080.
4. Click **Apply**.

If you do not see the recommended resolution as an option, you may need to update your graphics driver. Use one of the following methods to update the graphics driver:

#### Dell computer

1. Go to [www.dell.com/support](http://www.dell.com/support), enter your service tag, and download the latest driver for your graphics card.
2. After installing the drivers for your graphics adapter, attempt to set the resolution to 1920 x 1080 again.

 **NOTE: If you are unable to set the resolution to 1920 x 1080, please contact Dell to inquire about a graphics adapter that supports these resolutions.**

## Non-Dell computer

### In Windows 7:


1. Right-click on the desktop and click **Personalization**.
2. Click **Change Display Settings**.
3. Click **Advanced Settings**.
4. Identify your graphics controller supplier from the description at the top of the window (e.g. NVIDIA, AMD, Intel etc.).
5. Refer to the graphic card provider website for updated driver (for example, [www.AMD.com](http://www.AMD.com) or [www.NVIDIA.com](http://www.NVIDIA.com)).
6. After installing the drivers for your graphics adapter, attempt to set the resolution to 1920 x 1080 again.

### In Windows 8 or Windows 8.1:

1. 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, AMD, Intel etc.).
6. Refer to the graphic card provider website for updated driver (for example, [www.AMD.com](http://www.AMD.com) or [www.NVIDIA.com](http://www.NVIDIA.com)).
7. After installing the drivers for your graphics adapter, attempt to set the resolution to 1920 x 1080 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, AMD, Intel etc.).
5. Refer to the graphic card provider website for updated driver (for example, [www.AMD.com](http://www.AMD.com) or [www.NVIDIA.com](http://www.NVIDIA.com)).
6. After installing the drivers for your graphics adapter, attempt to set the resolution to 1920 x 1080 again.

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

## Using tilt

You can tilt the monitor for the most comfortable viewing angle.

 **NOTE:** The stand is not attached when the monitor is shipped from the factory.



# Troubleshooting

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

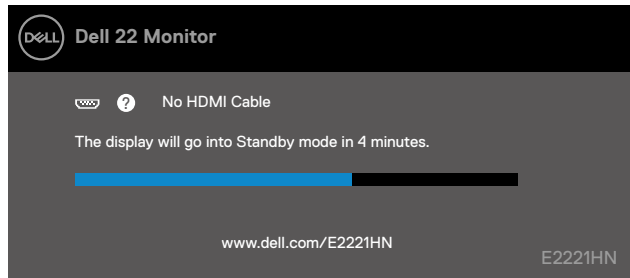
## Self-test

Your monitor provides a self-test feature that allows you to check if 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:

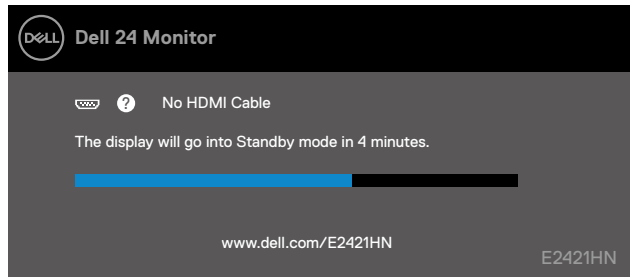
1. Turn off both your computer and the monitor.
2. Disconnect all video cables from the monitor. This way, the computer doesn't have to be involved.
3. Turn on the monitor.

If the monitor is working correctly, it detects that there is no signal and one of the following messages appears. While in self-test mode, the power LED remains white.

### E2221HN



### E2421HN



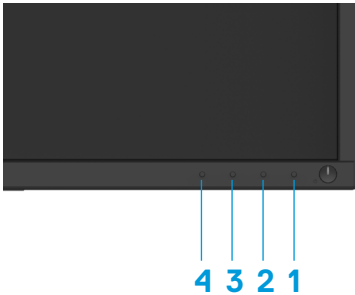
**✎ NOTE:** This box also appears during normal operation, when the video cable is disconnected or damaged.

4. Turn off your monitor and reconnect the video cable; then turn on your computer and the monitor.

If your monitor remains dark after you reconnect the cables, check your video controller and computer.

## Built-in diagnostics

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



### To run the built-in diagnostics:

1. Ensure that the screen is clean (no dust particles on the surface of the screen).
2. Press and Hold **Button 1** for about 4 seconds and wait for a pop up menu.
3. Press **Button 3** or **4** to select the diagnostic tool and confirm with **Button 2**.  
A gray test pattern appears at the beginning of the diagnostic program.
4. Carefully inspect the screen for abnormalities.
5. Press **Button 4** to change the test patterns.
6. Repeat steps 4 and 5 to inspect red, green, blue, black, white and text screens.
7. Press **Button 4** to end the diagnostic program.



## Common problems

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

Common Symptoms	Possible Solutions
No Video/Power LED off	<ul style="list-style-type: none"><li>• Ensure that the video cable connecting the monitor and the computer is properly connected and secure.</li><li>• Verify that the power outlet is functioning properly using any other electrical equipment.</li><li>• Ensure that the power button is pressed.</li><li>• Ensure that the correct input source is selected via the <b>Input Source</b> menu.</li></ul>
No Video/Power LED on	<ul style="list-style-type: none"><li>• Increase brightness and contrast controls using the OSD.</li><li>• Perform monitor self-test feature check.</li><li>• Check for bent or broken pins in the video cable connector.</li><li>• Run the built-in diagnostics.</li><li>• Ensure that the correct input source is selected via the <b>Input Source</b> menu.</li></ul>
Poor focus	<ul style="list-style-type: none"><li>• Eliminate video extension cables.</li><li>• Reset the monitor to Factory Settings (<b>Factory Reset</b>).</li><li>• Change the video resolution to the correct aspect ratio.</li></ul>
Shaky/Jittery video	<ul style="list-style-type: none"><li>• Reset the monitor to Factory Settings (<b>Factory Reset</b>).</li><li>• Check environmental factors.</li><li>• Relocate the monitor and test in another room.</li></ul>
Missing pixels	<ul style="list-style-type: none"><li>• Cycle power On-off.</li><li>• Pixel that is permanently off is a natural defect that can occur in LCD technology.</li><li>• For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: <a href="http://www.dell.com/support/monitors">www.dell.com/support/monitors</a>.</li></ul>
Stuck-on pixels	<ul style="list-style-type: none"><li>• Cycle power On-off.</li><li>• Pixel that is permanently off is a natural defect that can occur in LCD technology.</li><li>• For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: <a href="http://www.dell.com/support/monitors">www.dell.com/support/monitors</a>.</li></ul>
Brightness problems	<ul style="list-style-type: none"><li>• Reset the monitor to Factory Settings (<b>Factory Reset</b>).</li><li>• Adjust brightness &amp; contrast controls via OSD.</li></ul>
Geometric distortion	<ul style="list-style-type: none"><li>• Reset the monitor to Factory Settings (<b>Factory Reset</b>).</li><li>• Adjust brightness &amp; contrast controls via OSD.</li></ul>
Horizontal/Vertical lines	<ul style="list-style-type: none"><li>• Reset the monitor to Factory Settings (<b>Factory Reset</b>).</li><li>• Perform monitor self-test feature check and determine if these lines are also in self-test mode.</li><li>• Check for bent or broken pins in the video cable connector.</li><li>• Run the built-in diagnostics.</li></ul>

Common Symptoms	Possible Solutions
Synchronization problems	<ul style="list-style-type: none"> <li>• Reset the monitor to Factory Settings (<b>Factory Reset</b>).</li> <li>• Perform monitor self-test feature check to determine if the scrambled screen appears in self-test mode.</li> <li>• Check for bent or broken pins in the video cable connector.</li> <li>• Restart the computer in safe mode.</li> </ul>
Safety related issues	<ul style="list-style-type: none"> <li>• Do not perform any troubleshooting step.</li> <li>• Contact Dell immediately.</li> </ul>
Intermittent problems	<ul style="list-style-type: none"> <li>• Try different <b>Preset Modes</b> in <b>Color</b> settings OSD. Adjust <b>R/G/B</b> value in <b>Custom Color</b> in <b>Color</b> settings OSD.</li> <li>• Change the <b>Input Color Format</b> to <b>RGB</b> or <b>YPbPr</b> in the <b>Color</b> settings OSD.</li> <li>• Run the built-in diagnostics.</li> </ul>
Image retention from a static image left on the monitor for a long period of time	<ul style="list-style-type: none"> <li>• Use the Power Management feature to turn off the monitor all times when not in use (for more information, see <a href="#">Power management modes</a>).</li> <li>• Alternatively, use a dynamically changing screensaver.</li> </ul>
Video ghosting or overshooting	<ul style="list-style-type: none"> <li>• Change the <b>Response Time</b> in the <b>Display</b> OSD to <b>Fast</b> or <b>Normal</b> depending on your application and usage.</li> </ul>

## Product-specific problems

Specific Symptoms	Possible Solutions
Screen image is too small	<ul style="list-style-type: none"><li>• Check the <b>Aspect Ratio</b> setting in the <b>Display</b> settings OSD.</li><li>• Reset the monitor to Factory Settings (<b>Factory Reset</b>).</li></ul>
Cannot adjust the monitor with the buttons on the bottom of the panel	<ul style="list-style-type: none"><li>• Turn off the monitor, unplug the power cord, plug it back, and then turn on the monitor.</li></ul>
No input signal when user controls are pressed	<ul style="list-style-type: none"><li>• Check the signal source. Ensure the computer is not in standby or sleep mode by moving the mouse or pressing any key on the keyboard.</li><li>• Check if the video cable is plugged in properly. Disconnect and reconnect the video cable if necessary.</li><li>• Reset the computer or video player.</li></ul>
The picture does not fill the entire screen	<ul style="list-style-type: none"><li>• Due to different video formats (aspect ratio) of DVDs, the monitor may display in full screen.</li><li>• Run the built-in diagnostics.</li></ul>

# Appendix

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## 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](http://www.dell.com/regulatory_compliance).

## Contact Dell

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

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

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

To get online Monitor support content:

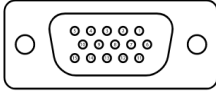
Visit [www.dell.com/support/monitors](http://www.dell.com/support/monitors).

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

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

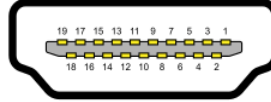
## Pin assignments

### D-Sub 15-pin connector



Pin Number	Signal Assignment
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

### HDMI 19-pin connector



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

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